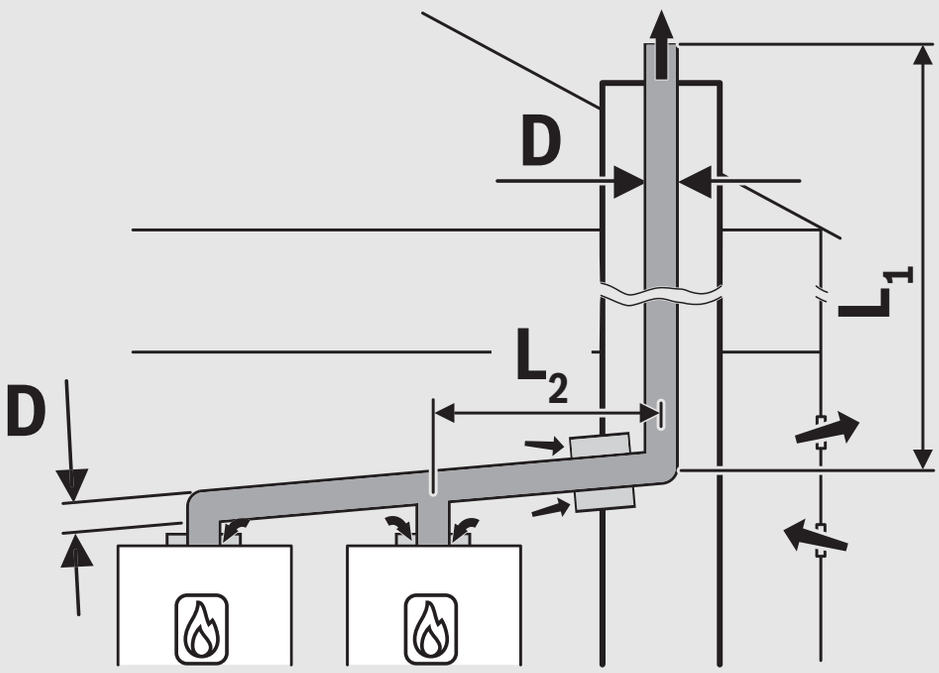
BOSCH

Notes on flue gas routing

Wall mounted gas condensing boilers

Condens 7000 WP

GC7000WP 50 ... 145 23



6721841197 (2022/02) UK/IE

Table of contents

1 Explanation of symbols and safety instructions 3
1.1 Explanation of symbols 3
1.2 General safety instructions 3

2 Flue gas routing 3
2.1 About these instructions 3
2.2 Appliance types 3
2.3 Approved flue accessories. 4
2.4 Installation instructions 4
2.5 Balanced flue connection (concentric). 4
2.6 Mounting the flue adapter Ø 110-110 (accessory) 4
2.7 Open flue connection. 4
2.8 Mount the external flue gas check valve Ø 110 (accessory) 5
2.9 Inspection apertures 6
2.10 Routing the flue through a duct 6
2.10.1 Chimney shaft requirements 6
2.10.2 Checking the duct dimensions 6
2.11 Flue terminal positions 6
2.12 Calculating the length of a flue system 7
2.13 Flue system according to C13(x) 7
2.14 Flue system according to C33(x) 8
2.14.1 Ducted flue system according to C33x 8
2.14.2 Vertical flue system according to C33(x) via roof 8
2.15 Flue system to C43(x) 8
2.16 Flue system according to C53(x) 8
2.16.1 Ducted flue system according to C53(x) 8
2.16.2 Flue system according to C53x on the external wall 9
2.16.3 Ducted flue system according to C53 system with separate pipes 10
2.17 Flue system according to C63 10
2.18 Flue system according to C93x 10
2.18.1 Rigid ducted flue gas routing according to C93x 10
2.18.2 Flexible ducted flue gas routing according to C93x 12
2.19 Flue gas routing according to B23p 13
2.20 Flue gas routing according to B53p 13
2.20.1 Rigid flue gas routing according to B53p in the duct 13
2.20.2 Flexible ducted flue gas routing according to B53p 13

3 Flue gas cascade. 14
3.1 CO detector for emergency shutdown of the cascade. 14
3.2 Y-piece for flue gas connection with back-to-back installation (accessory) 14
3.3 Flue gas routing according to B23p, without backflow preventer 14
3.3.1 Rigid ducted flue gas routing according to B23p, without backflow preventer 14
3.4 Flue gas routing according to B23p/B53p , with backflow preventer 16
3.4.1 Mounting the back flow prevention valve 16
3.4.2 Rigid ducted flue gas routing according to B23p/ B53p (with back flow prevention valve) 16
3.5 Flue gas routing according to C53 without (without backflow preventer) 17
3.5.1 Rigid flue gas routing according to C 53 in the duct with separate pipes (without back flow prevention valve) 17
3.6 Flue gas routing according to C53 (with backflow preventer) 18
3.6.1 Rigid flue gas routing according to C 53 in the duct with separate pipes (with back flow prevention valve) 19

1 Explanation of symbols and safety instructions

1.1 Explanation of symbols

Warnings

In warnings, signal words at the beginning of a warning are used to indicate the type and seriousness of the ensuing risk if measures for minimizing danger are not taken.

The following signal words are defined and can be used in this document:

DANGER

DANGER indicates that severe or life-threatening personal injury will occur.

WARNING

WARNING indicates that severe to life-threatening personal injury may occur.

CAUTION

CAUTION indicates that minor to medium personal injury may occur.

NOTICE

NOTICE indicates that material damage may occur.

Important information

The info symbol indicates important information where there is no risk to people or property.

1.2 General safety instructions

⚠ Notices for the target group

These installation instructions are intended for gas, plumbing, heating and electrical contractors. All instructions must be observed. Failure to comply with instructions may result in material damage and personal injury, including danger to life.

- ▶ Read the installation, service and commissioning instructions (heat source, heating controller, pumps, etc.) before installation.
- ▶ Observe the safety instructions and warnings.
- ▶ Follow national and regional regulations, technical regulations and guidelines.
- ▶ Record all work carried out.

⚠ Danger to life from poisoning by flue gas

There is a danger to life from escaping flue gas.

- ▶ Ensure that flues and gaskets are not damaged.

⚠ Danger of death from poisoning by flue gas due to inadequate combustion

Danger of death due to flue gas leak. If flues are damaged or leaking, or if you smell flue gas, observe the following rules.

- ▶ Close the fuel infeed.
- ▶ Open doors and windows.
- ▶ If necessary, warn all residents and leave the building.
- ▶ Prevent third parties from entering the building.
- ▶ Rectify any damage to the flue gas pipe immediately.
- ▶ Check the combustion air supply.
- ▶ Do not cover or reduce the size of ventilation openings in doors, windows and walls.
- ▶ Ensure that there is adequate combustion air supply, including for any appliances installed at a later date, e.g. extractor fans, kitchen fans or air conditioning units that discharge air to the outside.
- ▶ Never operate the device if there is insufficient combustion air supply.

⚠ Installation, commissioning and maintenance

Installation, commissioning and maintenance may be performed only by an approved contractor.

- ▶ In the case of open flue operation: ensure that the installation location meets the ventilation requirements.
- ▶ Do not repair, manipulate or deactivate safety-relevant components.
- ▶ Only install original spare parts.
- ▶ Check for gas tightness after working on gas-carrying components.

2 Flue gas routing

2.1 About these instructions

Figures used

The figures in these instructions serve to provide general notices regarding correct operation. These figures may slightly deviate from the actual situation.

Product types mentioned

These instructions describe all product types of the GC7000WP. Availability may vary depending on the country.

2.2 Appliance types

Appliance type:	Country	Part No.
GC7000WP 50 23	UK, IE	7736 702 194
GC7000WP 65 23	UK, IE	7736 702 195
GC7000WP 85 23	UK, IE	7736 702 196
GC7000WP 100 23	UK, IE	7736 702 197
GC7000WP 125 23	UK, IE	7736 702 198
GC7000WP 145 23	UK, IE	7736 702 199

Table 1 Appliance types

The wall mounted boiler designation comprises the following:

- Condens 7000 WP: product name;
- GC7000WP 50... GC7000WP 145: product type;
- 50 ... 145: heating capacity (kW);

- 23: gas type.

2.3 Approved flue accessories

The flue accessories for the flue systems described in these instructions are an integral part of the heat generator CE approval. The heat generator and flue system are jointly certified as a system under the CE number of the heat generator.

This is why we recommend using Bosch original accessories.

You can find designations and part numbers in the main catalogue.

2.4 Installation instructions

DANGER

Risk of poisoning due to carbon monoxide!

When flue gas escapes, this leads to high carbon monoxide values in the breathing air which pose a danger to life

- ▶ Ensure that flue pipes and gaskets are not damaged.
- ▶ When installing the flue system only use the lubricating paste approved by the system manufacturer.

- ▶ Check flue accessories are intact when unpacking.
- ▶ Observe the installation instructions for the accessories.
- ▶ Crop accessories to the required length.
  Make the cut at a right angle and deburr the cut surface.
- ▶ Apply supplied lubricating paste to the gaskets.
- ▶ Push the accessory as far as it will go into the female connection.
- ▶ Install horizontal sections with 3 ° slope (= 5.2 % or 5.2 cm per metre) in the direction of flue gas flow.
- ▶ Secure horizontal parts of the flue on site with pipe clips:
  - Keep a maximum clearance of ≤ 2 m between two pipe clips.
  - Attach a pipe clip to each elbow.
- ▶ Check tightness once work is complete.

2.5 Balanced flue connection (concentric)

The flue gas connection on the top of the appliance is ready for the installation of concentric pipework Ø 110/160.

