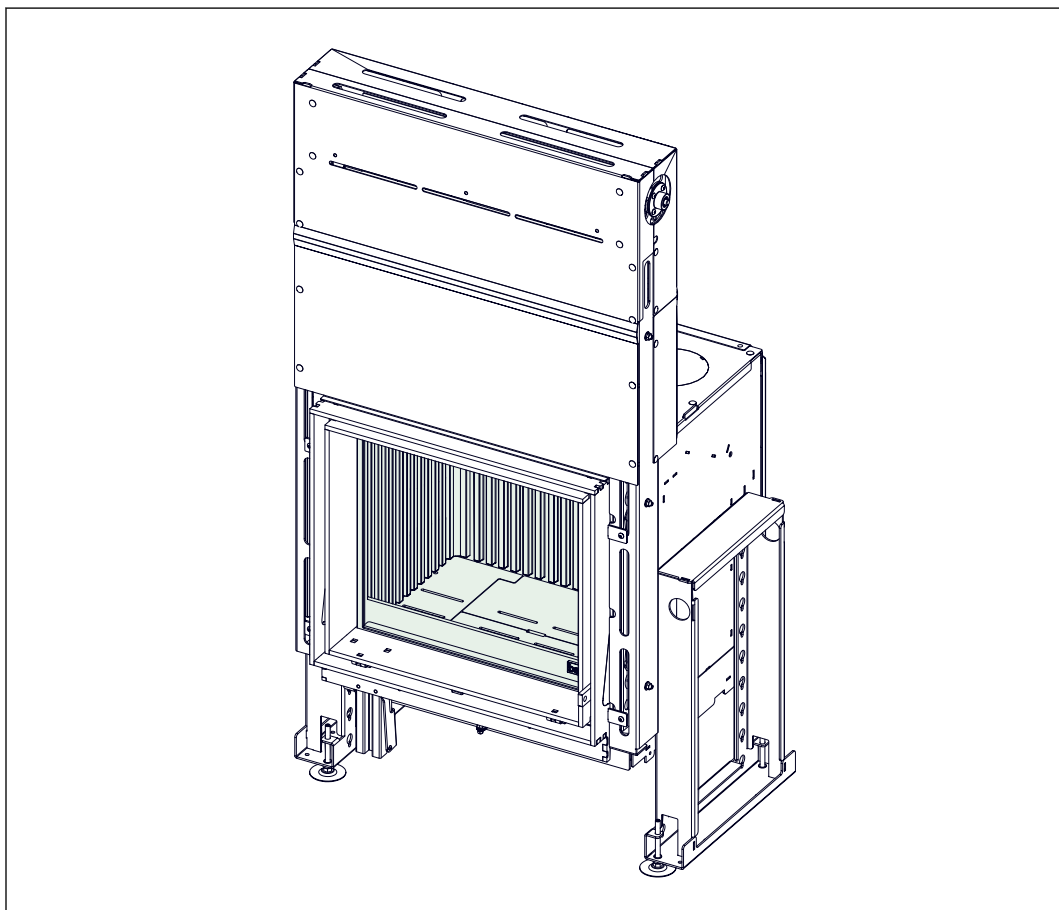


barbas .

Installation and maintenance manual

EVO-7 50-40

EVO-7 50-40 Opti-Air



This product is not suitable for primary heating purposes



Serial number:

Production date:

© Barbas Bellfires BV

This document or parts thereof may not be reproduced, stored in a retrieval system, or transmitted, in any form or by any means, electronic, mechanical, photocopying, recording, nor otherwise, without the prior written permission of Barbas Bellfires BV. This document could contain technical inaccuracies or typographical errors. Barbas Bellfires BV reserves the right to revise this document from time to time in the contents thereof.

Contact information

Barbas Bellfires BV

Hallenstraat 17, 5531 AB Bladel, The Netherlands

E-mail: info@barbas.com

www.barbasbellfires.com

Contents

1	Declaration of Performance.....	6
1.1	EVO-7 50-40	6
1.2	EVO-7 50-40 Opti-Air.....	7
2	About this document.....	8
2.1	How to work with this document.....	8
2.2	Warnings and cautions used in this document.....	8
2.3	Related documentation.....	8
3	Description.....	9
3.1	Overview of the front of the appliance.....	9
3.2	Overview of the rear of the appliance.....	10
3.3	Overview of the bottom of the appliance.....	11
3.4	Overview of combustion air inlet box.....	12
3.5	Overview of the convection ventilator / combustion air inlet box.....	13
3.6	Appliance options.....	14
3.7	Overview of the Opti-Air system (option).....	14
3.7.1	General.....	14
3.7.2	Combustion levels in combination with a convection ventilator.....	15
3.7.3	Overview of the Barbas Opti-Air app.....	16
3.7.4	Combustion levels without a convection ventilator.....	17
3.7.5	Combustion modes.....	18
3.8	Intended use.....	18
3.9	Installation examples.....	19
3.9.1	Combustion air supply from the installation room.....	19
3.9.2	External combustion air supply with convection set.....	20
4	Safety.....	21
4.1	Safety instructions for installation.....	21
4.2	Safety instructions with regard to the environment.....	21
5	Clearances.....	22
5.1	Insulating material requirements.....	22
5.2	Clearances to flammable or load-bearing walls.....	22
5.3	Clearance to flammable floor (under the appliance).....	23
5.4	Clearances to flammable ceiling.....	23
5.5	Clearances to non-flammable walls.....	24
5.6	Clearances to a non-flammable ceiling.....	26
5.7	Mantel clearances.....	27
5.8	Clearances in front of the appliance.....	29
6	Installation requirements.....	32
6.1	Requirements on the installation of the appliance in a new fireplace.....	32
6.2	Requirements on the chimney.....	33
6.3	Requirements on the ventilation/convection air openings.....	33

7	Installation in a new fireplace.....	35
7.1	Install the appliance - general procedure.....	35
7.2	Preparation for installation.....	35
7.3	Install the appliance.....	35
7.4	Horizontally align the appliance.....	36
7.4.1	Aligning with adjustable feet.....	36
7.4.2	Aligning with adjustable height frame.....	37
7.5	Make the electrical connection.....	37
7.6	Connect the flue gas pipe.....	38
7.7	Connection on the combustion air box.....	38
7.8	Connect the convection set (optional).....	39
7.9	Connect the convection air outlet.....	40
7.10	Insulate the appliance.....	41
7.11	Build the fireplace.....	41
7.12	NTC room temperature sensor (Opti-Air system only).....	42
7.13	Battery holder (Opti-Air system only).....	43
7.14	Final check on the appliance.....	43
8	Installation of the Opti-Air app	44
9	Maintenance.....	45
9.1	Appliance.....	45
9.2	Access to inside of door	45
9.3	Combustion air supply.....	46
9.4	Convection air system.....	46
9.5	Chimney.....	46
9.6	Removal of the bottom plates, grate and ash tray.....	47
9.7	Removal of the baffles.....	47
9.7.1	Remove the heat shield.....	48
9.7.2	Remove the lower baffle.....	48
9.7.3	Remove the upper baffle.....	49
9.8	Install the bottom plates, ash tray and grate	49
9.9	Installation of the baffles.....	50
9.9.1	Install the upper baffle.....	50
9.9.2	Install the lower baffle.....	51
9.9.3	Install the heat shield.....	52
9.10	Opti-Air system	53
10	Technical data.....	54
10.1	Technical data.....	54
10.2	Connections on Opti-Air system.....	56
10.3	Connections on ventilator speed controller.....	57
10.4	Connection scheme convection ventilator	58
10.5	Product information according regulation (EU) 2015/1185.....	59

11	Dimensions	61
11.1	EVO-7 50-40, basic model.....	61
11.2	EVO-7 50-40 with air box.....	62
11.3	EVO-7 50-40 with air box and convection casing.....	63
11.4	EVO-7 50-40 with combustion air / convection ventilator box and convection casing.....	64
11.5	BARBAS Airbox 160 with 4 insert models.....	65
11.6	BARBAS Airbox 320 with 4 insert models.....	66
12	Warranty Terms.....	67

1 Declaration of Performance

1.1 EVO-7 50-40

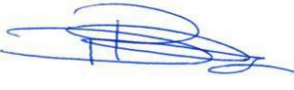
barbas bellfires.
Crafted to wonder

EC-declaration of conformity	
This EC declaration of conformity applies to the product described below and describes the conformity with the following directives: 2009/125/EC Directive for the setting of eco-design requirements for energy-related products (eco-design directive) Relevant Regulation: (EU) 2015/1185	
Declaration of Performance	
According to regulation (EU) 305/2011 No. 1.231.081-1 - CPR-2013/07/01	
1. Unique identification code of the product-type	Evo-7 50-40
2. Intended use or uses of the construction product, in accordance with the applicable harmonised technical specification, as foreseen by the manufacturer	Room heater without hot water supply
3. Name, registered trade name or registered trade mark and contact address of the manufacturer as required pursuant to Article 11(5)	Barbas Bellfires BV; Hallenstraat 17; 5531 AB Bladel; The Netherlands
4. Where applicable, name and contact address of the authorised representative whose mandate covers the tasks specified in Article 12(2)	Not applicable
5. System or systems of assessment and verification of constancy of performance of the construction product as set out in Annex V	System 3
6. In case of the declaration of performance concerning a construction product covered by a harmonised standard	The notified laboratory SGS Nederland BV, No. 0608 performed the determination of the product type on the basis of type testing under system 3 and issued test report EZKA/2022-01/00027-7
7. Declared performance	
Harmonized technical specification	EN13229:2001/A2:2004/AC:2007
Essential characteristics	Performance
Fire safety	Pass
Distance to combustible materials	Minimum distances, in mm Insulation thickness rear = 100 Insulation thickness sides = 100 Insulation thickness ceiling = 75 Front = 1800 Insulation thickness floor = 30
Risk of burning fuel falling out	Pass
Emission of combustion products	CO = 0.1 vol%
Surface temperature	Pass
Electrical safety	Pass
Cleanability	Pass
Release of dangerous substances	NPD
Maximum operating pressure	Not applicable
Flue gas temperature at nominal heat output	T = 267 °C
Mechanical resistance (to carry a chimney/flue)	NPD
Thermal output	Pass
Nominal heat output	8.3 kW
Room heating output	8.3 kW
Water heating output	- kW
Energy efficiency	76.3 %
8. The performance of the product identified in point 1 is in conformity with the declared performance in point 7. This declaration of performance is issued under the sole responsibility of the manufacturer identified in point 3.	

Signed for and on behalf of the manufacturer by:

Danny Baijens, CEO
(Name and function)

Bladel; December 7, 2022
(place and date of issue)


(Signature)

1.2

EVO-7 50-40 Opti-Air

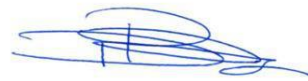
barbas bellfires.
Crafted to wonder

EC-declaration of conformity	
This EC declaration of conformity applies to the product described below and describes the conformity with the following directives: 2009/125/EC Directive for the setting of eco-design requirements for energy-related products (eco-design directive) Relevant Regulation: (EU) 2015/1185	
Declaration of Performance	
According to regulation (EU) 305/2011 No. 1.231.081-1-OA - CPR-2013/07/01	
1. Unique identification code of the product-type	Evo-7 50-40 Opti-Air
2. Intended use or uses of the construction product, in accordance with the applicable harmonised technical specification, as foreseen by the manufacturer	Room heater without hot water supply
3. Name, registered trade name or registered trade mark and contact address of the manufacturer as required pursuant to Article 11(5)	Barbas Bellfires BV; Hallenstraat 17; 5531 AB Bladel; The Netherlands
4. Where applicable, name and contact address of the authorised representative whose mandate covers the tasks specified in Article 12(2)	Not applicable
5. System or systems of assessment and verification of constancy of performance of the construction product as set out in Annex V	System 3
6. In case of the declaration of performance concerning a construction product covered by a harmonised standard	The notified laboratory SGS Nederland BV, No. 0608 performed the determination of the product type on the basis of type testing under system 3 and issued test report EZKA/2022-01/00027-9
7. Declared performance	
Harmonized technical specification	EN13229-2001/A2:2004/AC:2007
Essential characteristics	Performance
Fire safety	Pass
Distance to combustible materials	Minimum distances, in mm Insulation thickness rear = 100 Insulation thickness sides = 100 Insulation thickness ceiling = 75 Front = 1800 Insulation thickness floor = 30
Risk of burning fuel falling out	Pass
Emission of combustion products	CO = 0.11 vol%
Surface temperature	Pass
Electrical safety	Pass
Cleanability	Pass
Release of dangerous substances	NPD
Maximum operating pressure	Not applicable
Flue gas temperature at nominal heat output	T = 297 °C
Mechanical resistance (to carry a chimney/flue)	NPD
Thermal output	Pass
Nominal heat output	9.5 kW
Room heating output	9.5 kW
Water heating output	- kW
Energy efficiency	76.2 %
8. The performance of the product identified in point 1 is in conformity with the declared performance in point 7. This declaration of performance is issued under the sole responsibility of the manufacturer identified in point 3.	

Signed for and on behalf of the manufacturer by:

Danny Baijens, CEO
(Name and function)

Bladel; December 7, 2022
(place and date of issue)


(Signature)

2 About this document

This document shows the necessary information to do these tasks on the EVO-7 50-40

- Installation
- Maintenance

This document refers to the EVO-7 50-40 as 'the appliance'. This document is an essential part of your appliance. Read it carefully before you do work on the appliance. Keep it in a safe place.

The original instructions of the document are in English. All other language versions of the document are translations of the original instructions. It is not always possible to provide a detailed illustration of every single item of the equipment. The illustrations in this document show a typical setup. The illustrations are for instructional use only.

2.1 How to work with this document

1. Make yourself familiar with the structure and content of the document.
2. Read the safety section in detail.
3. Make sure that you understand all the instructions.
4. Do the procedures completely and in the given sequence.

2.2 Warnings and cautions used in this document

Warning



If you do not obey these instructions, there is a risk that can cause personal injury or death.

Caution

If you do not obey these instructions, there is a risk of damage to the equipment or to property.

Note

A note shows more information.