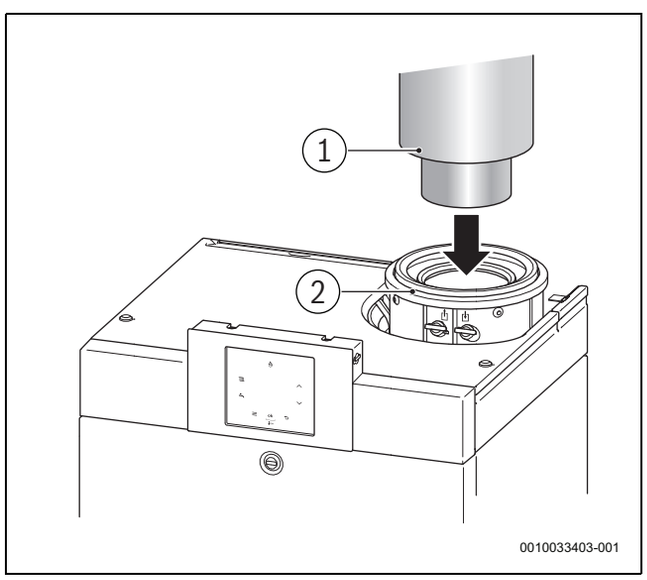


Fig. 1 Concentric pipe (balanced flue)

[1] Concentric pipe Ø 110/160
[2] Connection adapter with adapter ring Ø 160/185

Adapter insertion depth Ø 110/160

DN110 [mm]	DN160 [mm]
54	44

Table 2 Adapter insertion depth Ø 110/160

2.6 Mounting the flue adapter Ø 110-110 (accessory)

A parallel flue adapter from Ø 110-110 is available as accessory. The adapter is freely rotatable.

- ▶ Remove the adapter ring Ø 160/185 [1].
- ▶ Install the parallel flue adapter.
- ▶ Rotate the parallel flue adapter to the desired position.
- ▶ In this position, check if the upper panel of the standing condensing boiler has to be removed [4].
- ▶ Insert the flue pipe in the adapter [3] to the stop.
- ▶ Insert the combustion air pipe in the adapter [2] to the stop.

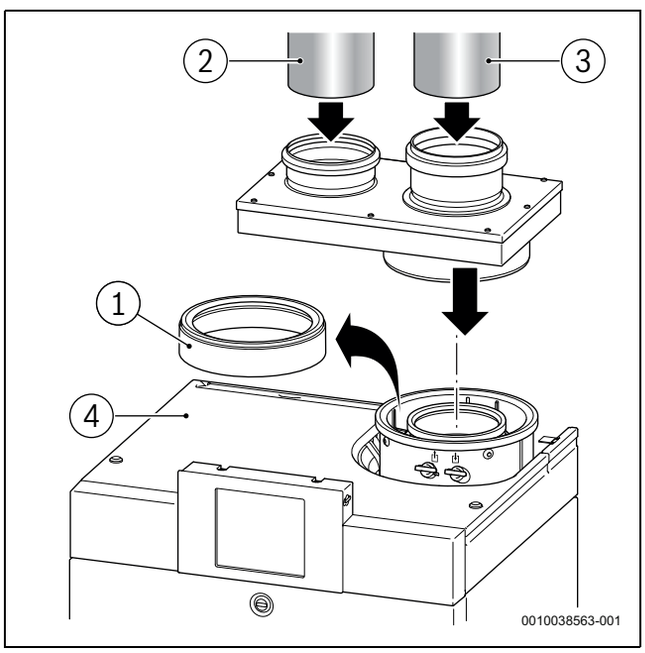


Fig. 2 Mount the flue gas discharge adapter Ø 110-110

[1] Adapter ring Ø 160/185
[2] Combustion air pipe Ø 110
[3] Flue pipe Ø 110

Insertion depth Ø 110- 110

DN110 [mm] air inlet	DN110 [mm] flue outlet
34	60

Table 3 Insertion depth Ø 110- 110

2.7 Open flue connection

Combustion is drawn in through an open flue and fed directly to the appliance.

Preparation for open flue operation (type B_{23p})

During open flue operation, the adapter ring [1] must be removed from the connection adapter.

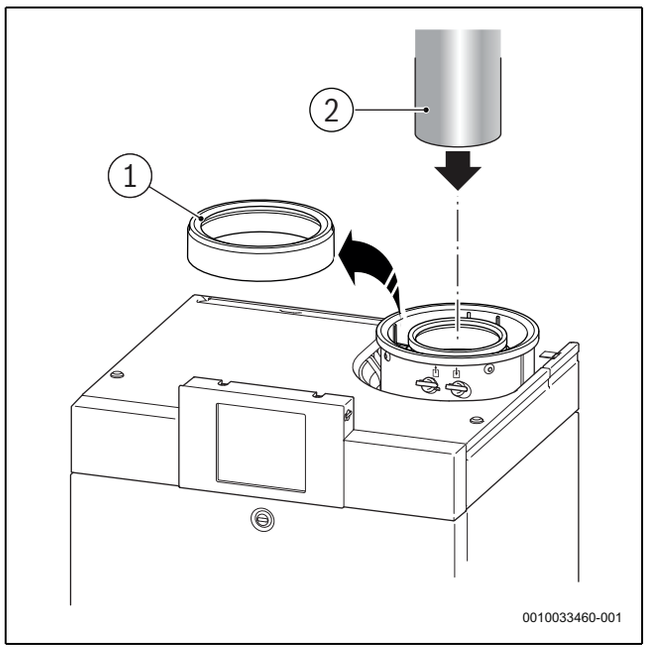


Fig. 3 Individual pipe connection (open flue)

[1] Adapter ring Ø 160/185
[2] Flue pipe Ø 110

Adapter insertion depth Ø 110

DN110 [mm]
54

Table 4 Adapter insertion depth Ø 110

2.8 Mount the external flue gas check valve Ø 110 (accessory)

Product types GC7000WP 125 and GC7000WP 145 are equipped with an internal pre-assembled flue gas check valve. The installation of an external flue gas check valve and the setting of the minimum load is not necessary with these boilers.

With the following product types, an external flue gas check valve Ø 110 (accessory) must be installed if this is positioned in a positive pressure cascade system.

- GC7000WP 50
- GC7000WP 65
- GC7000WP 85
- GC7000WP 100

▶ Remove the adapter ring Ø 160/185 [1].
▶ Install the flue gas check valve.
▶ Fill the water sealing [3] with 250 ml water.
▶ Mount the reducer [4]
▶ Mount the flue bend with inspection aperture to the stop in the adapter [5].
▶ When commissioning the boiler, increase the minimum load (table 6, p. 5).

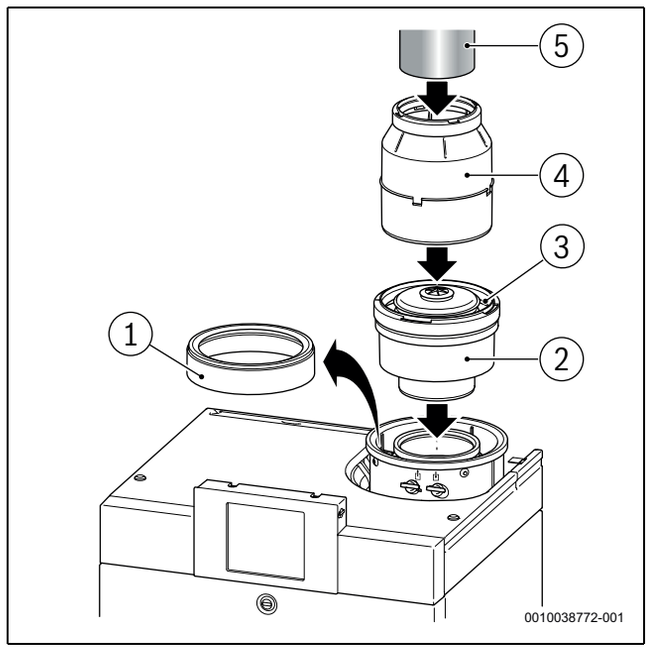


Fig. 4 Mount the external flue gas check valve

[1] Adapter ring Ø 160/185
[2] Flue gas check valve
[3] Water sealing
[4] Reducer
[5] Flue bend with inspection aperture Ø 110

Insertion depth Ø 110

DN110 [mm]
51

Table 5 Flue outlet insertion depth Ø 110

Setting Min. boiler outp.

▶ Open the menu **Limit values >** Min. boiler outp..
▶ Increase the setting Min. boiler outp. (→ table 6).

Appliance type:	Factory [%]	Raised value with positive pressure cascade [%]
GC7000WP 50	28	36
GC7000WP 65	20	26
GC7000WP 85	24	28
GC7000WP 100	20	23

Table 6 Setting the Min. boiler outp. with positive pressure cascade systems

Integrated supply air grille

The boiler is equipped with an integrated air inlet grille to prevent smaller objects from entering the boiler via the air inlet of the connector during open flue operation (B classification). Further measures for collecting dirt are therefore not required.

Flue gas routing over several storeys

If the flue gas routing passes through several storeys, it must be in a fire rated duct provided by the customer.

Requirements for installation in an existing duct

▶ If the flue is installed in an existing duct, tightly seal any existing connection openings using appropriate materials.

- ▶ Observe fire prevention regulations.

2.9 Inspection apertures

It must be possible to clean flue systems easily and safely. It must be possible:

- To check the cross-section and tightness of the pipework.
- To check the required cross-section between the flue and duct (secondary ventilation) is available for safe operation of the combustion system and to clean it.

- ▶ Observe local standards and regulations.

2.10 Routing the flue through a duct

2.10.1 Chimney shaft requirements

- ▶ Observe local standards and regulations.
- ▶ Provide non-combustible, dimensionally-stable construction materials with the required fire rating.

2.10.2 Checking the duct dimensions

- ▶ Check whether the duct complies with the permissible dimensions.

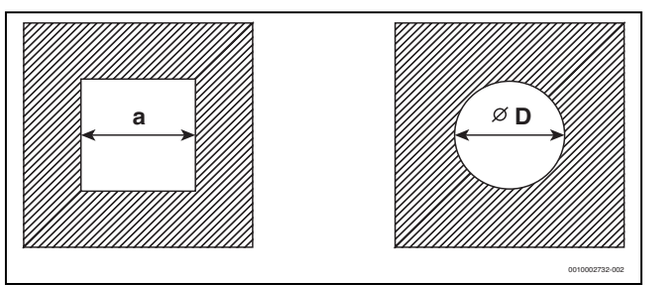


Fig. 5 Square and round cross-section

Square cross-section

Accessory Ø [mm]	$C_{93(x)}$ a_{min} [mm]	Secondary ventilation a_{min} [mm]	a_{max} [mm]
110 rigid	140 ×140	170 × 170	300 × 300
110 flexible	140 ×140	150 × 150	300 × 300
110/160	220 ×220	--	350 × 350
125 rigid	165 × 165	185 × 185	400 × 400
125 flexible	165 ×165	180 × 180	400 × 400
160	200 × 200	225 × 225	450 × 450
200	240 × 240	265 × 265	500 × 500
250	300 × 300	315 × 315	--
315	375 × 375	391 × 391	--

Table 7 Permissible duct dimensions

Circular cross-section

Accessory Ø [mm]	$C_{93(x)}$ Ø D_{min} [mm]	Secondary ventilation Ø D_{min} [mm]	Ø D_{max} [mm]
110 rigid	150	190	350
110 flexible	150	170	350
110/160	220	--	350
125 rigid	165	205	450
125 flexible	165	200	450
160	200	245	510
200	240	285	560
250	300	335	--
315	400	411	--

Table 8 Permissible duct dimensions

2.11 Flue terminal positions

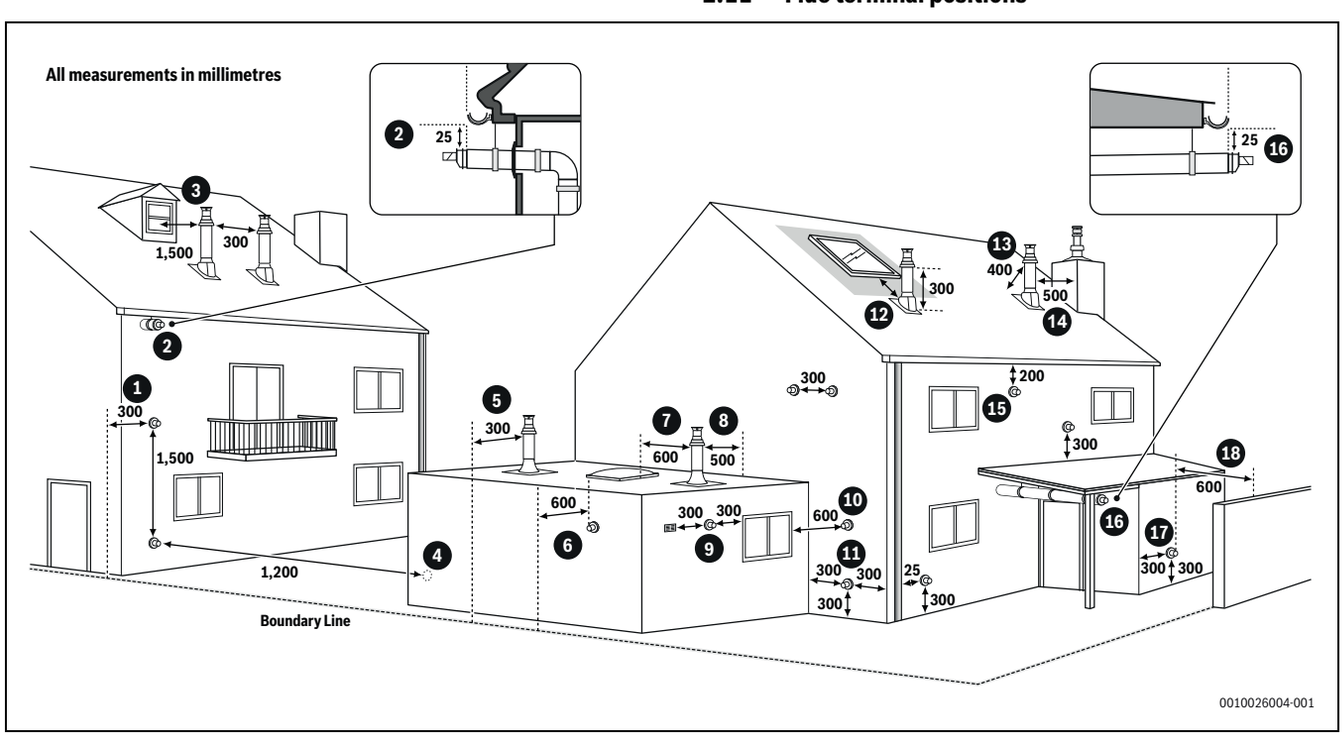


Fig. 6 Flue terminal positions.

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 (125mm flue bracket (pack of 3) = T-000-082-131. 150mm flue bracket (pack of 3) = 7-716-191-102).

Key to illustration

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.
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 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.
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 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. 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 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.

- ▶ 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.

In instances where the combined output of the installation exceeds 70kW net heat input the flue solution must be installed in accordance with the latest version of IGE/UP/10.

Pluming will occur at the terminal so terminal positions where this could cause a nuisance should be avoided. Active plume management is encouraged.

The air supply and the flue gas exhaust must meet the applicable general regulations. Please also consult the instructions provided with the flue terminal kits prior to installation.

The boiler must be installed so that the terminal is exposed to external air.

It is important that the position of the terminal allows the free passage of air at all times.

Minimum acceptable spacing from the terminal to obstructions and ventilation openings are specified in IGE/UP/10. The minimum space between two concentric flue terminals is 300mm.

If the lowest part of the terminal is less than 2 metres above the level of the ground, balcony, flat roof or place to which any person has access, the terminal must be protected by a guard.

Ensure that the guard is fitted centrally.

The flue assembly shall be so placed or shielded as to prevent ignition or damage to any part of the building.

The flue outlet duct and the terminal of the boiler must not be closer than 25mm to combustible material. Detailed recommendations on the protection of combustible material are given in IGE/UP/10.

2.12 Calculating the length of a flue system

You can find an overview of the maximum permissible pipe lengths in each case alongside the individual flue gas routing types.

The reductions in equivalent length for bends where taken into account in the shown corresponding images.

- Every additional 87° elbow reduces the permissible pipe length by 1.5 m.
- Every additional elbow between 15° and 45° reduces the permissible pipe length by 0.5 m.

For detailed information on calculating the length of a flue system refer to the technical guide. Alternatively, a flue gas calculation to EN13384 can be carried out.

2.13 Flue system according to $C_{13(x)}$

System features	
Combustion air supply	With balanced flue
Execute	Horizontal outlet/wind protection device
Apertures for air and flue gas	Flue outlet and air inlet apertures are in the same pressure zone and must be arranged inside a square: ≤ 70 kW output: 50 × 50 cm ≥ 70 kW output: 100 × 100 cm
Certification	The entire balanced flue system is tested together with the heat source.

Table 9 $C_{13(x)}$

Maximum permitted lengths [L1] - rigid flue gas routing $C_{13(x)}$

- ▶ Observe local standards and regulations.

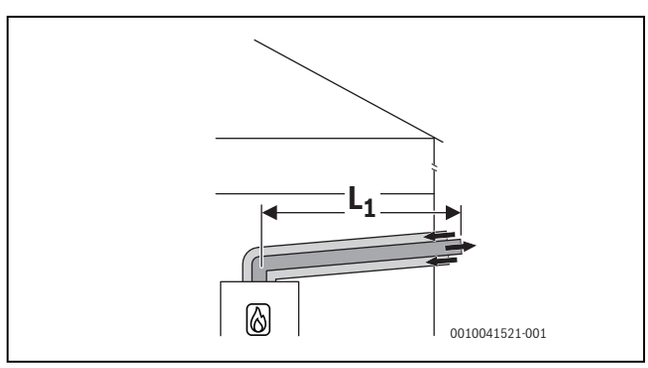


Fig. 7 $C_{13(x)}$

DN110/160	L1 [m]
GC7000WP 50	11
GC7000WP 65	16
GC7000WP 85	11
GC7000WP 100	12
GC7000WP 125	3
GC7000WP 145	3

Table 10 $C_{13(x)}$

2.14 Flue system according to $C_{33(x)}$

System features	
Combustion air supply	With balanced flue
Execute	Vertical outlet/wind protection device
Apertures for air and flue gas	Flue outlet and air inlet apertures are in the same pressure zone and must be arranged inside a square: ≤ 70 kW output: 50 × 50 cm > 70 kW output: 100 × 100 cm
Certification	The entire balanced flue system is tested together with the heat source.

Table 11 C_{33x}

You can find information on the installation location and roof clearances with vertical flue gas routing in Chapter 2.11 on page 6.

2.14.1 Ducted flue system according to C_{33x}

Maximum permitted lengths [L1]- rigid flue gas routing $C_{33(x)}$

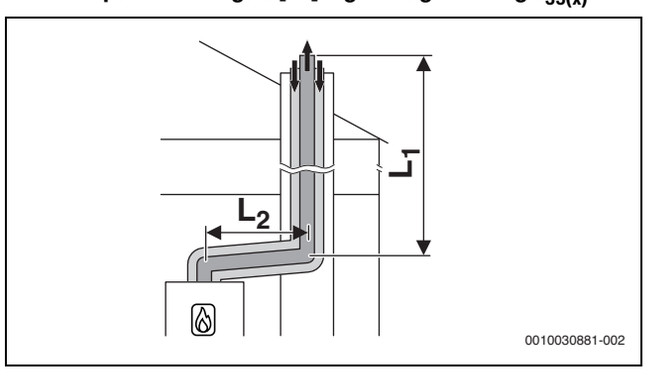


Fig. 8 $C_{33(x)}$

DN110/160	L2 [m]	L1 [m]
GC7000WP 50	3	15
GC7000WP 65	3	16
GC7000WP 85	3	10
GC7000WP 100	3	10

Table 12 $C_{33(x)}$

2.14.2 Vertical flue system according to $C_{33(x)}$ via roof

Maximum permitted lengths [L1]- rigid flue gas routing $C_{33(x)}$

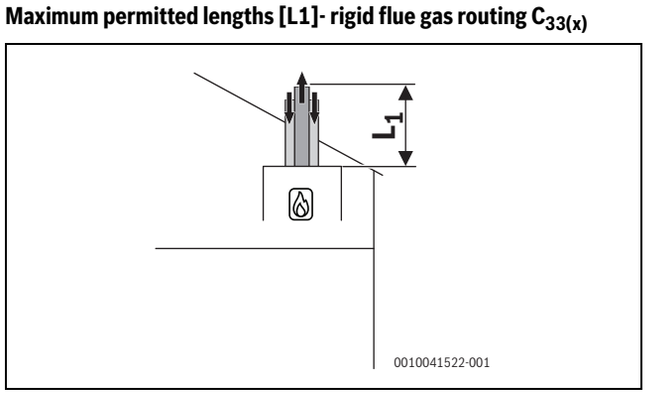


Fig. 9 $C_{33(x)}$

DN110/160	L1 [m]
GC7000WP 50	21
GC7000WP 65	22
GC7000WP 85	16
GC7000WP 100	16
GC7000WP 125	5
GC7000WP 145	5

Table 13 $C_{33(x)}$

2.15 Flue system to $C_{43(x)}$

System features	
Combustion air supply	With balanced flue
Certification	The device is connected to an existing balanced flue system. The balanced flue system up to the duct is tested together with the device.