Symbol	Description
	Visual sign that there is a hazard
	Visual sign that there is a notice

2.3 Related documentation

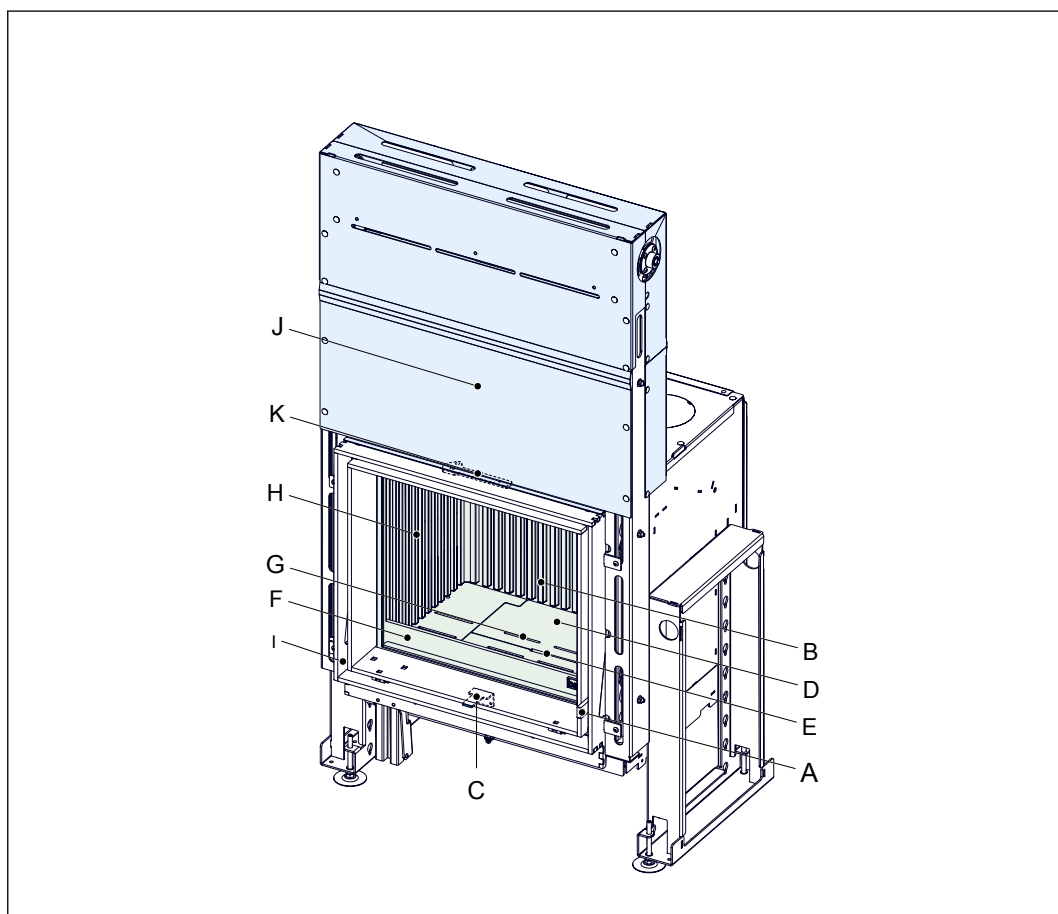
- Installation and maintenance manual
- User manual

3 Description


Note:

The appliance is a room-sealed appliance only if combustion air comes from the outer side of the building through a pipe that is connected to the combustion air inlet of the appliance. In all other cases the appliance is not a room-sealed appliance and the data for leak tightness as given in section 10 are not valid.

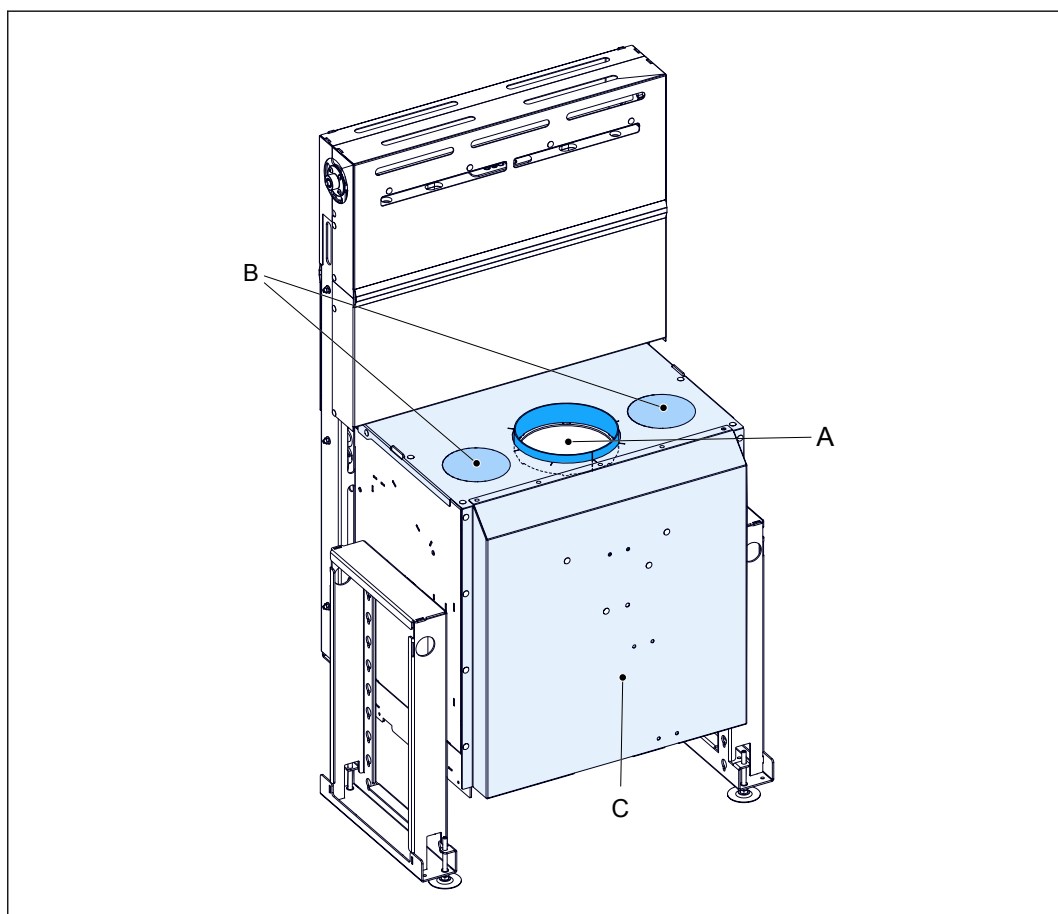
3.1 Overview of the front of the appliance



- | | | | |
|---|----------------------------|---|---------------------------|
| A | Door handle | G | Primary air inlet |
| B | Glass | H | Combustion chamber panels |
| C | Control lever ¹ | I | Frame |
| D | Grate | J | Chain case cover |
| E | Ash tray | K | Door lock handle |
| F | Front log guard | | |

¹ Only appliances without Opti-Air system.

3.2 Overview of the rear of the appliance

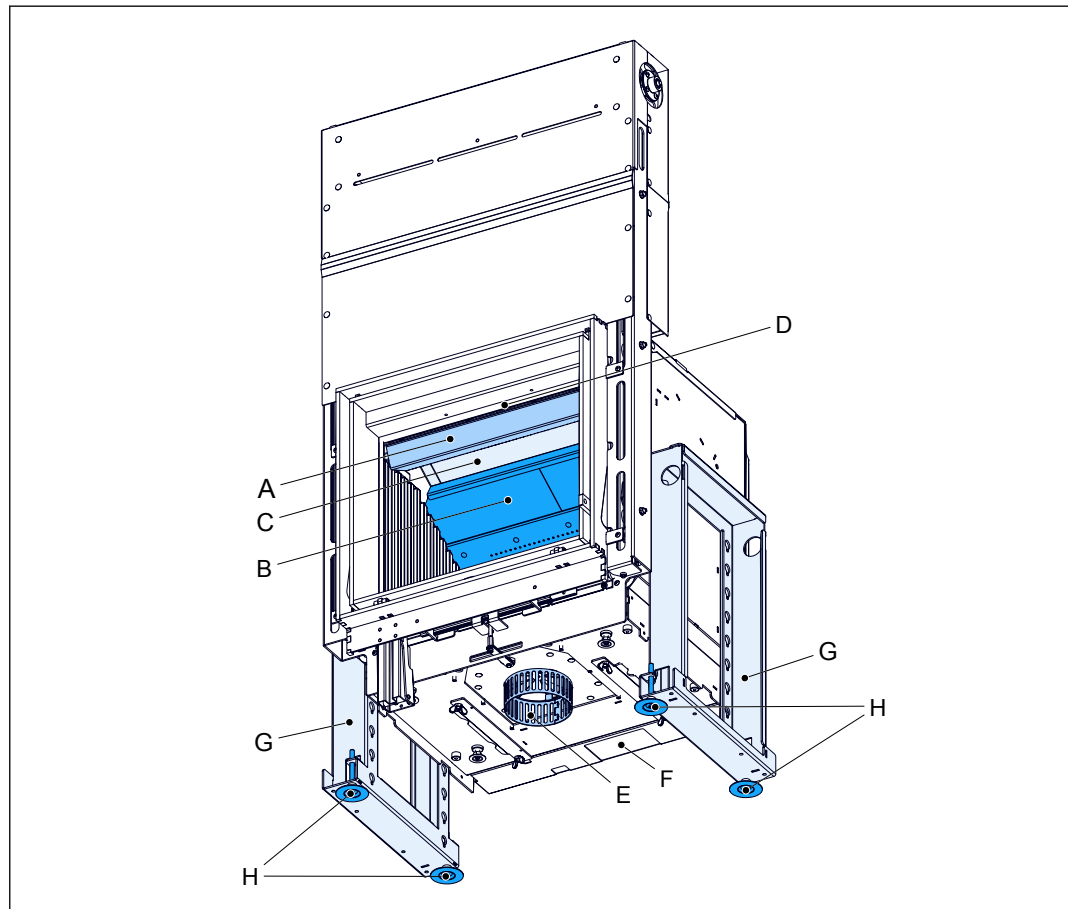


A Flue connector ²
B Convection air outlet

C Convection casing

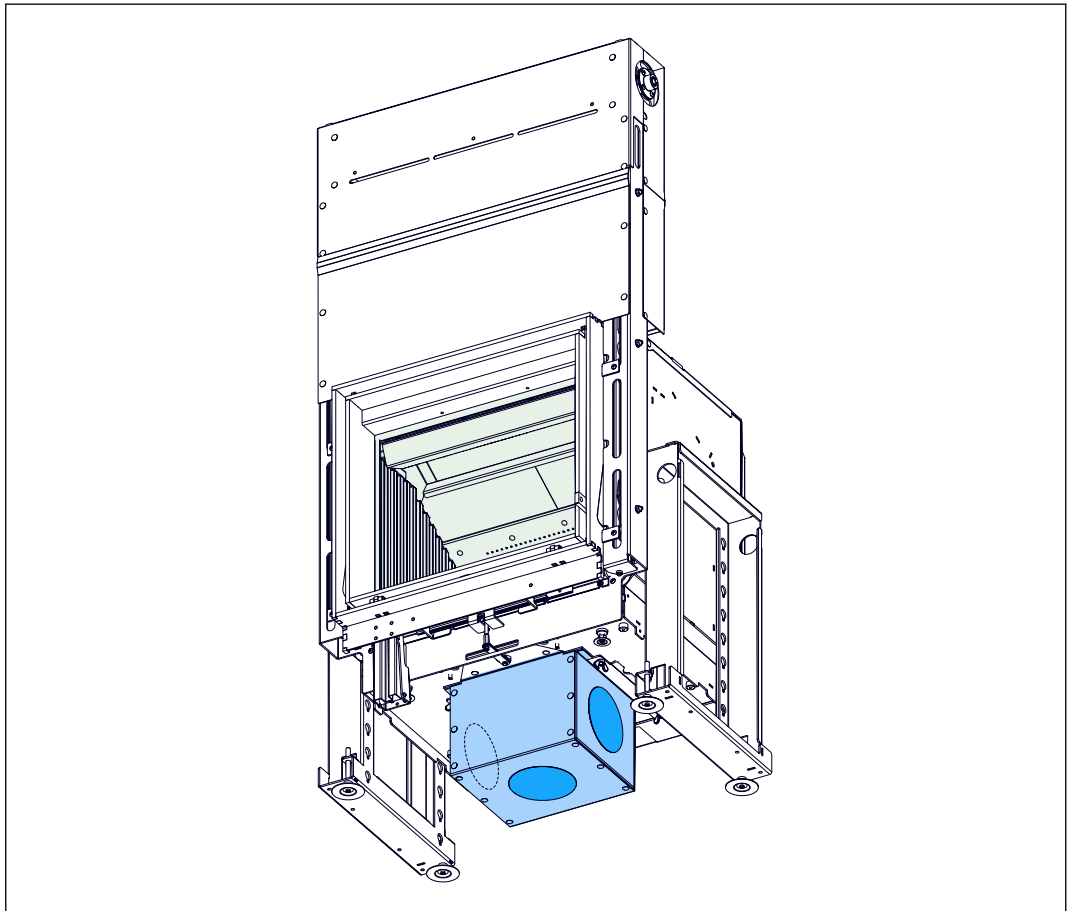
² A 30° flue connector is also available

3.3 Overview of the bottom of the appliance



- | | | | |
|---|---|---|---|
| A | Heat shield (steel) | E | Connector for the combustion air inlet pipe |
| B | Lower baffle with secondary air inlet (stainless steel) | F | Convection air inlet |
| C | Upper baffle (vermiculite) | G | Adjustable height frame |
| D | Air wash inlet | H | Adjustable feet |

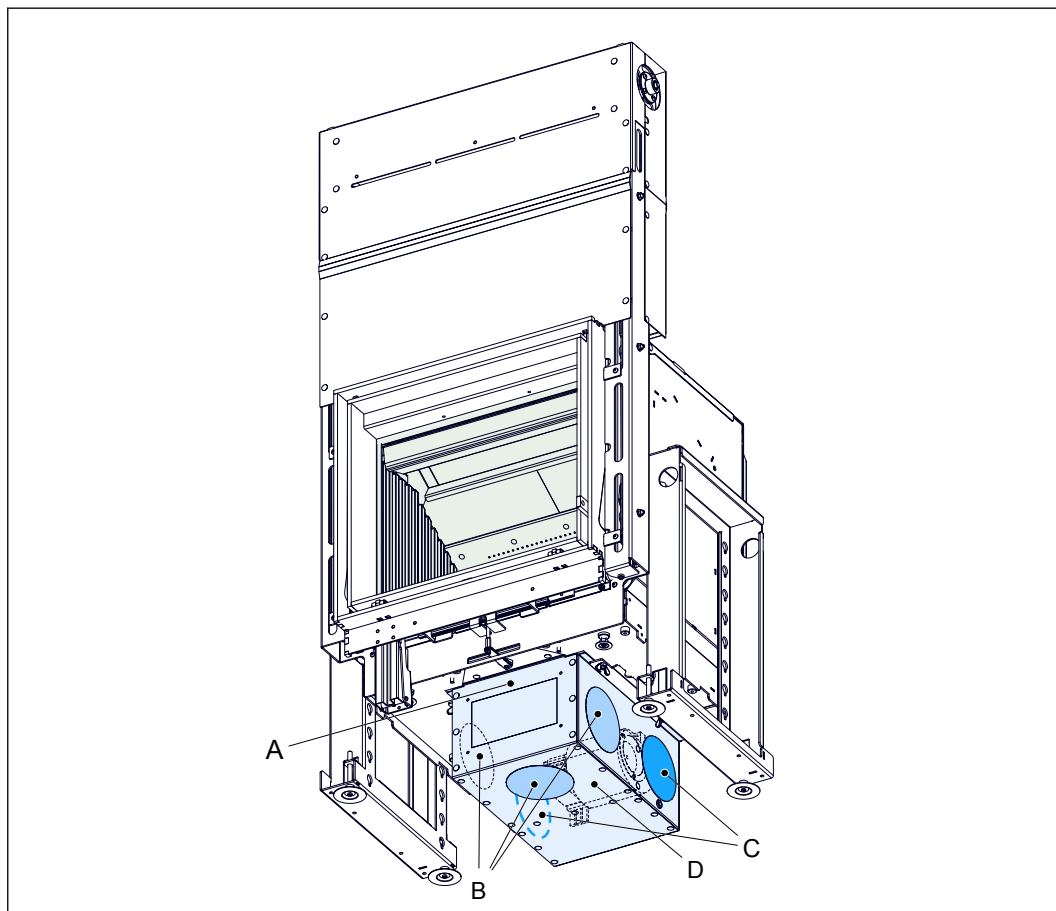
3.4 Overview of combustion air inlet box



A Combustion air inlet box

B Combustion air inlet

3.5 Overview of the convection ventilator / combustion air inlet box



- | | | | |
|---|--|---|-----------------------|
| A | Convection ventilator / combustion air inlet box | C | Convection air inlet |
| B | Combustion air inlet | D | Convection ventilator |

3.6 Appliance options

Option	Description
Combustion air inlet box	The appliance can be installed with a combustion air inlet box to connect a flexible aluminum pipe for the external combustion air supply.
Combined convection ventilator / combustion air inlet box	The appliance can be installed with a combined convection ventilator / combustion air inlet box to connect a flexible aluminum pipe for the external combustion air supply and to connect a flexible aluminum pipe for the supply of convection air.
Convection set	The appliance can be installed with a convection set. The convection set collects the heated convection air from the appliance and releases this air into the room. A convection ventilator / combustion air inlet box is needed for the convection system. The convection air outlet openings are optionally on the front of the appliance and/or via outlet openings in the chimney breast.
30° flue connector	Not available in combination with a convection system.
Adjustable height frames	The appliance can be installed with 2 adjustable height frames. With these frames the appliance can be installed at an elevated level.
Opti-Air system	The appliance can have an electronic combustion control system, 'Opti-Air'. This system controls the combustion at a preselected combustion level or to a set room temperature. See section 3.7 for a detailed description.