Table 14 $C_{43(x)}$

- ▶ When connecting to a balanced flue system that has not been tested with the device, observe country-specific regulations and standards, especially in relation to designing the flue outlet and combustion air supply apertures.
- ▶ Observe requirements of the system manufacturer.
- ▶ Observe requirements of the corresponding general approval for the system!
- ▶ Perform flue gas calculation according to EN13384.

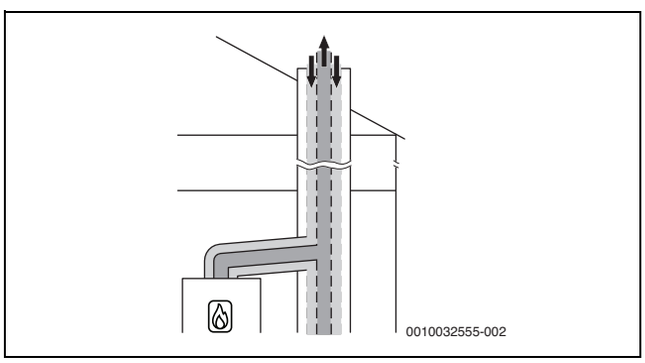


Fig. 10 $C_{43(x)}$

2.16 Flue system according to $C_{53(x)}$

System features	
Combustion air supply	With balanced flue
Flue outlet/air inlet	The flue outlet and air inlet apertures are in different pressure zones. They must not be on different walls of the building.
Certification	The entire flue system is tested together with the heat source.

Table 15 $C_{53(x)}$

2.16.1 Ducted flue system according to $C_{53(x)}$

Measures when using the existing duct	
Apertures to the outside at installation location	Required with appliance output of ≤ 100 kW: one aperture with 150 cm^2 > 100 kW: otal area: 700 cm^2, split between two apertures each with 350 cm^2
Secondary ventilation	The flue must be rear-ventilated inside the duct over the entire height. ▶ Observe country-specific guidelines and standards.

Table 16 $C_{53(x)}$

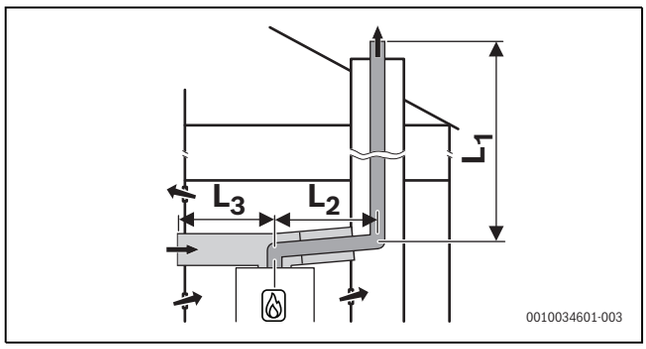


Fig. 11 $C_{53(x)}$

Maximum permitted lengths [L1]- rigid flue gas routing $C_{53(x)}$

DN110	L 3 DN160 [m]	L2 DN110/160 [m]	L1 DN110 [m]
GC7000WP 50	5	3	50
GC7000WP 65	5	3	50
GC7000WP 85	5	3	35
GC7000WP 100	5	3	35
GC7000WP 125	5	3	4
GC7000WP 145	5	3	3

Table 17 $C_{53(x)}$

DN125	L 3 DN160 [m]	L2 DN110/160 [m]	L1 DN125 [m]
GC7000WP 50	5	3	50
GC7000WP 65	5	3	50
GC7000WP 85	5	3	50
GC7000WP 100	5	3	50
GC7000WP 125	5	3	15
GC7000WP 145	5	3	12

Table 18 $C_{53(x)}$

Maximum permitted lengths [L1] - flexible flue gas routing $C_{53(x)}$

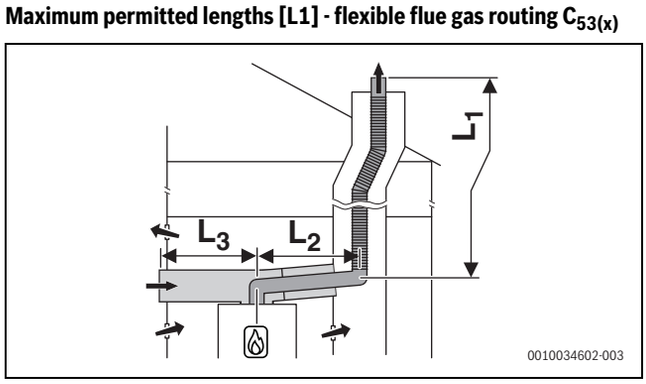


Fig. 12 $C_{53(x)}$

DN110	L 3 DN160 [m]	L2 DN110/160 [m]	L1 DN110 [m]
GC7000WP 50	5	3	30
GC7000WP 65	5	3	30
GC7000WP 85	5	3	20
GC7000WP 100	5	3	19

Table 19 $C_{53(x)}$

DN125	L 3 DN160 [m]	L2 DN110/160 [m]	L1 DN125 [m]
GC7000WP 50	5	3	30
GC7000WP 65	5	3	30
GC7000WP 85	5	3	30
GC7000WP 100	5	3	30
GC7000WP 125	5	3	5
GC7000WP 145	5	3	4

Table 20 $C_{53(x)}$

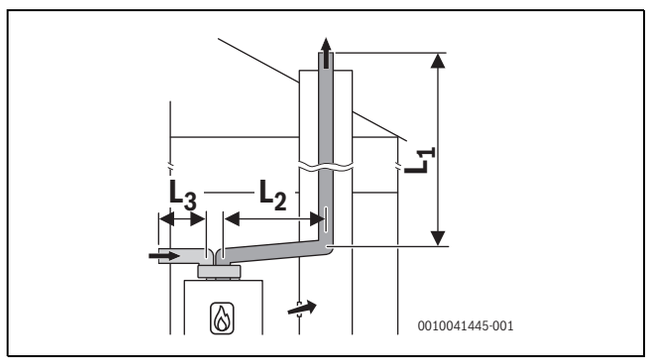


Fig. 13 C_{53}

DN110	L 3 DN110 [m]	L2 DN110 [m]	L1 DN110 [m]
GC7000WP 50	5	3	50
GC7000WP 65	5	3	50
GC7000WP 85	5	3	48
GC7000WP 100	5	3	48
GC7000WP 125	5	3	7
GC7000WP 145	5	3	6

Table 21 C_{53}

DN125	L 3 DN110 [m]	L2 DN110 [m]	L1 DN125 [m]
GC7000WP 125	5	3	22
GC7000WP 145	5	3	19

Table 22 C_{53}

2.16.2 Flue system according to C_{53x} on the external wall

Maximum permitted lengths [L1] - rigid flue gas routing C_{53x}

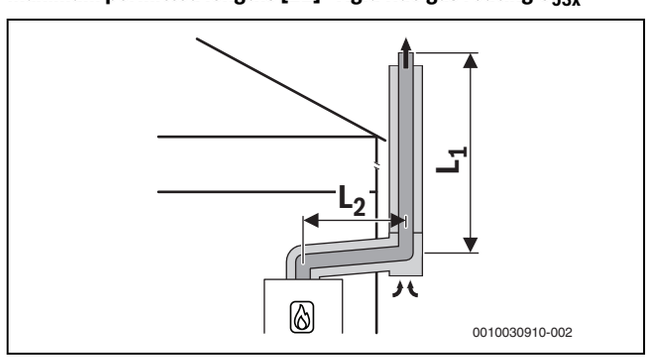


Fig. 14 C_{53x}

DN110/160	L2 [m]	L1 [m]
GC7000WP 50	3	40
GC7000WP 65	3	50
GC7000WP 85	3	50
GC7000WP 100	3	48
GC7000WP 125	3	4
GC7000WP 145	3	3

Table 23 C_{53x}

2.16.3 Ducted flue system according to C_{53} system with separate pipes

A parallel flue adapter is used with this flue system C_{53} Ø 110-110 (→ § 2.6, p. 4).

Maximum permitted lengths [L1]- rigid flue gas routing C_{53} with separate pipes

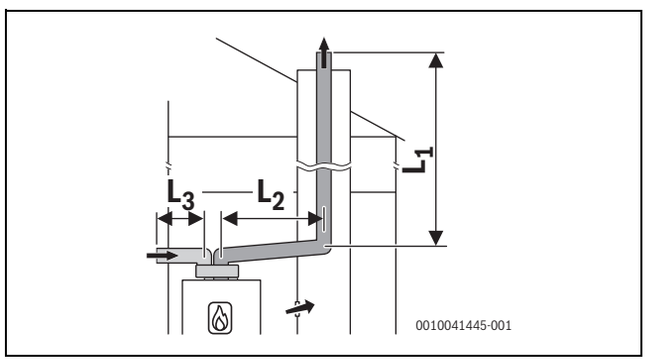


Fig. 15 C_{53}

DN110	L 3 DN110 [m]	L2 DN110 [m]	L1 DN110 [m]
GC7000WP 50	5	3	50
GC7000WP 65	5	3	50
GC7000WP 85	5	3	48
GC7000WP 100	5	3	48
GC7000WP 125	5	3	7
GC7000WP 145	5	3	6

Table 24 C_{53}

DN125	L 3 DN110 [m]	L2 DN110 [m]	L1 DN125 [m]
GC7000WP 125	5	3	22
GC7000WP 145	5	3	19

Table 25 C_{53}

2.17 Flue system according to C_{63}

System description	
Combustion air supply	With balanced flue
Certification	The entire balanced flue system is not tested together with the heat source.

Table 26 Flue gas routing according to C_{63x}

CE marking (EN 14471 for plastics, EN 1856 for metal) is required.

The installer must ensure and demonstrate that the flue system is functioning perfectly according to C_{63x}. Flue systems according to C_{63x} are not tested by the manufacturer of the heat generator.

The flue accessories used must satisfy the following requirements:

- Temperature class: at least T120
- Pressure and tightness class: H1
- Condensate resistance: W
- Corrosion class for metal: V1 or VM
- Corrosion class for plastic: 1

You can find this data in the product specifications and in the documentation of the flue system manufacturer.

The maximum permissible recirculation under all wind conditions is 10 %.

- ▶ Observe country-specific regulations and standards, especially in relation to designing the flue outlet and combustion air supply apertures.
- ▶ Observe requirements of the flue system manufacturer.
- ▶ Observe requirements of the corresponding general approval for the system!

2.18 Flue system according to C_{93x}

System features	
Combustion air supply	With balanced flue via the duct
Flue outlet/air inlet	Flue outlet and air inlet apertures are in the same pressure zone and must be arranged inside a square: ≤ 70 kW output: 50 × 50 cm ≥ 70 kW output: 100 × 100 cm
Certification	The entire balanced flue system is tested together with the heat source.

Table 27 C_{93x}

Measures when using the existing duct	
Mechanical cleaning	Required
Sealing of the surface	When previously used as balanced flue system for oil or solid fuel, the surface must be sealed to prevent vapour from residues (e. g. sulphur) in the brickwork permeating the combustion air.

Table 28 C_{93x}

2.18.1 Rigid ducted flue gas routing according to C_{93x}

Maximum permitted lengths [L1] - rigid flue gas routing $C_{93(x)}$

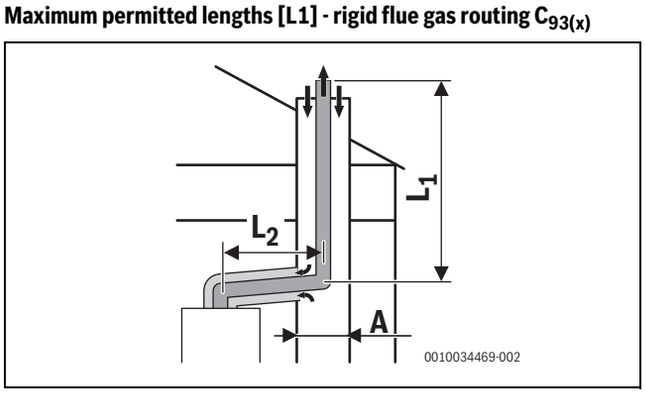


Fig. 16 $C_{93(x)}$

DN110	A [mm]	L2 DN110/160 [m]	L1 DN110 [m]
GC7000WP 50	□ 140 × 140	3	9
GC7000WP 65	□ 140 × 140	3	9
GC7000WP 85	□ 140 × 140	3	5
GC7000WP 100	□ 140 × 140	3	6

DN110	A [mm]	L2 DN110/160 [m]	L1 DN110 [m]
GC7000WP 50	□ 150 × 150	3	17
	○ 150	3	8
GC7000WP 65	□ 150 × 150	3	17
	○ 150	3	8
GC7000WP 85	□ 150 × 150	3	11
	○ 150	3	5
GC7000WP 100	□ 150 × 150	3	11
	○ 150	3	5
GC7000WP 50	□ 160 × 160	3	21
	○ 160	3	11
GC7000WP 65	□ 160 × 160	3	26
	○ 160	3	11
GC7000WP 85	□ 160 × 160	3	18
	○ 160	3	7
GC7000WP 100	□ 160 × 160	3	18
	○ 160	3	7
GC7000WP 50	○ 170	3	18
GC7000WP 65	○ 170	3	19
GC7000WP 85	○ 170	3	13
GC7000WP 100	○ 170	3	13
GC7000WP 50	□ 180 × 180	3	21
	○ 180	3	21
GC7000WP 65	□ 180 × 180	3	33
	○ 180	3	27
GC7000WP 85	□ 180 × 180	3	28
	○ 180	3	18
GC7000WP 100	□ 180 × 180	3	29
	○ 180	3	19
GC7000WP 125	□ 180 × 180	3	3
	○ 180	3	2
GC7000WP 145	□ 180 × 180	3	2
GC7000WP 50	○ 190	3	21
GC7000WP 65	○ 190	3	33
GC7000WP 85	○ 190	3	24
GC7000WP 100	○ 190	3	24
GC7000WP 125	○ 190	3	3
GC7000WP 145	○ 190	3	2
GC7000WP 50	□ 200 × 200	3	21
	○ 200	3	21
GC7000WP 65	□ 200 × 200	3	33
	○ 200	3	33
GC7000WP 85	□ 200 × 200	3	33
	○ 200	3	28
GC7000WP 100	□ 200 × 200	3	34
	○ 200	3	28
GC7000WP 125	□ 200 × 200	3	4
	○ 200	3	3
GC7000WP 145	□ 200 × 200	3	3
	○ 200	3	2
GC7000WP 50	○ 225	3	21
GC7000WP 65	○ 225	3	33
GC7000WP 85	○ 225	3	33
GC7000WP 100	○ 225	3	34
GC7000WP 125	○ 225	3	4
GC7000WP 145	○ 225	3	3

Table 29 $C_{93(x)}$

DN125	A [mm]	L2 DN110/160 [m]	L1 DN125 [m]
GC7000WP 85	□ 170 × 170	3	7
	○ 170		7
GC7000WP 100	□ 170 × 170	3	25
	○ 170		11
GC7000WP 125	□ 170 × 170	3	3
GC7000WP 145	□ 170 × 170	3	3
GC7000WP 85	□ 180 × 180	3	35
	○ 180	3	15
GC7000WP 100	□ 180 × 180	3	36
	○ 180	3	21
GC7000WP 125	□ 180 × 180	3	6
	○ 180	3	2
GC7000WP 145	□ 180 × 180	3	5
	○ 180	3	2
GC7000WP 85	○ 190	3	24
GC7000WP 100	○ 190	3	32
GC7000WP 125	○ 190	3	4
GC7000WP 145	○ 190	3	4
GC7000WP 85	□ 200 × 200	3	40
	○ 200	3	34
GC7000WP 100	□ 200 × 200	3	50
	○ 200	3	43
GC7000WP 125	□ 200 × 200	3	10
	○ 200	3	7
GC7000WP 145	□ 200 × 200	3	9
	○ 200	3	6
GC7000WP 85	□ 225 × 225	3	40
	○ 225	3	40
GC7000WP 100	□ 225 × 225	3	50
	○ 225	3	50
GC7000WP 125	□ 225 × 225	3	14
	○ 225	3	12
GC7000WP 145	□ 225 × 225	3	12
	○ 225	3	10
GC7000WP 85	□ 250 × 250	3	40
	○ 250	3	40
GC7000WP 100	□ 250 × 250	3	50
	○ 250	3	50
GC7000WP 125	□ 250 × 250	3	16
	○ 250	3	14
GC7000WP 145	□ 250 × 250	3	13
	○ 250	3	12
GC7000WP 85	□ 300 × 300	3	40
GC7000WP 100	□ 300 × 300	3	50

DN125	A [mm]	L2 DN110/160 [m]	L1 DN125 [m]
GC7000WP 125	□ 300 × 300	3	17
GC7000WP 145	□ 300 × 300	3	15

Table 30 $C_{93(x)}$

2.18.2 Flexible ducted flue gas routing according to C_{93x}

Maximum permissible lengths [L1] - flexible flue gas routing C_{93x}

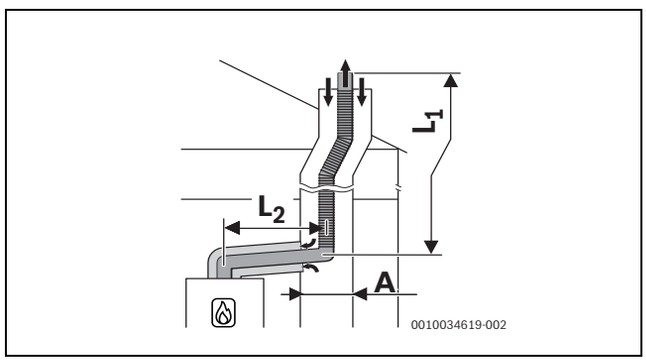


Fig. 17 C_{93x}

DN110	A [mm]	L2 DN110/160 [m]	L1 DN110 [m]
GC7000WP 50	□ 140 × 140	3	8
GC7000WP 65	□ 140 × 140	3	8
GC7000WP 85	□ 140 × 140	3	5
GC7000WP 100	□ 140 × 140	3	5
GC7000WP 50	□ 150 × 150	3	14
	○ 150	3	8
GC7000WP 65	□ 150 × 150	3	15
	○ 150	3	8
GC7000WP 85	□ 150 × 150	3	11
	○ 150	3	5
GC7000WP 100	□ 150 × 150	3	9
	○ 150	3	5
GC7000WP 50	□ 160 × 160	3	20
	○ 160	3	10
GC7000WP 65	□ 160 × 160	3	21
	○ 160	3	10
GC7000WP 85	□ 160 × 160	3	16
	○ 160	3	7
GC7000WP 100	□ 160 × 160	3	14
	○ 160	3	6
GC7000WP 50	○ 170	3	16
GC7000WP 65	○ 170	3	16
GC7000WP 85	○ 170	3	13
GC7000WP 100	○ 170	3	10
GC7000WP 50	□ 180 × 180	3	22
	○ 180	3	20
GC7000WP 65	□ 180 × 180	3	28
	○ 180	3	21
GC7000WP 85	□ 180 × 180	3	20
	○ 180	3	16