3.7 Overview of the Opti-Air system (option)

3.7.1 General

If the appliance is equipped with an Opti-Air system, the amount of combustion air is continuously controlled by means of measurement of the temperature inside the combustion chamber. This helps you to achieve an efficient and clean combustion at all times. You can operate the Opti-Air device with the Barbas Opti-Air app on your mobile device. With this app you have the possibility to choose different combustion levels or the possibility to control the room temperature. If you choose the latter, the Opti-Air system will automatically switch between combustion levels, dependent on the set room temperature.



Note:

- Wood log and wood briquette combustion is a relative slow combustion process. Therefore, a change of combustion level might have a moderate effect on the room temperature. If the actual room temperature is higher than the set room temperature a relative long time is necessary to reach the set room temperature.
- With the Barbas Opti-Air system it is not possible to manually control the amount of combustion air into the appliance.

3.7.2 Combustion levels in combination with a convection ventilator

The Opti-Air system in combination with a convection ventilator has 5 combustion levels to choose from. Each combustion level is a combination of pre-defined thermal output and pre-defined ventilator speed.

Combustion level	Thermal output	Ventilator speed
1	Minimum	Off
2	Minimum	Minimum
3	Nominal	50% of maximum speed
4	Nominal	Maximum
5	Maximum	Maximum


The Barbas Opti-Air app indicates when the **Burning** or **Refill** combustion mode starts. This is dependent on the gas temperature and the chosen combustion level.

Combustion level	Burning Gas temperature must be higher than	Refill Gas temperature must be lower than *)
First load	340 °C	Dependent on chosen combustion level
1	360 °C	350 °C
2	370 °C	360 °C
3	380 °C	365 °C
4	380 °C	365 °C
5	430 °C	400 °C

*) If the gas temperature is lower than the listed gas temperature for more than 45 minutes, the combustion mode changes to **Cooling down**.

3.7.3 Overview of the Barbas Opti-Air app



	Item	Description	
A	Measurement value	Shows the measured value for room temperature, chimney draught or flue gas temperature.	
B	Parameter selector	Select presentation of room temperature, chimney draught or flue gas temperature.	
C	Help menu	Access to the help function.	
D	Combustion level selector	Used to select the combustion level. Each circle segment is an combustion level.	
E	Combustion mode indicator	Shows the current combustion mode (refer to 3.7.5 for explanation): <ul style="list-style-type: none">• Standby• Firing up• Burning• Refill• Cooling down	
F	Home button	Return to the home screen.	
G	Settings menu	Language	Change language.
		Units	Change temperature unit. °C or °F.
		Notifications	Select the type of notifications. <div>Note: The notification door open is out of order.</div>
		Homescreen Setup	<ul style="list-style-type: none">• Change the name of the appliance.• Select which parameters are shown on the homescreen.
		Advanced Settings	Only available for qualified service engineers.
		Operating Mode	Fixed Power - Manually selection of the power level. Temperature adjust - Automatic selection of the power level dependent on the set room temperature.
		Paired devices	Overview of available Opti-Air systems
H	Statistics	Shows the average values of: <ul style="list-style-type: none">• Room temperature• Combustion chamber temperature• Chimney draught	

3.7.4

Combustion levels without a convection ventilator

The Opti-Air system without a convection ventilator has 3 combustion levels to choose from. Each combustion level is a pre-defined thermal output.

Combustion level	Thermal output
1	Minimum
2	Nominal
3	Maximum

The Barbas Opti-Air app indicates when the **Burning** or **Refill** combustion mode starts. This is dependent on the gas temperature and the chosen combustion level.

Combustion level	Burning Gas temperature must be higher than	Refill Gas temperature must be lower than *)
First load	340 °C	Dependent on chosen combustion level
1	360 °C	350 °C
2	410 °C	395 °C
3	445 °C	415 °C

*) If the gas temperature is lower than the listed gas temperature for more than 45 minutes, the combustion mode changes to **Cooling down**.

3.7.5

Combustion modes

During operation at a chosen combustion level the combustion process goes through 5 different combustion modes, each with its own pre-programmed combustion characteristics. During the combustion process one of these combustion modes is active dependent on the temperature in the combustion chamber.

	Combustion mode	Description
1	Standby	The appliance is off and ready for use.
2	Firing up	Start of the appliance with the first load of wood logs. The appliance heats up.
3	Burning	The appliance is at operating temperature. The actual temperature can differ from the temperature setpoint, but the Opti-Air system tries to control the temperature toward the setpoint by changing the position of the combustion air valves.
4	Refill	The appliance has cooled down, a reload with wood logs is necessary.
5	Cooling down	The appliance was not reloaded with fuel within 45 minutes after Refill notice. Cooling down mode is active.



Note: With the Barbas Opti-Air system it is not possible to manually control the amount of combustion air into the appliance.

3.8

Intended use

The appliance is intended for indoor use to heat the room wherein it is installed. Do not use it for other purposes.

It is not allowed to use the appliance as primary heating appliance.

The appliance is intended for use with wood logs or wood briquettes as fuel. Do not use other fuels.

The appliance is intended for use with the door closed.

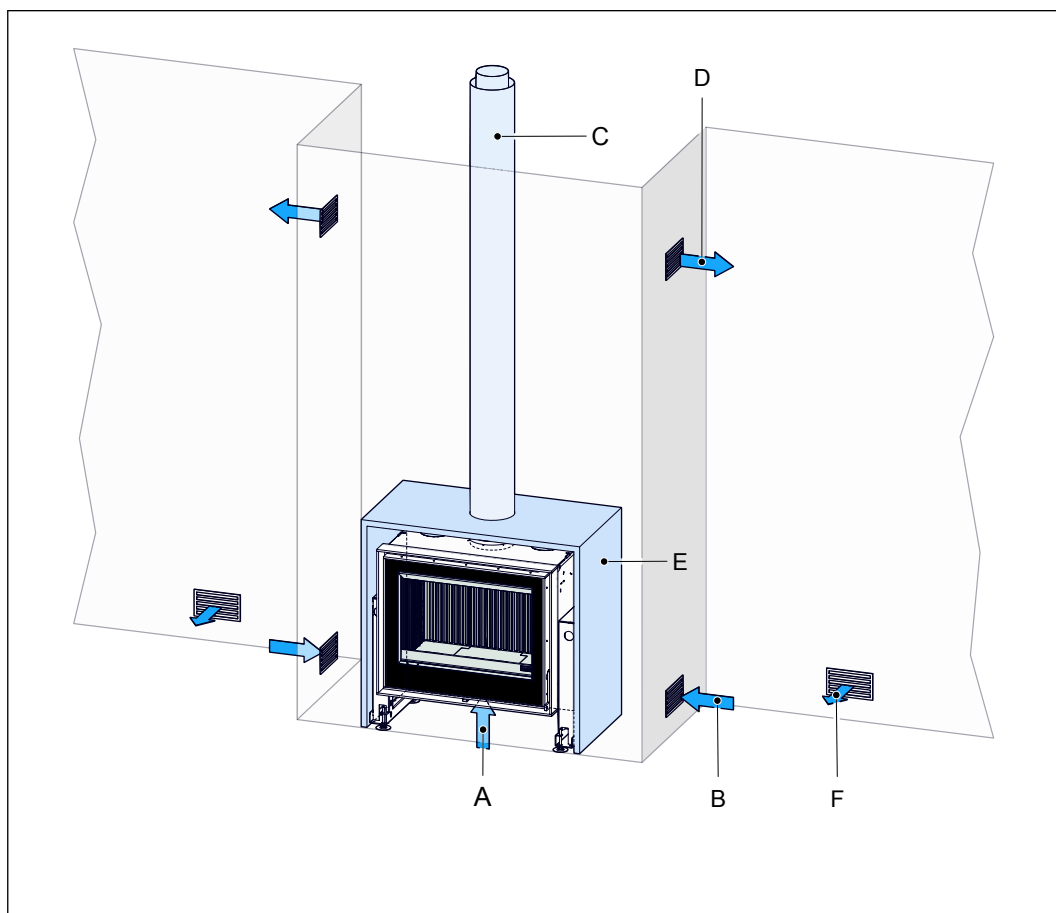
The appliance may only be used at the location that meets the requirements for the installation of the appliance.

The appliance is intended for intermittent use and is not intended for continuous use.

The appliance is intended to heat the room by direct heating. It is not allowed to connect the appliance to a central-heating installation.

3.9 Installation examples

3.9.1 Combustion air supply from the installation room

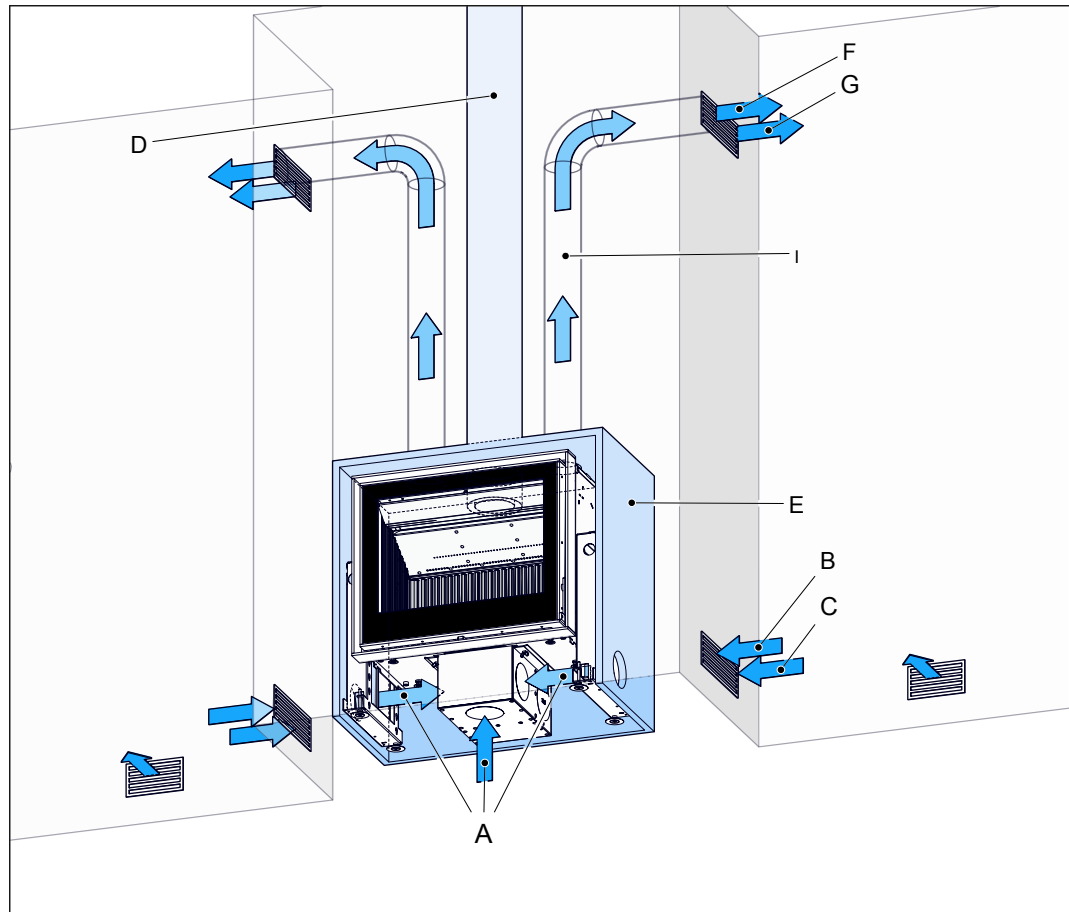


A Combustion air inlet
B Ventilation air inlet
C Chimney

D Ventilation air outlet
E Insulating material
F Air supply to the room

3.9.2

External combustion air supply with convection set



- A Combustion air inlet
- B Convection air inlet opening
- C Ventilation air inlet opening
- D Chimney

- E Insulating material
- F Convection air outlet
- G Ventilation air outlet
- I Flexible aluminum pipe

4 Safety

4.1 Safety instructions for installation



Warning:

- Installation must be done by a qualified installer.
- Install the appliance in accordance with the following installation instructions and the national and local applicable regulations.
- Make sure that the area around the fireplace is free of combustible material at all times. The minimal safe distance is 100 cm.
- If applicable, contact the authorities if it is allowed to connect the appliance to a flue that is also connected to another appliance.
- Install a carbon monoxide alarm. The carbon monoxide alarm should be battery-powered and designed to operate for the life of the carbon monoxide alarm, following which it should be replaced. Alternatively a mains powered carbon monoxide alarm can be used, however this must be fitted with a sensor failure warning device.



Caution:

- Install the appliance on a floor with adequate load-bearing capacity. Refer to section 10 for the weight of the appliance.
- Make sure that the chimney has no creaks and is in general good order.
- Install a suitable cap on the chimney outlet to avoid birds' nests build in the chimney.
- Parts in the appliance can be moved during transportation. Make sure these parts are in the correct position.
- Do not use masking tape on the appliance. Masking tape can damage the finish of the appliance.
- Do not use fiberglass, rockwool or any other sort of insulation material. These materials produce a pungent odor and can produce discoloration of the appliance.
- Make sure that the brickwork is build with a clearing of minimum 3 mm between the sides and the top of the appliance and the brickwork. The appliance can expand during operation due to heating.
- Make sure that the chimney temperature class is minimum T400 sootfire resistant.
- Do not install the appliance in a room with a ventilation system that makes pressures below -15 Pa.
- Heat radiation from the appliance can cause cracks in a floor plate of natural stone if put directly in front of the appliance. Make sure the floor plate is resistant to temperatures of more than 100 °C. Refer to the supplier of the natural stone for advice.

4.2 Safety instructions with regard to the environment

- Dispose of the packing materials in an environmentally friendly way.
- Dispose of batteries as chemical waste. (Opti-Air only)
- Dispose of ceramic heat-resistant glass as household waste. Do not dispose of ceramic heat-resistant glass in a glass recycling container.
- Dispose of an obsolete appliance according to instructions of the authorities or the fitter.
- Obey the local regulations.

5 Clearances



Warning:

- Obey the instructions in this section. Failure to follow these instruction can create a fire hazard.
- Do not put the appliance directly against a flammable or non-flammable wall.

5.1 Insulating material requirements

- Use insulating plates with a maximum thermal conductivity of 0.10 W/m.K or a thermal resistance of minimum 10 K.m/W. The table hereunder shows some examples of suitable insulating plate materials.