DN110	A [mm]	L2 DN110/160 [m]	L1 DN110 [m]
GC7000WP 100	□ 180 × 180	3	19
	○ 180	3	14
GC7000WP 50	○ 190	3	22
GC7000WP 65	○ 190	3	25
GC7000WP 85	○ 190	3	19
GC7000WP 100	○ 190	3	17
GC7000WP 50	□ 200 × 200	3	22
	○ 200	3	22
GC7000WP 65	□ 200 × 200	3	31
	○ 200	3	28
GC7000WP 85	□ 200 × 200	3	22
	○ 200	3	20
GC7000WP 100	□ 200 × 200	3	22
	○ 200	3	19
GC7000WP 125	○ 225	3	2

Table 31 C_{93x}

DN125	A [mm]	L2 DN110/160 [m]	L1 DN125 [m]
GC7000WP 85	□ 170 × 170	3	17
	○ 170	3	5
GC7000WP 100	□ 170 × 170	3	17
	○ 170	3	5
GC7000WP 125	□ 170 × 170	3	2
GC7000WP 85	□ 180 × 180	3	22
	○ 180	3	10
GC7000WP 100	□ 180 × 180	3	23
	○ 180	3	11
GC7000WP 125	□ 180 × 180	3	3
GC7000WP 145	□ 180 × 180	3	2
GC7000WP 85	○ 190	3	17
GC7000WP 100	○ 190	3	17
GC7000WP 125	○ 190	3	2
GC7000WP 85	□ 200 × 200	3	30
	○ 200	3	23
GC7000WP 100	□ 200 × 200	3	30
	○ 200	3	22
GC7000WP 125	□ 200 × 200	3	5
	○ 200	3	3
GC7000WP 145	□ 200 × 200	3	4
	○ 200	3	2
GC7000WP 85	□ 225 × 225	3	30
	○ 225	3	30
GC7000WP 100	□ 225 × 225	3	30
	○ 225	3	30
GC7000WP 125	□ 225 × 225	3	6
	○ 225	3	5
GC7000WP 145	□ 225 × 225	3	5
	○ 225	3	4
GC7000WP 85	□ 250 × 250	3	30
	○ 250	3	30

DN125	A [mm]	L2 DN110/160 [m]	L1 DN125 [m]
GC7000WP 100	□ 250 × 250	3	30
	○ 250	3	30
GC7000WP 125	□ 250 × 250	3	6
	○ 250	3	6
GC7000WP 145	□ 250 × 250	3	5
	○ 250	3	5
GC7000WP 85	□ 300× 300	3	30
GC7000WP 100	□ 300× 300	3	30
GC7000WP 125	□ 300× 300	3	7
GC7000WP 145	□ 300× 300	3	6

Table 32 C_{93x}

2.19 Flue gas routing according to B_{23p}

System description	
Combustion air supply	With open flue
Certification	The balanced flue system is not tested together with the device.

Table 33 Flue gas routing according to B_{23p}

CE marking (EN 14471 for plastics, EN 1856 for metal) is required.

The installer must ensure and demonstrate that the flue system is functioning perfectly according to B_{23p}. Flue systems according to B_{23p} are not tested by the manufacturer of the heat source.

The flue accessories used must satisfy the following requirements:

- Temperature class: at least T120
- Pressure and tightness class: H1
- Condensate resistance: W
- Corrosion class for metal: V1 or VM
- Corrosion class for plastic: 1

You can find this data in the product specifications and in the manufacturer's documentation.

The maximum permissible recirculation under all wind conditions is 10 %.

▶ Observe country-specific regulations and standards, especially in relation to designing the flue outlet and combustion air supply apertures.
▶ Observe requirements of the flue system manufacturer.
▶ Observe requirements of the corresponding general approval for the system!

2.20 Flue gas routing according to B_{53p}

System features	
Combustion air supply	With open flue at the heat source
Pressure ratios	Overpressure operation
Certification	The entire flue system is tested together with the heat source.

Table 34 B_{53p}

Measures when using the existing duct	
Aperture to the outside at the installation location	▶ Observe local standards and regulations.
Secondary ventilation	The duct must be rear-ventilated over the entire height. ▶ Observe local standards and regulations.

Table 35 B_{53p}

2.20.1 Rigid flue gas routing according to B_{53p} in the duct

Maximum permitted lengths [L1] - rigid flue gas routing B_{53p}

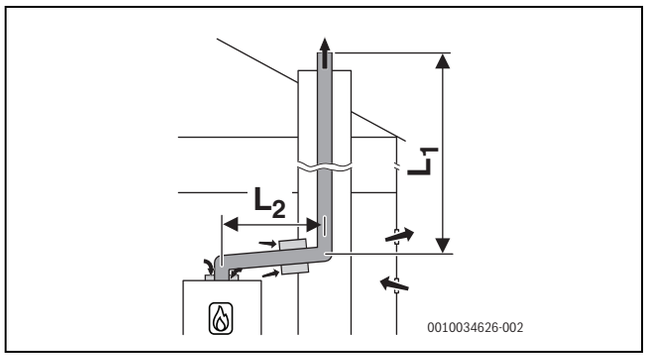


Fig. 18 B_{53p}

DN80	L2 DN110 [m]	L1 DN80 [m]
GC7000WP 50	3	13
GC7000WP 65	3	13
GC7000WP 85	3	7
GC7000WP 100	3	7

Table 36 B_{53p}

DN110	L2 DN110 [m]	L1 DN110 [m]
GC7000WP 50	3	50
GC7000WP 65	3	50
GC7000WP 85	3	50
GC7000WP 100	3	50
GC7000WP 125	3	32
GC7000WP 145	3	28

Table 37 B_{53p}

DN125	L2 DN110 [m]	L1 DN125 [m]
GC7000WP 125	3	50
GC7000WP 145	3	50

Table 38 B_{53p}

2.20.2 Flexible ducted flue gas routing according to B_{53p}

Maximum permitted lengths [L1] - flexible flue gas routing B_{53p}

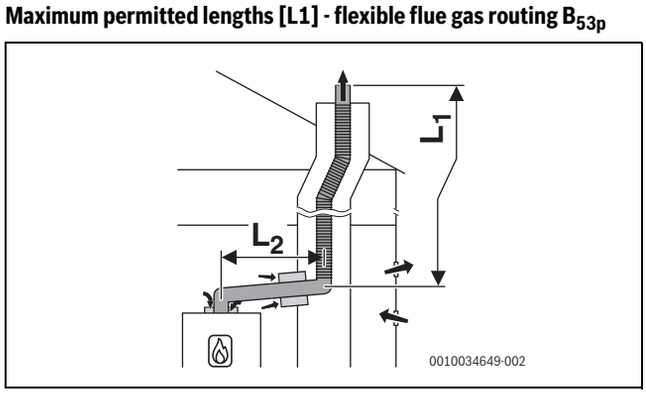


Fig. 19 B_{53p}

DN80	L2 DN110 [m]	L1 DN80 [m]
GC7000WP 50	3	10
GC7000WP 65	3	9

Table 39 B_{53p}

DN110	L2 DN110 [m]	L1 DN110 [m]
GC7000WP 50	3	30
GC7000WP 65	3	30
GC7000WP 85	3	30
GC7000WP 100	3	30
GC7000WP 125	3	18
GC7000WP 145	3	16

Table 40 B_{53p}

DN125	L2 DN110 [m]	L1 DN125 [m]
GC7000WP 125	3	30
GC7000WP 145	3	27

Table 41 B_{53p}

3 Flue gas cascade

3.1 CO detector for emergency shutdown of the cascade

For cascades, a CO detector with volt free contact is required that alerts in event of CO escaping, and switches off the heating system.

- ▶ Observe the installation instructions of the CO detector used.
- ▶ Connect CO detector to cascade module (→ installation instructions of cascade module).
- ▶ When using products of other manufacturers for controlling the cascade: observe the details of manufacturer for connecting a CO detector.

3.2 Y-piece for flue gas connection with back-to-back installation (accessory)

With a back-to-back cascade setup, the individual flue pipes in the in-line installation are connected with a Y-piece. The accessories are available in the following sizes:

- Y-piece DN160/200
- Y-piece DN200/250
- Y-piece DN250/315

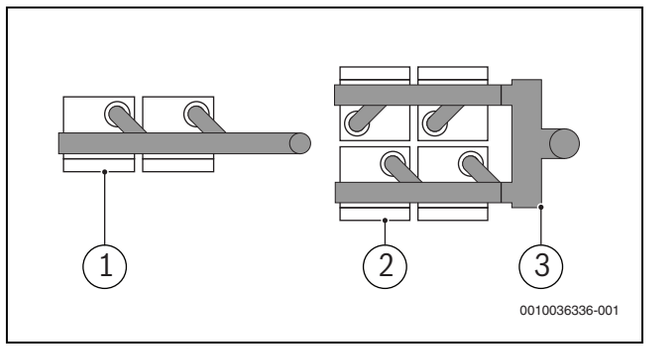


Fig. 20 Top view of cascade setup

[1] In-line installation TL
[2] Back-to-back installation TR
[3] Y-piece

3.3 Flue gas routing according to B_{23p}, without backflow preventer

System features	
Combustion air supply	With open flue at the heat source
Pressure ratios	Underpressure/overpressure operation
Certification	The entire flue system is tested together with the heat source.

Table 42 B_{23p}

Measures when using the existing duct	
Aperture to the outside at the installation location	Ventilation aperture required for the installation room - according to IGE/UP/10.
Secondary ventilation	The duct must be rear-ventilated over its entire height. The inlet aperture of the secondary ventilation must be located at the installation location in the vicinity of the flue gas routing. The inlet aperture must be at least the same size as the required secondary ventilation surface and be covered with an air grille.