Examples of suitable plate material	Thermal conductivity
Promat Promatect L insulating board	0.083 W/m.K
Skamol Skamotec 225	0.06 W/m.K
Skamol Super-Isol	0.08 W/m.K

- Only use white unbound ceramic insulation wool. Do not use glass wool or rock wool, these materials can cause a bad smell, unwanted smoke and is not applicable for high temperatures.

Insulation wool property	Requirement
Temperature resistance	> 700 °C
Density	> 80 kg/m ³

5.2 Clearances to flammable or load-bearing walls



Caution: Make sure there is a 3 mm clearance between the appliance and the surrounding construction, to allow for expansion of the appliance during use.

Put a non-flammable insulation plate between the appliance and the rear wall and side wall according the figure hereunder.

Obey the requirements as mentioned in the table hereunder.



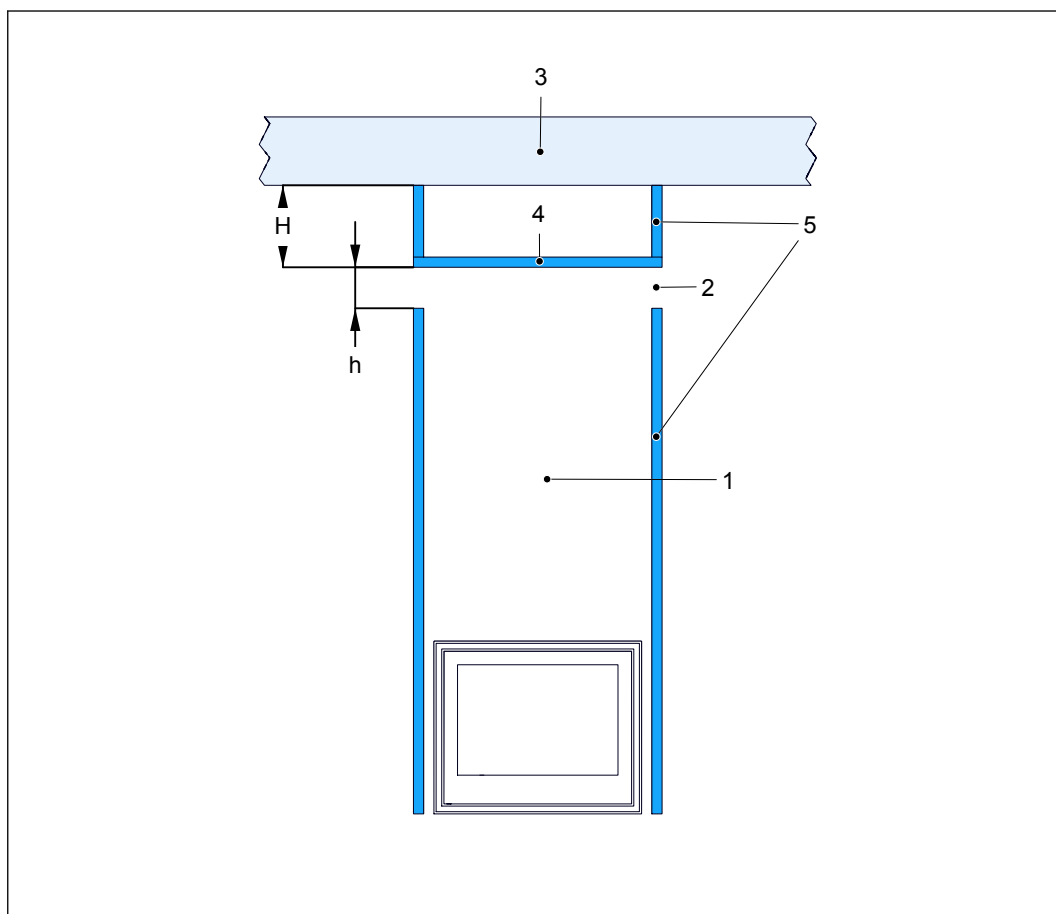
Item		Dimension
A	Air gap	2.5 cm
B	Thickness plate	10 cm
C	Air gap / Spacer	2.5 cm
D	A+B+C	15 cm
E	B+C	12.5 cm
F	Minimum 3 mm clearance between appliance and surrounding construction	

Put a non-flammable insulation plate with a minimum thickness of 3 cm under the appliance. To avoid damage to this non-flammable plate, put ceramic or steel tiles (approx. 10 x 10 cm) under the feet of the appliance.

Put a non-flammable insulation plate (false ceiling) of minimum 7.5 cm thickness at a height of minimum 50 cm above the appliance. Keep a free space of minimum 50 cm between the insulation plate and the flammable ceiling.

Alternative without a false ceiling: Make an open space of minimum 50 cm height between the chimney enclosure top side (complete width and depth of the enclosure) and the flammable ceiling.

Obey the dimensions mentioned in the tabel hereunder.



- | | | | |
|---|-------------------------------|---|----------------------------------|
| 1 | Chimney enclosure | 4 | Insulation plate (false ceiling) |
| 2 | Convection air outlet opening | 5 | Insulation plates |
| 3 | Flammable ceiling | | |

		With false ceiling	Without false ceiling
h	Area of the convection air outlet opening	Minimum 300 mm ²	Minimum 50 cm open space between ceiling and chimney enclosure
H	Height of the false ceiling minimum distance convection air outlet opening - flammable ceiling	Minimum 57.5 cm (= 50 cm free space + 7.5 cm false ceiling)	Not applicable (the top side of the chimney enclosure is open with a clearance of minimum 50 cm to the flammable ceiling).

5.5

Clearances to non-flammable walls



Caution: Make sure there is a 3 mm clearance between the appliance and the surrounding construction, to allow for expansion of the appliance during use.

Put a non-flammable insulation plate between the appliance and the rear wall and side wall according the figure hereunder.

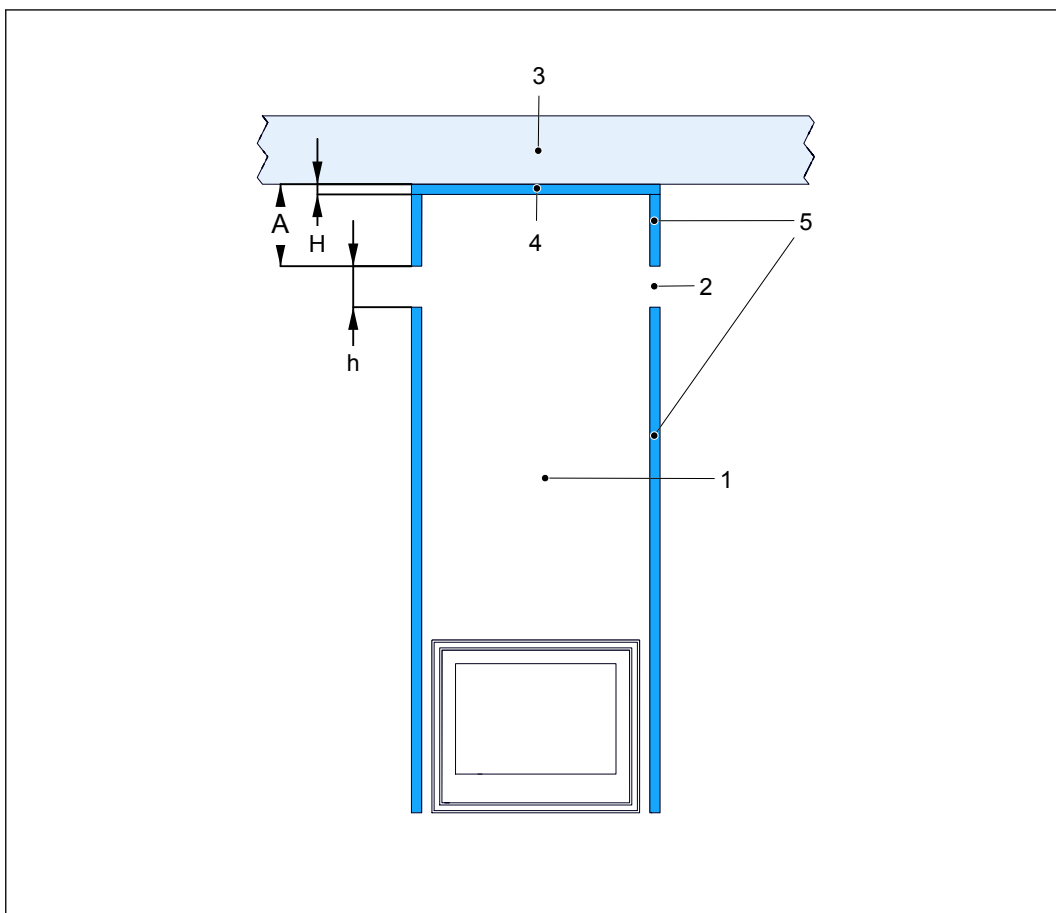
Obey the requirements as mentioned in the table hereunder.

EVO-7 50-40

5.6 Clearances to a non-flammable ceiling

Put a non-flammable insulation plate (false ceiling) of minimum 5 cm thickness at a height of minimum 50 cm above the appliance.

Obey the dimensions mentioned in the tabel hereunder.



- | | | | |
|---|-------------------------------|---|----------------------------------|
| 1 | Chimney enclosure | 4 | Insulation plate (false ceiling) |
| 2 | Convection air outlet opening | 5 | Insulation plates |
| 3 | Non-Flammable ceiling | | |

		Dimensions
h	Area of the convection air outlet opening	Minimum 300 cm ²
H	Height of the false ceiling	Minimum 5 cm (= thickness false ceiling)
A	Distance between convection air outlet opening and ceiling	Minimum 50 cm

5.7 Mantel clearances



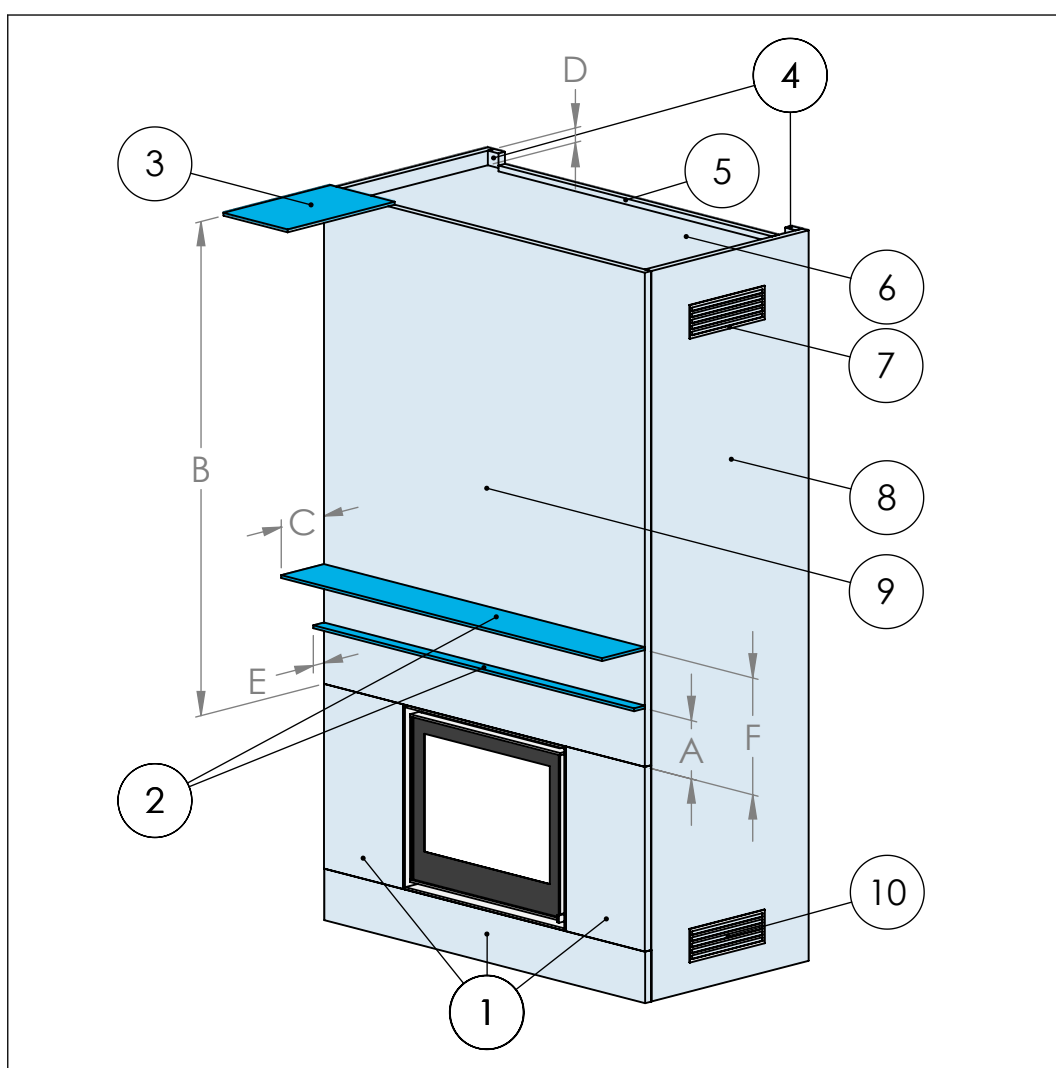
Caution:

All insulation plates in this section must be made of non-flammable material.

Put a mantel piece of flammable material minimum 20 cm from the top and sides of the appliance

If a wooden beam is present directly above the appliance, make sure to protect it against direct heat radiation. Make sure to put a non-flammable insulation plate with a thickness of minimum 3 cm between the wooden beam and the appliance. with an air gap of minimum 1 cm between the insulation plate and the wooden beam.

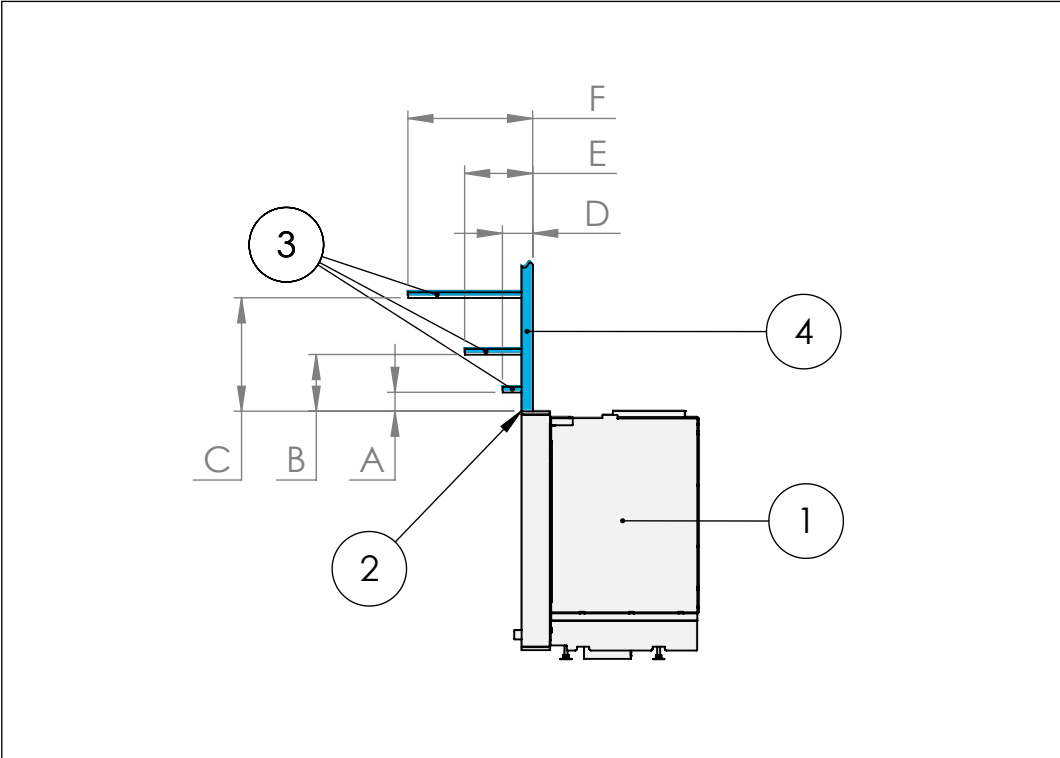
The pictures below show the minimum clearances between mantel pieces and the appliance.



- 1 Insulation plate
- 2 Flammable mantel piece
- 3 Ceiling
- 4 Non-flammable spacer
- 5 Insulation plate back panel

- 6 Non-flammable false ceiling
- 7 Convection / ventilation air outlet openings. Total minimum 440 cm²
- 8 Insulation plate side panel
- 9 Insulation plate front panel
- 10 Convection / ventilation air inlet openings. Total minimum 220 cm²

A	Minimum 20 cm from top of glass
B	Flammable ceiling: minimum 100 cm from glass / Non flammable ceiling: minimum 50 cm from glass
C	Mantel piece depth maximum 20 cm
D	Flammable ceiling: minimum 50 cm / Non flammable ceiling: minimum 0 cm
E	Mantel piece depth: maximum 5 cm
F	Minimum 40 cm from top of glass

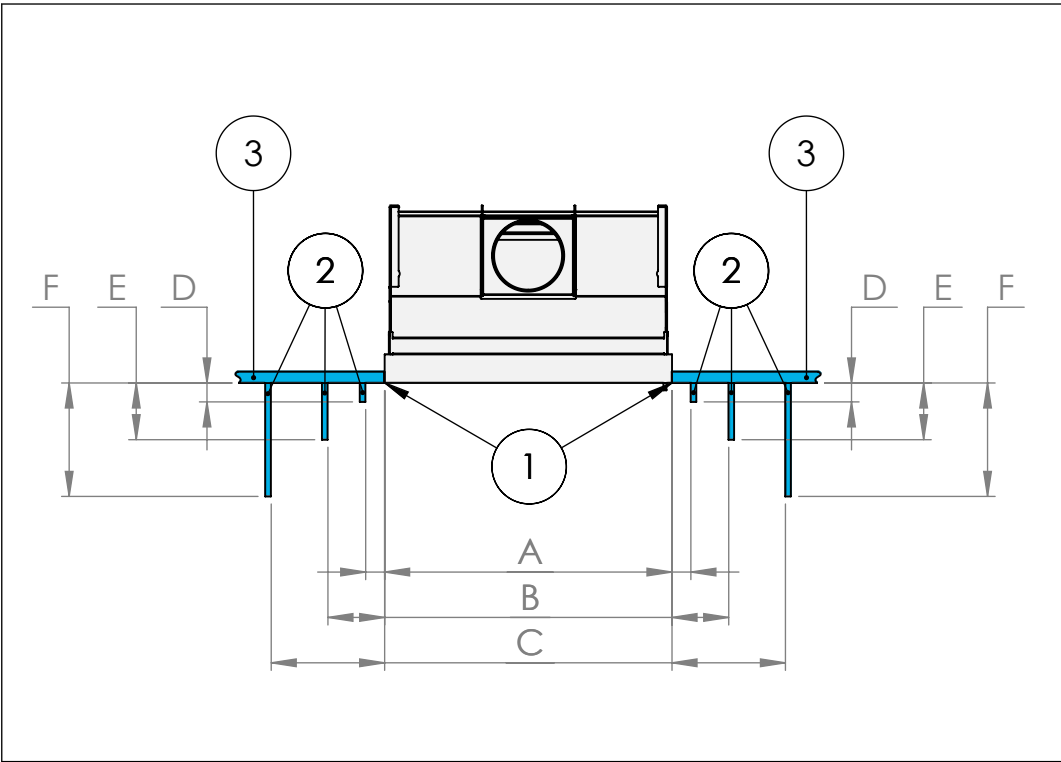


- 1 Appliance

2 Top of appliance
- 3 Flammable mantel piece

4 insulation plate

Height of mantel piece		Depth of mantel piece	
A	20 cm	D	5 cm
B	30 cm	E	10 cm
C	40 cm	F	20 cm



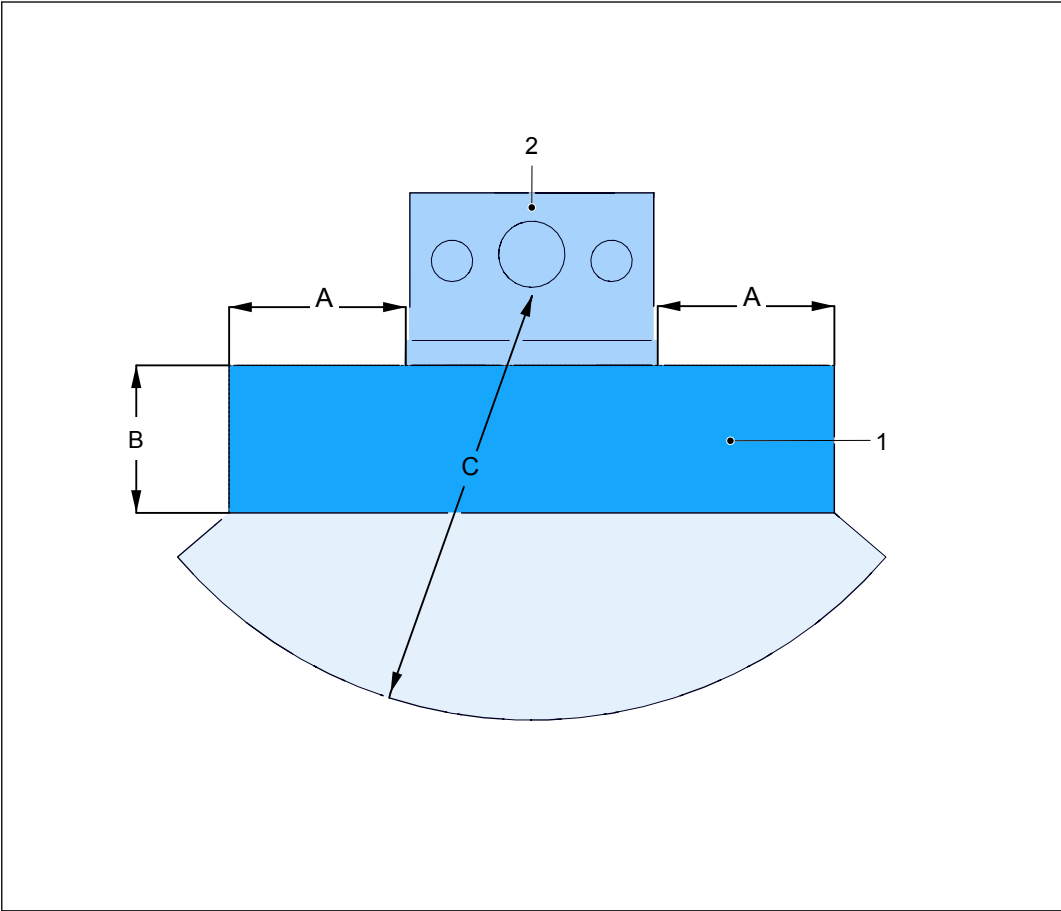
- 1 Side of appliance
2 Flammable mantel piece
3 Insulation plate

Width of mantel piece		Depth of mantel piece	
A	20 cm	D	5 cm
B	30 cm	E	10 cm
C	40 cm	F	20 cm

5.8 Clearances in front of the appliance

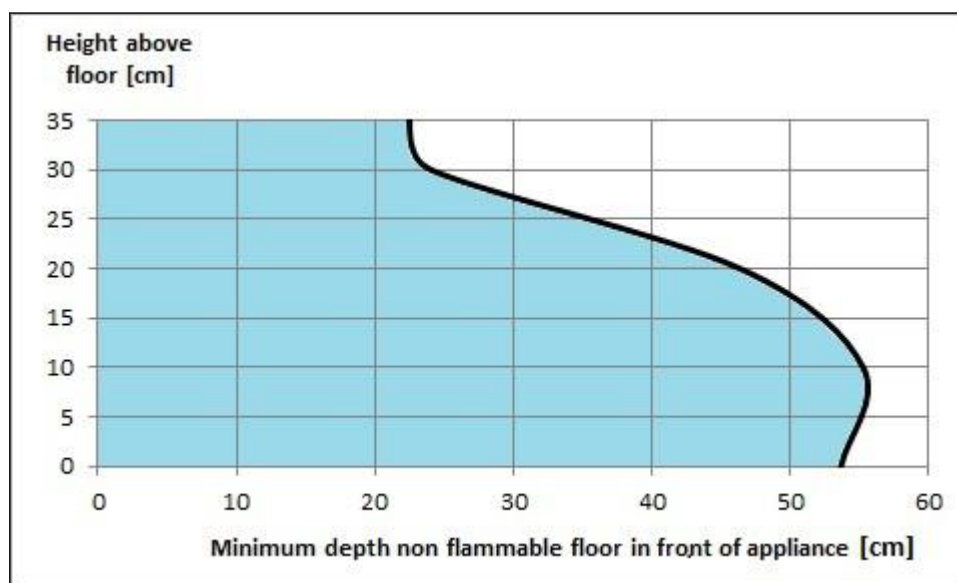


Caution: Do not put flammable items within minimum 180 cm radius from the appliance.



1	Non-flammable floor plate	2	Appliance
A	Minimum 15 cm from the sides of the appliance.		
B	Floor plate. Refer to the graph hereunder for the required minimum depth. This minimum depth is dependent on the installation height of the appliance.		
C	Minimum 180 cm clearance from the front of the appliance.		

Put a non-flammable floor plate with a minimum thickness of 12 mm in front of the appliance above a flammable floor. The minimum horizontal depth of the floor plate is dependent on the vertical distance between the bottom of the appliance and the floor. The graph shows the required minimum depth of the floor plate in relation to the installation height.



The non-flammable floor plate must have a width that extends minimum 150 mm from each side of the appliance.



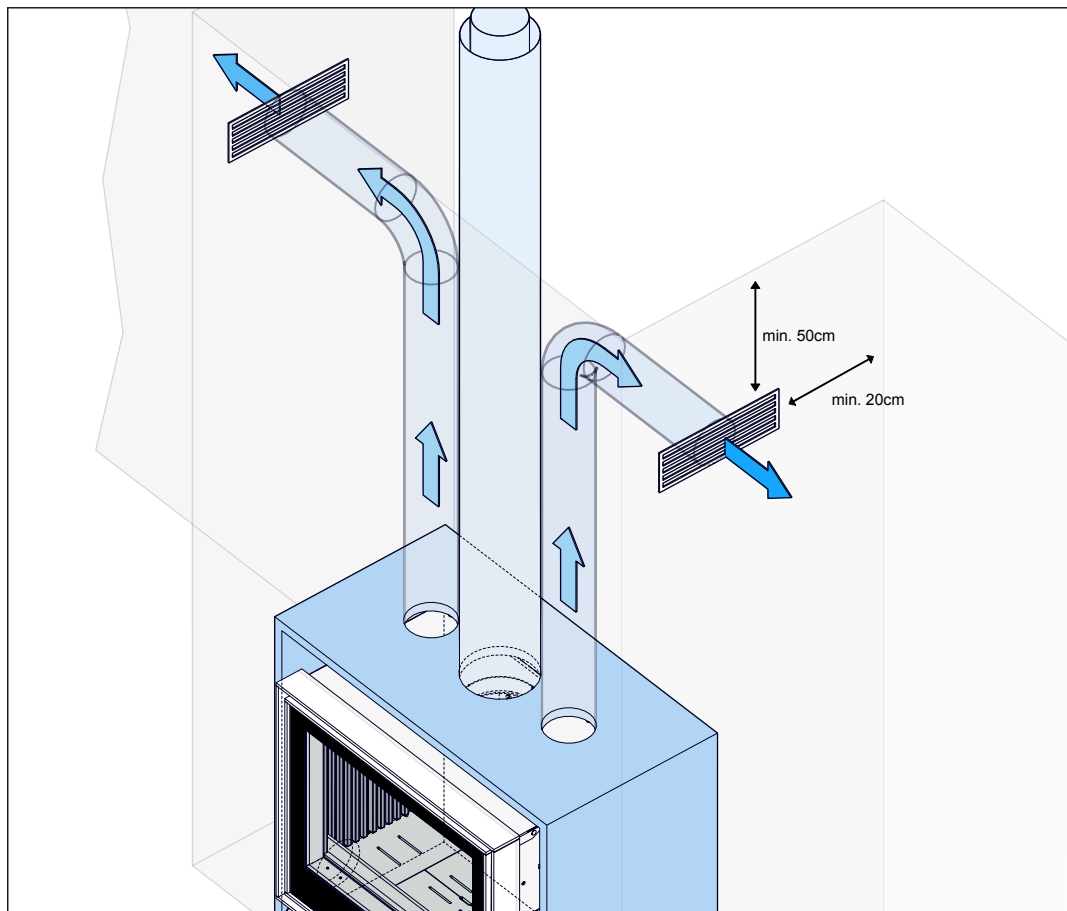
Note:

Heat radiation from the appliance can cause cracks in a floor plate of natural stone if put directly in front of the appliance. Make sure the floor plate is resistant to temperatures of more than 100 °C. Refer to the supplier of the natural stone for advice.

6 Installation requirements

6.1 Requirements on the installation of the appliance in a new fireplace

- Make sure the floor is made of concrete or a solid pedestal of nonflammable material.
- Make sure that the floor temperatures under and in front of the appliance are maximum 85 °C, during use of the appliance. Refer to section 5.3 and section 5.8.
- Make sure that the location agrees with the safety requirements. Refer to section 4.1.
- Do not install the appliance against a combustible rear wall or combustible side wall.
- Make sure to obey the clearances as listed in section 5.
- Make sure the floor can support the weight of the appliance. Refer to section 10 for the weight of the appliance.
- Make sure the room where the appliance is installed is properly ventilated.
- Make sure that combustion air can flow into the appliance without obstruction.
- If applicable, install a valve in the external combustion air pipe.
- If the appliance is equipped with the optional convection ventilator, the combustion air must be supplied from outside through a flexible aluminum pipe to the appliance.
- Make sure there is an earthed wall socket for the power supply of the convection ventilator and an earthed wall socket for the power supply of the Opti-Air system. These sockets must be accessible at all times.
- Make sure the distance between the convection air outlet openings and the ceiling above is minimum 50 cm.
- Make sure the distance between the convection air outlet openings and a neighboring wall is minimum 20 cm.



- The fireplace must have ventilation openings near the bottom and near the top of the fireplace to avoid heat accumulation in the fireplace. Refer to section [6.3](#) for specifications.
- The carbon monoxide alarm must be fitted and fixed in place within the same room as the appliance and can be placed either on the ceiling or wall between 1 meter and 3 meter horizontally from the appliance. If fitting to the ceiling it must be at least 300mm from any wall. If fitting to a wall, it must be placed as high as possible above any doors or windows at 150mm below the ceiling.