Table 43 B_{23p}

3.3.1 Rigid ducted flue gas routing according to B_{23p}, without backflow preventer

Maximum permitted lengths [L1] - rigid flue gas routing B_{23p} - in-line installation

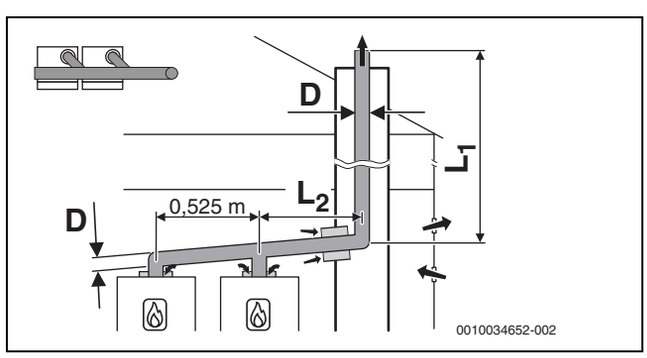


Fig. 21 B_{23p}/B_{53p}

[L_2] ≤ 3,0 m

2x	D Ø	$L1_{min}$ – L1 [m]
GC7000WP 50	DN160	3 – 50
GC7000WP 65		4 – 50
GC7000WP 85		6 – 42
GC7000WP 100		10 – 27
GC7000WP 50	DN200	2 – 50
GC7000WP 65		2 – 50
GC7000WP 85		2 – 50
GC7000WP 100		3 – 50
GC7000WP 125		4 – 50
GC7000WP 145		5 – 50
GC7000WP 145	DN250	2 – 50

Table 44 B_{23p}

3x	D Ø	$L1_{min}$ – L1 [m]
GC7000WP 50	DN200	4 – 50
GC7000WP 65		7 – 50
GC7000WP 85		12 – 46
GC7000WP 50	DN250	2 – 50
GC7000WP 65		3 – 50
GC7000WP 85		3 – 50
GC7000WP 100		4 – 50
GC7000WP 125		6 – 50
GC7000WP 145		8 – 50
GC7000WP 125	DN315	3 – 50
GC7000WP 145		3 – 50

Table 45 B_{23p}

4x	D Ø	$L1_{min}$ – L1 [m]
GC7000WP 50	DN200	15 – 41
GC7000WP 50	DN250	4 – 50
GC7000WP 65		5 – 50
GC7000WP 85		8 – 50
GC7000WP 100		11 – 50
GC7000WP 50	DN315	2 – 50
GC7000WP 65		3 – 50
GC7000WP 85		3 – 50
GC7000WP 100		3 – 50
GC7000WP 125		5 – 50
GC7000WP 145		6 – 50

Table 46 B_{23p}

5x	D Ø	$L1_{min}$ – L1 [m]
GC7000WP 50	DN250	7 – 50
GC7000WP 65		12 – 50
GC7000WP 50	DN315	3 – 50
GC7000WP 65		4 – 50
GC7000WP 85		5 – 50
GC7000WP 100		6 – 50
GC7000WP 125		10 – 50
GC7000WP 145		10 – 50

Table 47 B_{23p}

6x	D Ø	$L1_{min}$ – L1 [m]
GC7000WP 50	DN250	13 – 50
GC7000WP 50	DN315	4 – 50
GC7000WP 65		6 – 50
GC7000WP 85		8 – 50
GC7000WP 100		10 – 50
GC7000WP 125		27 – 50

Table 48 B_{23p}

Maximum permitted lengths [L1] - rigid flue gas routing B_{23p} - back-to-back

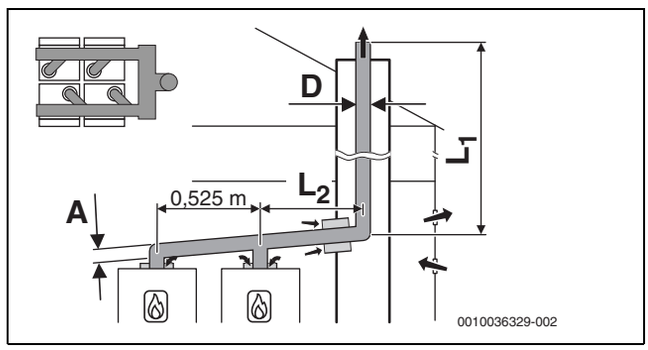


Fig. 22 B_{23p}/B_{53p}

[L_2] ≤ 3,0 m

4x	A Ø	D Ø	$L1_{min}$ – L1 [m]
GC7000WP 50	DN160	DN200	20 – 40
GC7000WP 50	DN200	DN250	5 – 50
GC7000WP 65			7 – 50
GC7000WP 85			11 – 50
GC7000WP 100			17 – 50
GC7000WP 50	DN250	DN315	3 – 50
GC7000WP 65			3 – 50
GC7000WP 85			4 – 50
GC7000WP 100			5 – 50
GC7000WP 125			8 – 50
GC7000WP 145			14 – 50

Table 49 B_{23p}

5x	A Ø	D Ø	L_{min} – L [m]
GC7000WP 50	DN200	DN250	9 – 50
GC7000WP 65			16 – 50
GC7000WP 50	DN250	DN315	4 – 50
GC7000WP 65			5 – 50
GC7000WP 85			7 – 50
GC7000WP 100			9 – 50
GC7000WP 125			17 – 50
GC7000WP 145			29 – 50

Table 50 B_{23p}

6x	A Ø	D Ø	L_{min} – L [m]
GC7000WP 50	DN200	DN250	16 – 50

6x	A Ø	D Ø	L_{min} – L [m]
GC7000WP 50	DN250	DN315	5 – 50
GC7000WP 65			8 – 50
GC7000WP 85			11 – 50
GC7000WP 100			15 – 50

Table 51 B_{23p}

3.4 Flue gas routing according to B_{23p}/B_{53p} , with backflow preventer

System features	
Combustion air supply	With open flue at the heat source
Pressure ratios	Overpressure operation
Certification	The entire flue system is tested together with the heat source.

Table 52 B_{23p}/B_{53p}

Measures when using the existing duct	
Aperture to the outside at the installation location	Ventilation aperture required for the installation room - according IGE/UP/10.
Secondary ventilation	The duct must be rear-ventilated over its entire height. The inlet aperture of the secondary ventilation must be located at the installation location in the vicinity of the flue gas routing. The inlet aperture must be at least the same size as the required secondary ventilation surface and be covered with an air grille.

Table 53 B_{23p} / B_{53p}

3.4.1 Mounting the back flow prevention valve

If the boiler is installed in a positive pressure cascade system, the minimum load must be increased for every floor standing boiler and a back flow prevention valve / backflow preventer (accessory) installed.

- ▶ Mount the back flow prevention valve directly on the boiler connector (→ § 2.8, p. 5).
- ▶ Adjust the partial load during commissioning (→ § 2.8, p. 5).

3.4.2 Rigid ducted flue gas routing according to B_{23p}/B_{53p} (with back flow prevention valve)

Maximum permitted lengths [L1] - rigid flue gas routing B_{23p}/B_{53p} - in-line installation

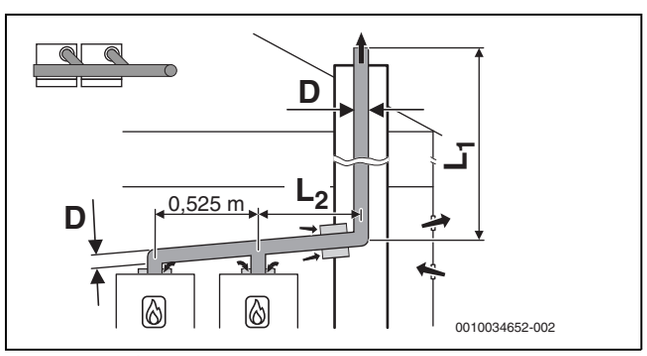


Fig. 23 B_{23p}/B_{53p}

[L_2] ≤ 3,0 m

2x	D Ø	L1 [m]
GC7000WP 65	DN110	5

2x	D Ø	L1 [m]
GC7000WP 50	DN125	16
GC7000WP 65		23
GC7000WP 85		8
GC7000WP 100		7
GC7000WP 50	DN160	50
GC7000WP 65		50
GC7000WP 85		50
GC7000WP 100		50
GC7000WP 125		50
GC7000WP 145		34
GC7000WP 145	DN200	50

Table 54 B_{23p}/B_{53p}

3x	D Ø	L1 [m]
GC7000WP 50	DN160	39
GC7000WP 65		48
GC7000WP 85		21
GC7000WP 100		9
GC7000WP 50	DN200	50
GC7000WP 65		50
GC7000WP 85		50
GC7000WP 100		50
GC7000WP 125		50
GC7000WP 145		30
GC7000WP 145	DN250	50

Table 55 B_{23p}/B_{53p}

4x	D Ø	L1 [m]
GC7000WP 50	DN160	7
GC7000WP 65		11
GC7000WP 50	DN200	50
GC7000WP 65		50
GC7000WP 85		50
GC7000WP 100		31
GC7000WP 100	DN250	50
GC7000WP 125		50
GC7000WP 145		50

Table 56 B_{23p}/B_{53p}

5x	D Ø	L1 [m]
GC7000WP 50	DN200	50
GC7000WP 65		48
GC7000WP 85		10
GC7000WP 65	DN250	50
GC7000WP 85		50
GC7000WP 100		50
GC7000WP 125		47
GC7000WP 145		13
GC7000WP 125	DN315	50
GC7000WP 145		50

Table 57 B_{23p}/B_{53p}

6x	D Ø	L1 [m]
GC7000WP 50	DN200	22
GC7000WP 65		15
GC7000WP 50	DN250	50
GC7000WP 65		50
GC7000WP 85		50
GC7000WP 100		50
GC7000WP 125	DN315	50
GC7000WP 145		50

Table 58 B_{23p}/B_{53p}

Maximum permitted lengths [L1] - rigid flue gas routing B_{23p}/B_{53p} - back-to-back