6.2 Requirements on the chimney

- Make sure that in case of use of an existing (masonry) chimney, it is in good order and applicable for the appliance. Ask your dealer or chimney sweeper for advice.
- Make sure the flue system obeys the national and local applicable regulations.
- Make sure the weight of the chimney is not supported by the appliance.
- Only connect the appliance to a chimney that is also connected with other appliances if it is permitted by local regulations and if the chimney allows to connect multiple appliances to it. Ask your installer for advice.
- The flue system must have a temperature class designation of minimum T400.
- The inner diameter of the chimney must be minimum 180 mm over the total length.
- Use a steel chimney pipe with a wall thickness of minimum 2 mm between the appliance and the existing chimney.
- Do not use more than 2 bends of 45°.
- Do not use horizontal flue pipes.
- The chimney outlet must be minimum 6 meter above the top of the appliance.
- The chimney outlet must be minimum 40 cm above the top of a sloped roof.
- The chimney outlet must be minimum 1 meter above a flat roof.
- The chimney outlet must be free from any objects (buildings, trees, etc.) within a horizontal range of minimum 5 meter.
- Make sure to remove the chimney valve when present in the existing chimney.
- Make sure your fire insurance policy covers any damage caused by a chimney fire.

6.3 Requirements on the ventilation/convection air openings

- Install the following minimum openings in the fireplace enclosure to prevent overheating of the appliance and fireplace enclosure.

Ventilation/ convection air <u>in-</u> <u>let</u> opening at the bottom of the fireplace en- closure	Ventilation/convection air <u>outlet</u> opening at the top of the fireplace enclosure		
	Appliance <u>with-</u> <u>out</u> convection casing	Appliance <u>with</u> convection casing	
		Openings at the top of the convection casing are open.	2 openings at the top of the convection casing con- nected with flexible convec- tion pipes Ø125mm to 2 out- let openings.
			Convection air via 2 flexible convection pipes: Minimum net 220 cm ²
			Ventilation air via the inside of the fireplace enclosure: Minimum net 220 cm ²
220 cm ² (*)	440 cm ² (**)	440 cm ² (**)	Total 440 cm ² (**)

The ventilation/convection air openings can be realized with the decorative 'BARBAS AirBox' insert air vents, by using:

- (*): 2x Barbas AirBox 160
- (**): 2x Barbas AirBox 320

BARBAS AirBox	Model	Air vent opening surface
AirBox 160	Insert Frameless	110 cm ²
	Insert Slim Frame	
	Insert Classic Frame	
	Insert Built-in Frame	
AirBox 320	Insert Frameless	220 cm ²
	Insert Slim Frame	
	Insert Classic Frame	
	Insert Built-in Frame	

Refer to sections [11.5](#) and [11.6](#) for the dimensions of the AirBox.

7 Installation in a new fireplace

7.1 Install the appliance - general procedure

1. Prepare the appliance. Refer to section [7.2](#).
2. Install the appliance. Refer to section [7.3](#).
3. Horizontally align the appliance. Refer to section [7.4](#).
4. If applicable, make the electrical connection. Refer to section [7.5](#).
5. Connect the flue gas pipe. Refer to section [7.6](#).
6. If applicable, connect the external combustion air supply pipe. Refer to section [7.7](#).
7. If applicable, connect the convection system. Refer to section [7.8](#).
8. Install the NTC room temperature sensor (Opti-Air system only). Refer to section [7.12](#).
9. Install the battery holder (Opti-Air system only). Refer to section [7.13](#).
10. Insulate the appliance. Refer to section [7.10](#).
11. Build the fireplace. Refer to section [7.11](#).
12. Do a final check. Refer to section [7.14](#).

7.2 Preparation for installation

Warning:



- The electrical connections must be made by a certified electrician.

- The optional convection ventilator and optional Opti-Air system both need a 230 VAC electrical power supply near the installation location. Make sure to have a grounded electrical power supply for the convection ventilator.
- Make sure the electrical connections can always be accessed.
- Make sure the door of the appliance opens and closes correctly.
- Make sure the baffles are in the correct position
- Make sure the control lever can move freely to left and to right. (Only for the appliance without the Opti-Air system)
- Make sure the ashtray is empty.

7.3 Install the appliance



Caution: Do not lift the appliance with any kind of forklift. This will cause damage to the underside of the appliance.



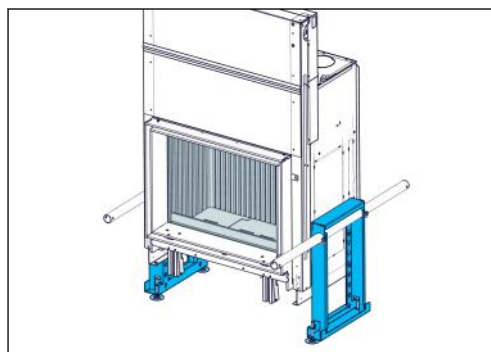
Caution: If the appliance is installed against a flammable rear and/or side wall, precautions must be taken to prevent accidental fire. Refer to section [5.2](#) for a description of suitable precautions.

1. If applicable, put carrying tubes (Ø38 mm) in the optional adjustable height frames. You can use the carrying tubes to move the appliance.



Note: The carrying tubes are not included with the appliance.

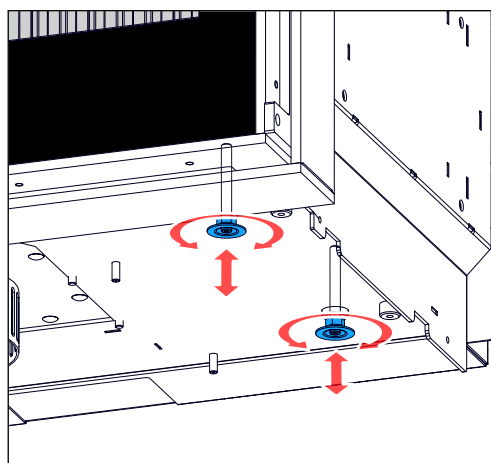
2. Install the appliance. Make sure the distance between the appliance and rear wall is approximately 10 cm minimum.
3. Make sure there is minimum 3 mm gap between the bottom of the air box and the floor.
4. Remove the carrying tubes.
5. Make sure the door opens and closes correctly.
6. Refer to section 5.2 for measures to be taken when installed against a flammable rear and/or side wall.



7.4 Horizontally align the appliance

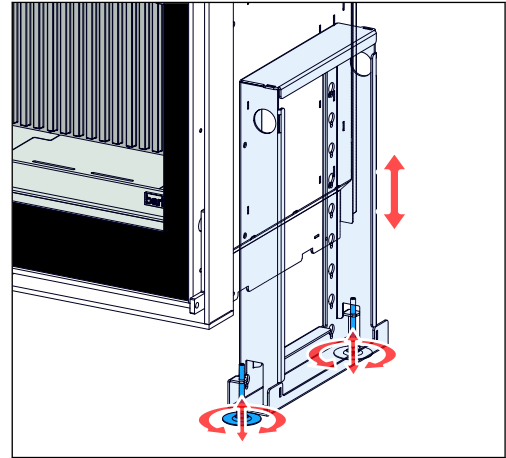
7.4.1 Aligning with adjustable feet

1. Adjust the adjustable feet. Use a 13 mm fork spanner.
2. Align the appliance horizontal. Use a spirit level.



7.4.2 Aligning with adjustable height frame

1. If applicable, disconnect the 2 height frames and connect these again on the required height on the appliance. Use a 10 mm socket spanner for the 4 screws. Make sure to attach each height frame with all 4 screws.
2. Adjust the 4 adjustable feet with a 13 mm fork spanner until the appliance is level. Use a spirit level.



7.5 Make the electrical connection



Caution:

- Use wall sockets with an earth connection.
- The sockets must be accessible at all times.

7.5.1 Connect convection ventilator

Do this procedure if the appliance has a convection ventilator but no Opti-Air system.

Refer to section [10.4](#) for the connection scheme of the convection ventilator.

1. Connect the 2 earth wires (yellow/green) with each other.
2. Connect the 2 neutral wires (blue) with each other.
3. Connect the two line wires (brown) to the connectors marked L and M on the dimmer.
4. Connect the 230 VAC plug of the convection ventilator with the wall socket.
5. Make sure that the cables do not touch the appliance, due to the high temperatures of the appliance.
6. Make sure the convection ventilator works by turning the dimmer knob.

7.5.2 Connect Opti-Air system and convection ventilator

Do this procedure if the appliance has a convection ventilator and Opti-Air system.

1. Connect the 18V adapter of the Opti-Air system with the wall socket.



Note:

For about 10 seconds, some noise may be audible when the Opti-Air system is connected. This is caused by the Opti-Air system's air valves being aligned.

2. Connect the 230 VAC cable of the ventilator speed controller with the wall socket.
3. Make sure that the cables do not touch the appliance, due to the high temperatures of the appliance.

7.5.3 Connect Opti-Air system

Do this procedure if the appliance has an Opti-Air system but no convection ventilator.

1. Connect the 18V adapter of the Opti-Air system with the wall socket.

**Note:**

For about 10 seconds, some noise may be audible when the Opti-Air system is connected. This is caused by the Opti-Air system's air valves being aligned.

2. Make sure that the cables do not touch the appliance, due to the high temperatures of the appliance.

7.6

Connect the flue gas pipe

The appliance can be connected to steel pipes, double-walled insulated stainless steel flues and flexible stainless steel flues with an outside diameter of 180 mm.

Preliminary requirements

- If the appliance is installed on an unlined, masonry flue with a large diameter, use an insulated flue lining system .

**Caution:**

- During operation of the appliance the outer side of the flue system becomes hot. Refer to the installation instructions of the flue system for safe installation. Follow these instructions with regard to safe distances to combustible material.

Procedure

1. Connect the flue to the flue gas connection on the appliance. If necessary use a steel flue adaptor.
2. If a flexible stainless steel flue is used, secure the flue connection with 2 clamps.
3. If the flue is connected to an existing (masonry) chimney, make sure that the gap between the flue and the existing chimney is sealed, with ceramic wool or any other applicable component (ask your flue system supplier for advice)
4. Make sure that all mechanical connections of the flue system are correctly used.
5. Make sure that all of the flue system is gas-tight,
6. Insulate any non-insulated pipes with ceramic insulation wool. Refer to section [5.1](#) for the insulating material requirements.

7.7

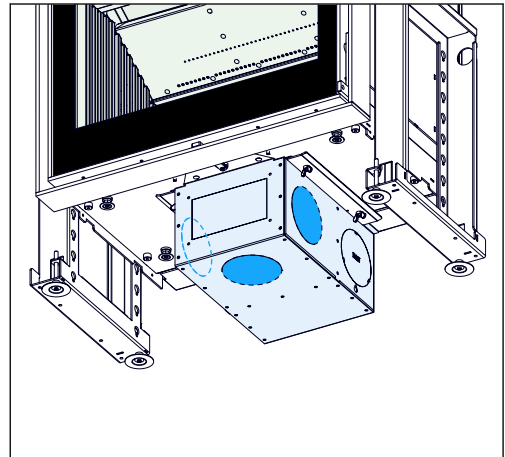
Connection on the combustion air box

1. Identify the location in the outer wall or in the floor (to a ventilated crawl space) for the external combustion air supply inlet.
2. Make a hole in the outer wall or floor with a diameter of minimum 125 mm.
3. Install a grate in the hole in the outer wall. A grate is not needed when the combustion air supply comes from the crawl space under the floor.

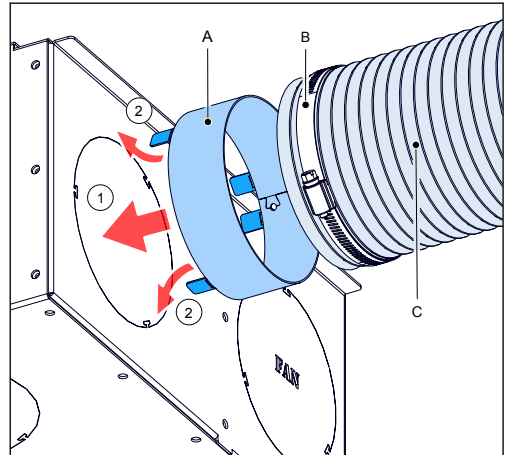


Note: The image shows the combined convection ventilator / combustion air inlet box.

4. If applicable, select one of the 3 inlet openings on the left, right or bottom of the optional combustion air inlet box or the convection ventilator / combustion air inlet box .
5. Remove the break out plate in the selected inlet opening of the optional convection air/ combustion air inlet box with a hammer.



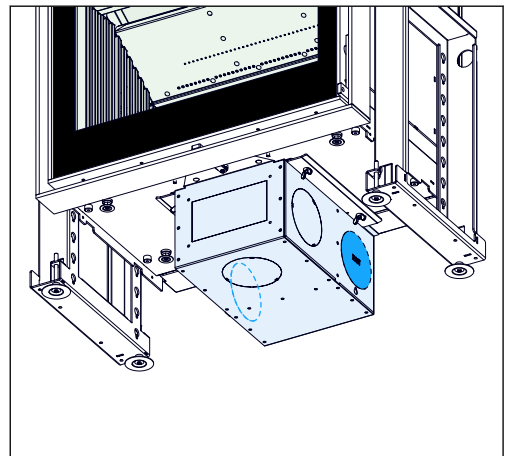
6. Put the collar adaptor in the open inlet opening (1).
7. Bend out the 3 lips on the collar adaptor (2) and turn the adapter until it locks.
8. Connect a flexible aluminum pipe (C) with a diameter of 125 mm on the collar adaptor. Use a hose clamp (B).
9. Connect the other end of the flexible aluminum pipe with the hole in the floor or the grate in the wall. Use a suitable connector.



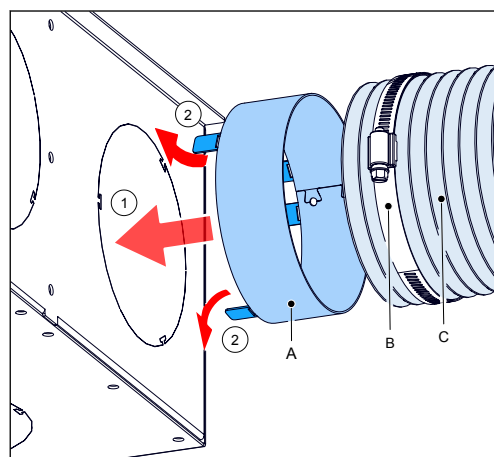
7.8

Connect the convection set (optional)

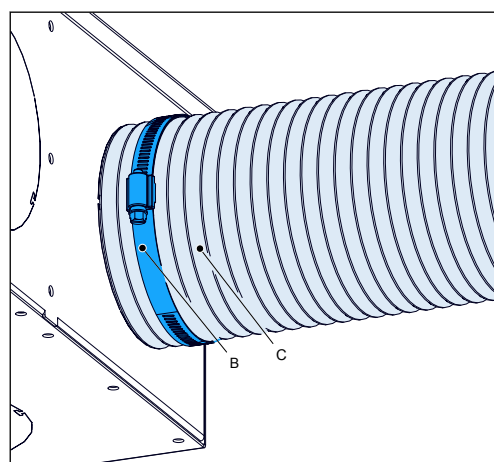
1. On the convection air box select one of the 2 inlet openings, identified by FAN, on the left or right side.
2. Remove 1 break out plate in the selected convection air inlet opening with a hammer.



3. Put the collar adaptor in the open inlet opening (1).
4. Bend out the 3 lips on the collar adaptor (2) and turn the adapter until it locks.



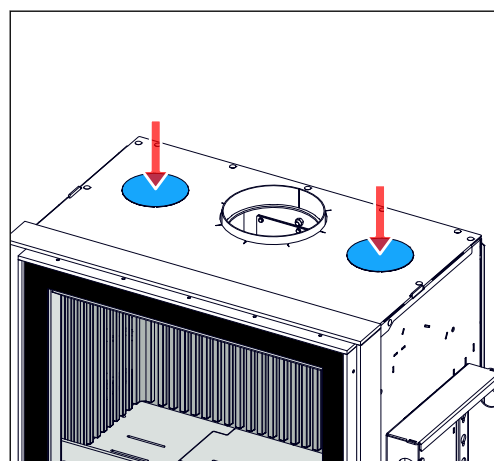
5. Connect a flexible aluminum pipe (B) on the collar adaptor . Use a hose clamp (C).



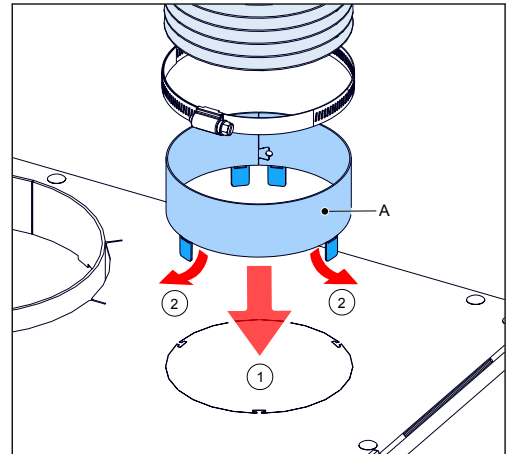
7.9

Connect the convection air outlet

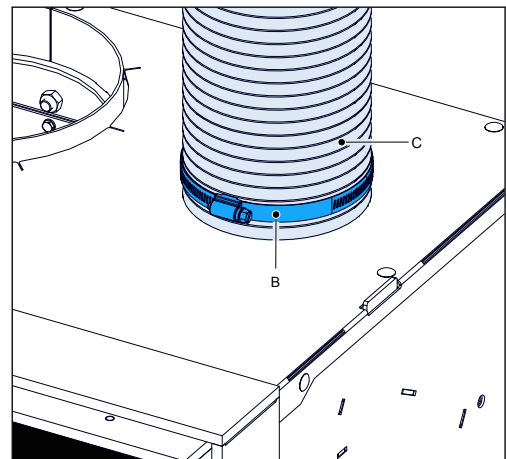
1. On the appliance, remove the two break out plates in the convection air outlet openings with a hammer.



2. Put the collar adaptors in the open outlet openings (1).
3. Bend out the 3 lips on each collar adaptor, and turn the collar adaptor until it locks.



4. Connect the flexible aluminum pipes (B) on the collar adaptors. Use a hose clamp (C).



5. Connect the flexible aluminum pipes to the AirBox boxes or grates in the chimney breast.

7.10 Insulate the appliance



Caution:

- Use white unbound ceramic insulation wool. Do not use glass wool or rock wool, these materials can cause a bad smell, unwanted smoke and is not applicable for high temperatures. Refer to section 5.1 for the specifications.
- Put a ceramic wool blanket with a thickness of at least 5 cm on the top of the appliance and the sides and back of the appliance.
- Keep approximately 10 cm free of insulation material between the front of the appliance and the front of the fireplace. This space is needed for the build of the fireplace.

7.11 Build the fireplace



Caution:

- Refer to section 5 for clearances to flammable and non-flammable materials.
- Refer to section 5.1 for applicable insulating plates.
- Make sure that brickwork is build with a clearing of minimum 3 mm between the sides and top of the appliance and the brickwork. The appliance can expand during operation due to heating.

**Note:**

- Make sure the thickness of any plastering is taken into account when the brickwork is being build.
 - Do not use masking tape on the appliance. Masking tape damages the paint on the appliance.
 - If you use other material than bricks, install the material in accordance with the instructions of the supplier of the material
 - If you use other material than bricks, refer to the instructions of the supplier of the used material for information on the need to use a mantle iron.
1. Identify the positions where the inlet openings and the outlet openings, for the AirBox inserts or the grates, must be put. Refer to section 6.3 for requirements on the size of the ventilation air and - if applicable - convection air openings. Refer to 6.1 for requirements on minimum distances from ceiling and neighboring wall.
 2. If the appliance has an Opti-Air system, make sure to put the room temperature measurement cable and the battery holder in the correct position. Refer to section 7.12 and section 7.13.
 3. Build the brickwork around the appliance up to the upper frame around the glass.
 - a) Install the AirBox boxes or grates of the ventilation air inlets and - if applicable - the convection air inlets.
 - b) Put the end of the NTC temperature measurement cable in the fitting box of one of the ventilation air inlets. Make sure the ventilation air flows around the end of the NTC temperature cable.
 4. If applicable, install a mantle iron to support the brickwork above the appliance. Put the mantle iron on both sides of the brickwork. Maintain a space of minimum 3 mm between the appliance and the mantle iron.
 5. If applicable, install the flexible aluminum pipes of the convection set. Refer to section 7.8.
 6. Build the fireplace around the appliance.
 7. Install the AirBox boxes or grates of the ventilation air outlets and - if applicable - convection air outlets.
 8. Install the frame around the appliance.

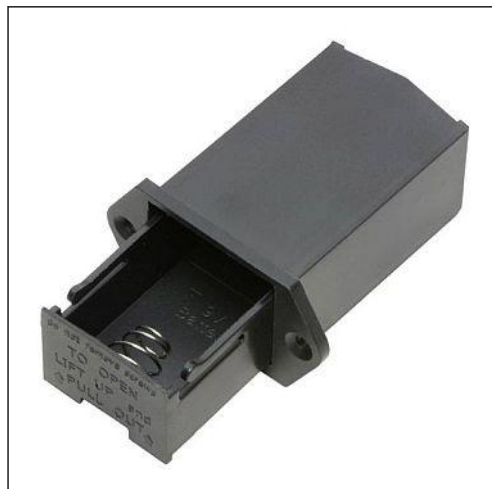
7.12 NTC room temperature sensor (Opti-Air system only)

1. Put the point of the NTC room temperature sensor (this is the thin black cable) in the ventilation air inlet opening. Make sure to put the sensor point in the path of the ventilation air opening.
2. Make sure there is no tension on the sensor cable.



7.13 Battery holder (Opti-Air system only)

1. Put a 9V block battery in the battery holder and close the holder.
2. Make sure the battery holder is accessible through the inlet opening of the ventilation air.



7.14 Final check on the appliance



Caution:

Wait 4 weeks after the installation before you use the appliance. The cement used for the fireplace needs to harden and to avoid damage to the plaster work.

1. Make sure the door closes and opens easy.
2. If applicable, make sure the control lever moves easy to left and right without undue noise.
3. Make sure all cast iron plates and the baffles are in the correct position.
4. Contact your dealer if the final check shows a defect.

8 Installation of the Opti-Air app

1. Download the Barbas Opti-Air app from Google Play (Android) or the App Store (iOS) and install it on your mobile phone or tablet.
2. Start the Barbas Opti-Air on your mobile device.
3. Make sure bluetooth is on and can recognize other devices.
4. Start to make a connection with bluetooth with device **Airmaster**.
5. When asked, enter the PIN code 000000.
6. The app is now ready for use.



Note: It is possible to install the Barbas Opti-Air app on multiple mobile devices. However, the app can only be active on 1 mobile device at the same time. Before making connection between the appliance and a second mobile device, disconnect the bluetooth connection between the appliance and the first mobile device.

9 Maintenance



Warning:

Make sure that the appliance has cooled down completely before doing the procedures in this section.

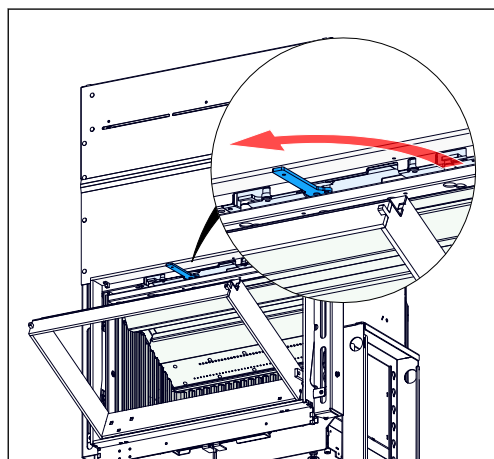
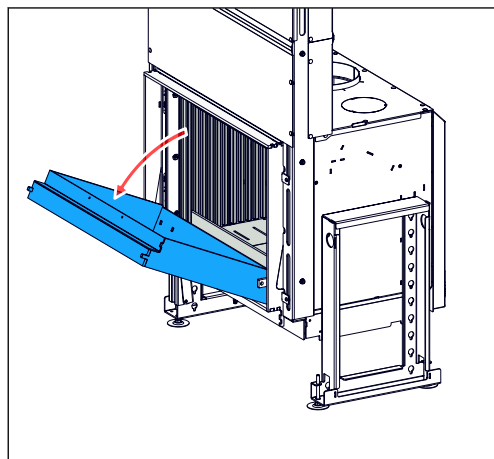
Do all procedures in this section when necessary.

9.1 Appliance

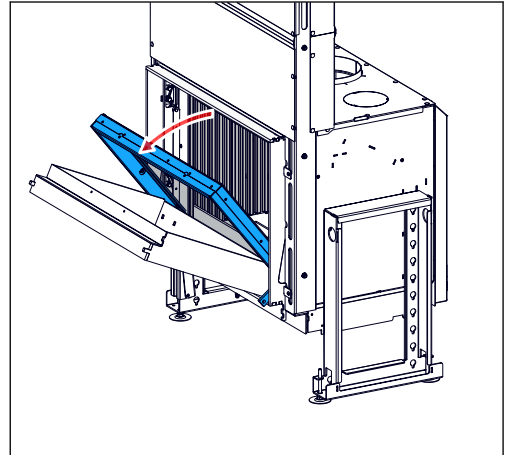
1. Remove ashes from the floor of the combustion chamber.
2. Examine the door seals. Replace damaged seals.
3. Remove the grate and empty the ash tray.
4. Examine the two baffles for damage. Replace when damaged. Refer to section [9.7](#) for access to the baffles.
5. Clean both sides of the glass with glass spray or ceramic hob cleaner. Refer to section [9.2](#) for access to the inside of the door.
6. Clean the inside of the appliance with a soft brush.
7. Clean the metal parts on the outside of the appliance with a dry lint free cloth. Use Barbas heat resistant paint spray to repair lacquer damage.

9.2 Access to inside of door

1. Make sure the door is closed.
2. Rotate the frame forward.
3. Rotate the door lock 90 degrees clockwise.



4. Rotate the door forward.
5. The inside of the door and the glass is now accessible for inspection and cleaning.



6. To close the door and frame do steps 2 to 4 in reverse order. Make sure the door lock is locked.

9.3 Combustion air supply

1. Make sure that the inlet of the pipe of the external combustion air supply is not blocked by leaves or other debris.
2. Clean the inlet of the pipe of the external combustion air supply.

9.4 Convection air system

Preliminary requirements

- Do the procedure in this section only when a convection air system has been installed.

Procedure

1. Clean the 2 inlet openings of the convection air in the chimney breast.
2. Clean the 2 outlet openings of the convection air in the chimney breast.

9.5 Chimney



Note:

It is recommended to contact a registered chimney sweep company to inspect and clean the chimney.

1. Remove the heat shield, lower baffle and upper baffle before the chimney sweep work. Refer to section 9.7 for the procedure to remove the heat shield and the baffles.
2. Sweep and inspect the chimney
3. Make sure there is no blockage in the chimney, for example by birds' nests.
4. Examine for cracks, loose parts and flue gas leakage. It is recommended to use an inspection camera.
5. Install the heat shield, lower baffle and upper baffle. Refer to section 9.9 for the procedure to install the heat shield and the baffles.

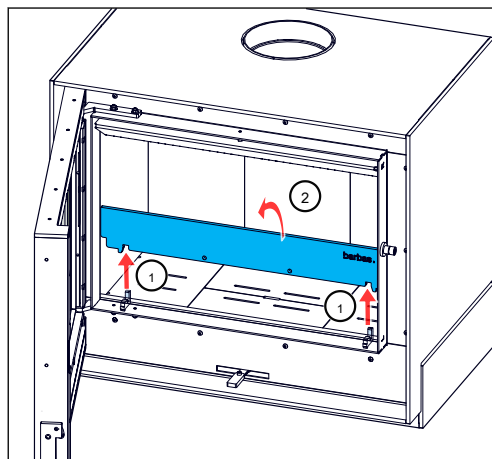
9.6 Removal of the bottom plates, grate and ash tray



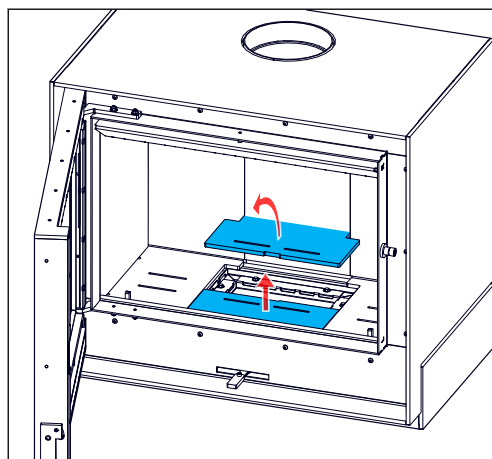
Note:

Make sure to remove all ashes and unburnt wood from the combustion chamber before the start of this procedure.

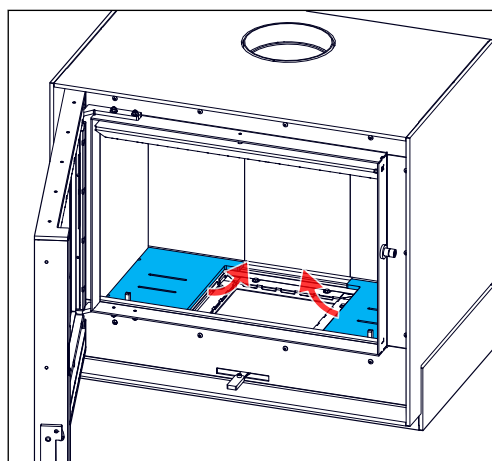
1. Lift the front log guard (1) and move the left side up.
2. Remove the front log guard (2)



3. Lift the 2 grate plates and remove from the combustion chamber.



4. Move the 2 steel bottom plates to the center of the fireplace bottom.
5. Lift the steel bottom plates up and remove.



9.7 Removal of the baffles



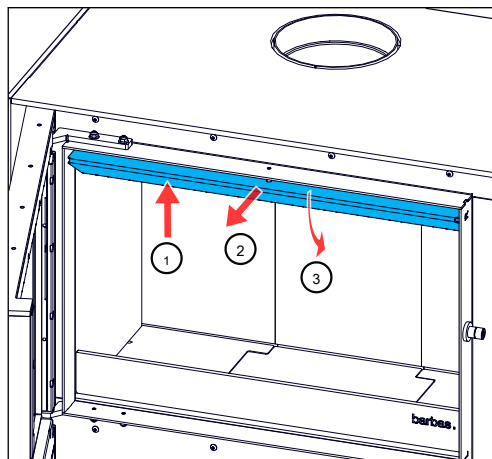
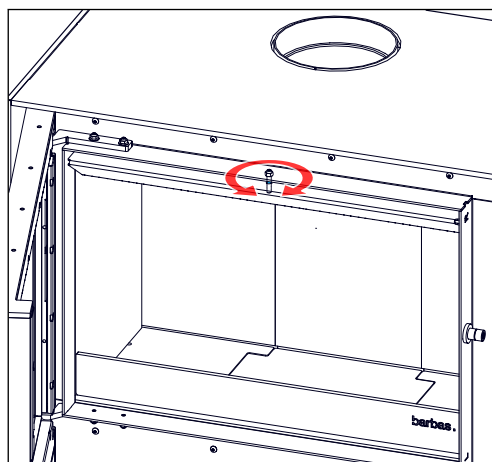
Note:

Make sure to remove all ashes and unburnt wood from the combustion chamber before the start of this procedure.