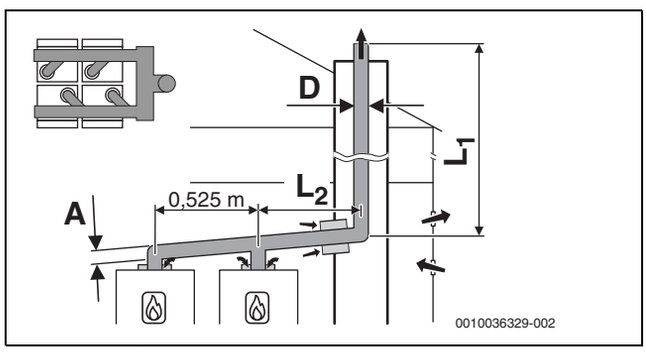


Fig. 24 B_{23p}/B_{53p}

[L_2] ≤ 3,0 m

4x	A Ø	D Ø	L1 [m]
GC7000WP 50	DN160	DN200	50
GC7000WP 65			50
GC7000WP 85			48
GC7000WP 100			22
GC7000WP 85	DN200	DN250	50
GC7000WP 100			50
GC7000WP 125			50
GC7000WP 145			50

Table 59 B_{23p}

5x	A Ø	D Ø	L1 [m]
GC7000WP 50	DN160	DN200	44
GC7000WP 65			41
GC7000WP 50	DN200	DN250	50
GC7000WP 65			50
GC7000WP 85			50
GC7000WP 100			50
GC7000WP 125			27
GC7000WP 125	DN250	DN315	50
GC7000WP 145			50

Table 60 B_{23p}

6x	A Ø	D Ø	L1 [m]
GC7000WP 50	DN200	DN250	50
GC7000WP 65			50
GC7000WP 85			50
GC7000WP 100			43
GC7000WP 100	DN250	DN315	50
GC7000WP 125			50
GC7000WP 145			50

Table 61 B_{23p}

3.5 Flue gas routing according to C_{53} without (without backflow preventer)

A parallel flue adapter is used with this flue system C_{53} Ø 110-110 (→ § 2.6, p. 4).

System features	
Combustion air supply	With balanced flue
Flue outlet/air inlet	Flue outlet and air inlet apertures are in different pressure zones. They must not be on different walls of the building.
Pressure ratios	Underpressure/overpressure operation
Certification	The entire flue system is tested together with the heat source.

Table 62 C_{53}

Measures when using the existing duct	
Apertures to the outside at installation location	Required: • According IGE/UP/10.
Secondary ventilation	The flue must be rear-ventilated inside the duct over the entire height. ▶ Observe country-specific guidelines and standards.

Table 63 C_{53}

3.5.1 Rigid flue gas routing according to C_{53} in the duct with separate pipes (without back flow prevention valve)

Maximum permitted lengths [L1] - rigid flue gas routing C_{53}, without back flow prevention valve

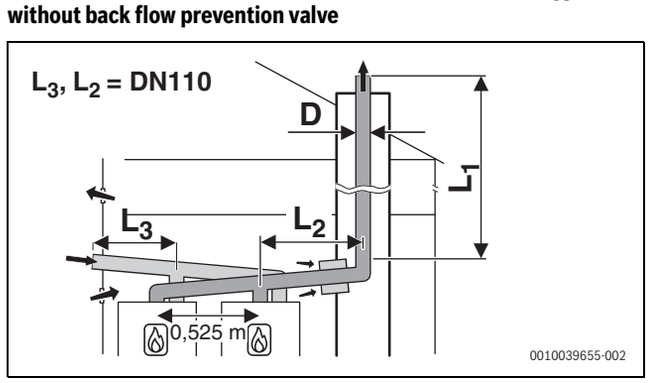


Fig. 25 C_{53}

2x	L3 [m]	L2 [m]	D Ø	$L1_{min}$ – L1 [m]
GC7000WP 50	5	3	DN160	8 – 50
GC7000WP 65				9 – 41
GC7000WP 85	5	3		11 – 34

2x	L3 [m]	L2 [m]	D Ø	$L1_{min}$ – L1 [m]
GC7000WP 50	5	3	DN200	5 – 50
GC7000WP 65	5	3		4 – 50
GC7000WP 85	5	3		4 – 50
GC7000WP 100	5	3		4 – 50
GC7000WP 125	5	3		6 – 50
GC7000WP 145	5	3		8 – 50
GC7000WP 50	5	3	DN250	4 – 50
GC7000WP 65	5	3		3 – 50
GC7000WP 85	5	3		3 – 50
GC7000WP 100	5	3		3 – 50
GC7000WP 125	5	3		3 – 50
GC7000WP 145	5	3		4 – 50
GC7000WP 145	5	3	DN315	3 – 50

Table 64 C_{53}

3x	L3 [m]	L2 [m]	D Ø	$L1_{min}$ – L1 [m]
GC7000WP 50	5	3	DN200	6 – 50
GC7000WP 65	5	3		9 – 50
GC7000WP 50	5	3	DN250	4 – 50
GC7000WP 65	5	3		4 – 50
GC7000WP 85	5	3		4 – 50
GC7000WP 100	5	3		5 – 50
GC7000WP 125	5	3		7 – 50
GC7000WP 145	5	3		10 – 50
GC7000WP 50	5	3	DN315	3 – 50
GC7000WP 65	5	3		3 – 50
GC7000WP 85	5	3		3 – 50
GC7000WP 100	5	3		3 – 50
GC7000WP 125	5	3		4 – 50
GC7000WP 145	5	3		4 – 50

Table 65 C_{53}

4x	L3 [m]	L2 [m]	D Ø	$L1_{min}$ – L1 [m]
GC7000WP 50	5	3	DN250	6 – 50
GC7000WP 65	5	3		7 – 50
GC7000WP 85	5	3		9 – 50
GC7000WP 100	5	3		12 – 50
GC7000WP 50	5	3	DN315	4 – 50
GC7000WP 65	5	3		4 – 50
GC7000WP 85	5	3		4 – 50
GC7000WP 100	5	3		4 – 50
GC7000WP 125	5	3		6 – 50
GC7000WP 145	5	3		7 – 50

Table 66 C_{53}

5x	L3 [m]	L2 [m]	D Ø	$L1_{min}$ – L1 [m]
GC7000WP 50	5	3	DN250	8 – 50
GC7000WP 65	5	3		13 – 50

5x	L3 [m]	L2 [m]	D Ø	$L1_{min}$ – L1 [m]
GC7000WP 50	5	3	DN315	4 – 50
GC7000WP 65	5	3		5 – 50
GC7000WP 85	5	3		6 – 50
GC7000WP 100	5	3		6 – 50
GC7000WP 125	5	3		11 – 50
GC7000WP 145	5	3		17 – 50

Table 67 C_{53}

6x	L3 [m]	L2 [m]	D Ø	$L1_{min}$ – L1 [m]
GC7000WP 50	5	3	DN250	15 – 50
GC7000WP 50	5	3	DN315	5 – 50
GC7000WP 65	5	3		7 – 50
GC7000WP 85	5	3		9 – 50
GC7000WP 100	5	3		11 – 50
GC7000WP 125	5	3		29 – 50

Table 68 C_{53}

3.6 Flue gas routing according to C_{53} (with backflow preventer)

The parallel flue adapter is used with this flue system C_{53} Ø 110-110 (→ § 2.6, p. 4).

The use of the parallel flue adapter in a positive pressure cascade is only possible with the following product types with internal flue rector:

- GC7000WP 125
- GC7000WP 145

System features	
Combustion air supply	With balanced flue
Flue outlet/air inlet	Flue outlet and air inlet apertures are in different pressure zones. They must not be on different walls of the building.
Pressure ratios	Overpressure operation
Certification	The entire flue system is tested together with the heat source.

Table 69 C_{53}

Measures when using the existing duct	
Apertures to the outside at installation location	Required: • According IGE/UP/10.
Secondary ventilation	The flue must be rear-ventilated inside the duct over the entire height. ▶ Observe country-specific guidelines and standards.

Table 70 C_{53}

3.6.1 Rigid flue gas routing according to C 53 in the duct with separate pipes (with back flow prevention valve)

Maximum permitted lengths [L1] - rigid flue gas routing C_{53}, with back flow prevention valve

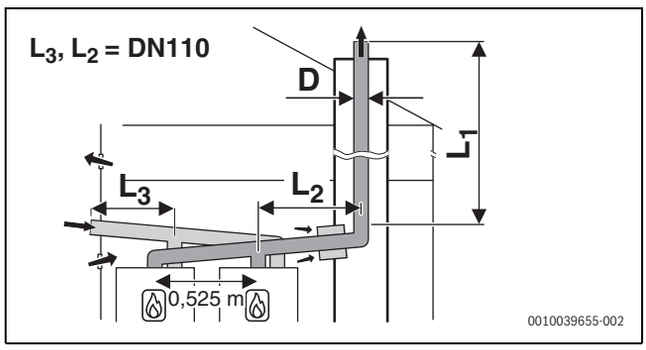


Fig. 26 C_{53}

2x	L3 [m]	L2 [m]	D Ø	L1 [m]
GC7000WP 125	5	3	DN160	11
GC7000WP 145	5	3		13
GC7000WP 125	5	3	DN200	50
GC7000WP 145	5	3		50

Table 71 C_{53}

3x	L3 [m]	L2 [m]	D Ø	L1 [m]
GC7000WP 125	5	3	DN200	30
GC7000WP 145	5	3		15
GC7000WP 125	5	3	DN250	50
GC7000WP 145	5	3		50

Table 72 C_{53}

4x	L3 [m]	L2 [m]	D Ø	L1 [m]
GC7000WP 125	5	3	DN250	50
GC7000WP 145	5	3	DN315	50

Table 73 C_{53}

5x	L3 [m]	L2 [m]	D Ø	L1 [m]
GC7000WP 125	5	3	DN250	29
GC7000WP 125	5	3	DN315	50
GC7000WP 145	5	3		50

Table 74 C_{53}

6x	L3 [m]	L2 [m]	D Ø	L1 [m]
GC7000WP 125	5	3	DN315	50
GC7000WP 145	5	3		50

Table 75 C_{53}

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