1. Remove the heat shield. Refer to section [9.7.1](#).
2. Remove the lower baffle. Refer to section [9.7.2](#).
3. Remove the upper baffle. Refer to section [9.7.3](#).

9.7.1 Remove the heat shield

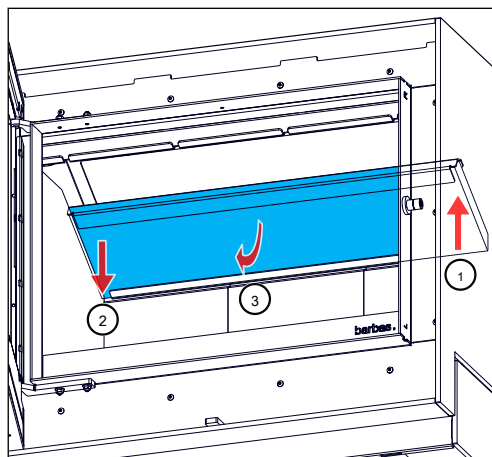
1. Open the door.
2. Loosen the nut above the heat shield with a 3 mm hexagonal key and a 10 mm fork spanner. Turn the nut down with the fork spanner and turn the screw up with the hexagonal key until the screw is loose from the heat shield.
3. Push up the front of the heat shield (1) and pull it forward (2) and move downward to a vertical position (3).



9.7.2 Remove the lower baffle

Only do this procedure after finish of the procedure in section [9.7.1](#).

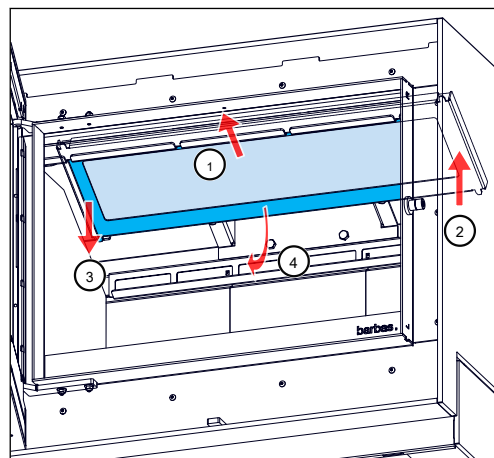
1. Push up the right side of the lower baffle a small distance (1).
2. Lower the left side of the lower baffle a small distance (2) and remove the baffle from the appliance (3).



9.7.3 Remove the upper baffle

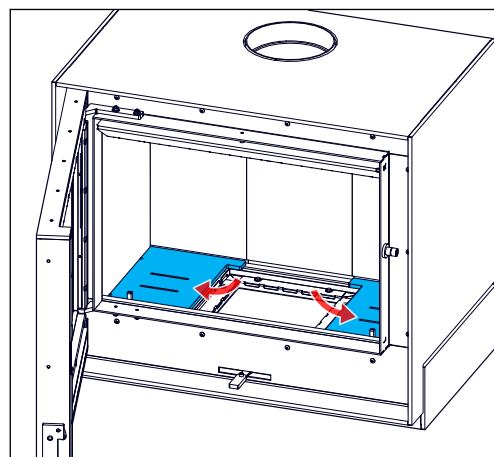
Only do this procedure after finish of the procedure in section [9.7.2](#).

1. Move the upper baffle approximately 1 cm forward (1)
2. Push up the right side of the upper baffle a small distance (2).
3. Lower the left side of the upper baffle a small distance (3) and remove the baffle from the appliance (4).

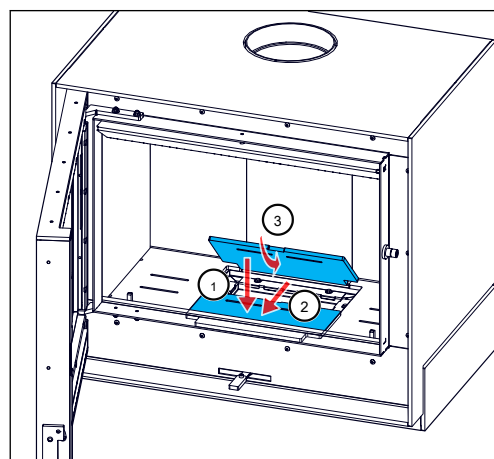


9.8 Install the bottom plates, ash tray and grate

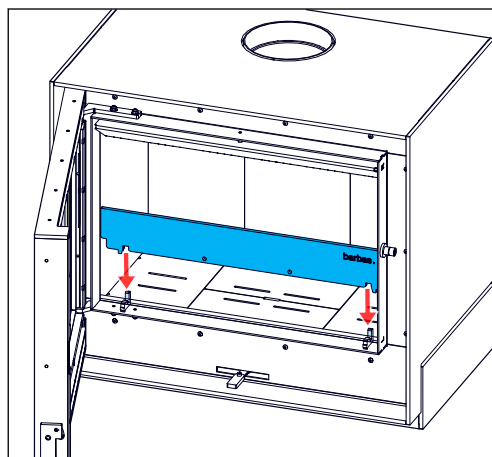
1. Put the left steel bottom plate on the bottom of the combustion chamber.
2. Move the steel bottom plate to the left as much as possible.
3. Put the right steel bottom plate on the bottom of the combustion chamber.
4. Move the steel bottom plate to the right as much as possible.



5. Put a grate on the ashtray with the short side in the direction of the rear wall and move to the rear as far as possible
6. Put the other grate plate with the short side in the direction of the front of the combustion chamber. Move the grate as far as possible to the front of the bottom of the combustion chamber.



7. Put the front log guard on the notches.

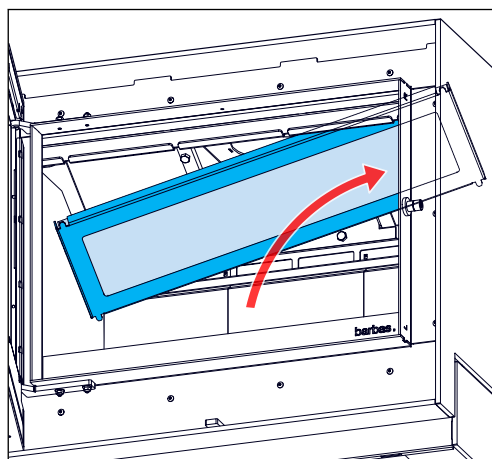


9.9 Installation of the baffles

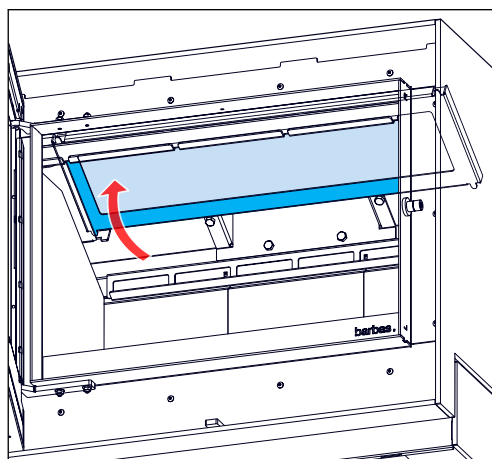
1. Install the upper baffle. Refer to section [9.9.1](#).
2. Install the lower baffle. Refer to section [9.9.2](#).
3. Install the heat shield. Refer to section [9.9.3](#).

9.9.1 Install the upper baffle

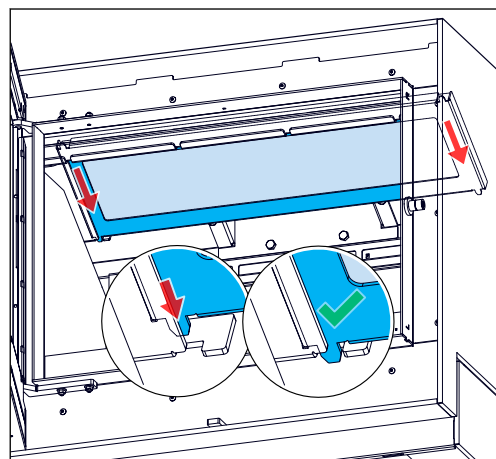
1. Move the upper baffle under an angle into the combustion chamber.
2. Move the right side of the baffle as high as possible to the far right side of the combustion chamber.



3. Move the left side of the baffle up until it is horizontal.
4. Lower the baffle on the baffle holder.



5. Push the baffle rearward until the 2 cams on the rear of the baffle go into the notches.
6. The cam is in the notch if the baffle cannot move to the left or the right.

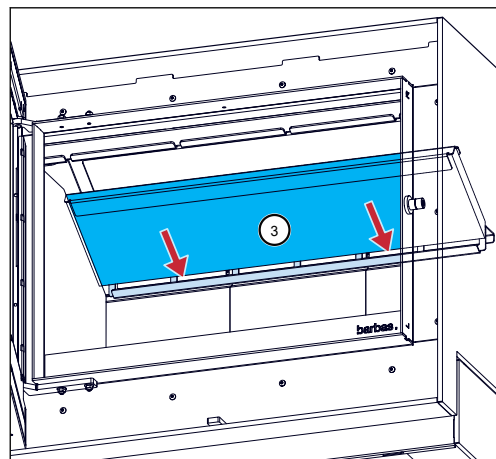
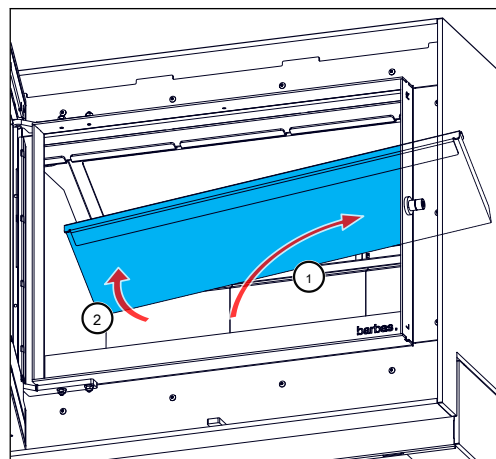


9.9.2

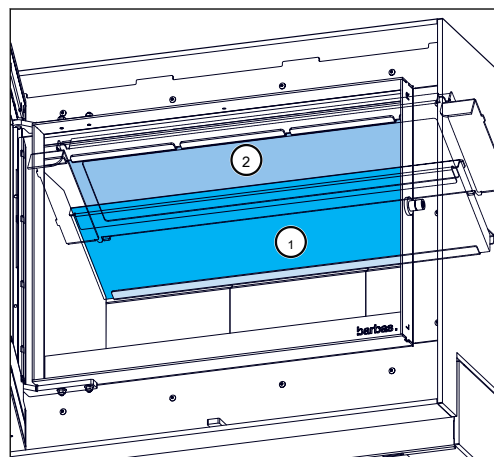
Install the lower baffle

Only do this procedure after finish of the procedure in section [9.9.1](#).

1. Move the lower baffle up under an angle into the combustion chamber (1) and put the right side of the baffle above the side panels (2) on the right.
2. Move the left side of the lower baffle up and put it on top of the side panels on the left. If it does not fit, make sure the side panels are firmly seated against the side wall of the appliance.
3. Put the rear side of the baffle against the rear wall (3).
4. Make sure the lower baffle is horizontal and against the rear wall.



5. Make sure the upper baffle (2) is still in the correct position.
6. If the upper baffle is not in the correct position, remove the lower baffle (1) and put the upper baffle in the correct position and install the lower baffle again.

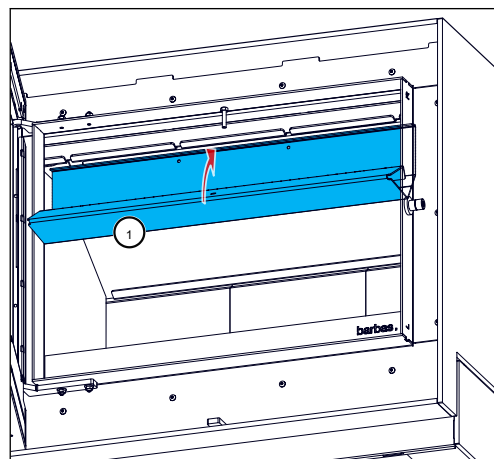


9.9.3

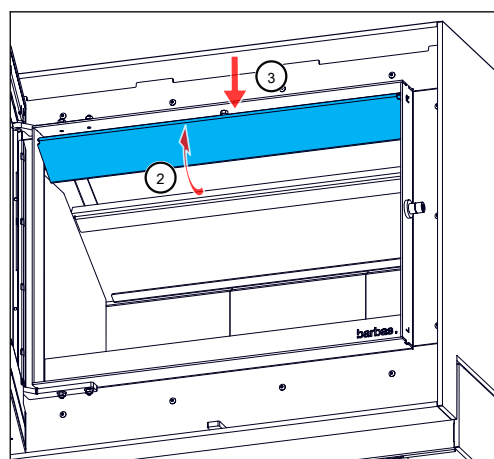
Install the heat shield

Only do this procedure after finish of the procedure in section [9.9.2](#).

1. Move the heat shield up and put the rear side above the upper baffle (1).



2. Move the front of the heat shield up (2) and put the edge on the metal strip under the air wash inlet (3).
3. Turn the screw down with a 3 mm hexagonal key until it is in the screw hole in the heat shield.
4. Turn the nut up with a 10 mm fork spanner and tighten it.



9.10

Opti-Air system

1. Remove the ventilation air inlet grate.
2. Get the battery holder. Put a screwdriver in the small notch of the lid and pull out the battery.
3. Replace the 9 V battery and close the battery holder.
4. Put the battery holder and ventilation air inlet grate back.

Post requirements

- Change the 9 V back-up battery every year.



10 Technical data

10.1 Technical data

Name	Barbas			Barbas
Model	EVO-7 50-40			EVO-7 50-40 Opti-Air
Tested in accordance with	EN 13229:2001-A2:2004 EN16510-1 annex D, E, F BS 3841-2:1994			EN 13229:2001-A2:2004 EN16510-1 annex D, E, F BS 3841-2:1994
Energy efficiency index	101			100
Energy efficiency class	A			A
Fuel	Wood logs, Wood briquettes			Wood logs, Wood briquettes
Nominal fuel load	2.0 kg			2.2 kg
Nominal heat output (net)	8.3 kW			9.5 kW
Minimum heat output (net)	7 kW			7 kW
Useful efficiency at nominal heat output	> 75 %			> 75 %
Useful efficiency at minimum heat output (indicative)	> 80 %			> 80 %
Seasonal efficiency	66 %			66 %
Indirect heating function	No			No
Room sealed	Yes *)			Yes *)
Leak rate at 10 Pa	1.7 m ³ /h (at 273 K, 1013 hPa)			1.7 m ³ /h (at 273 K, 1013 hPa)
Emissions (at 13 % O₂, 273 K, 1013 hPa)				
• carbon monoxide (CO)	< 0.12 vol% (< 1500 mg/Nm ³)			< 0.12 vol% (< 1500 mg/Nm ³)
• particles (PM)	< 40 mg/Nm ³			< 40 mg/Nm ³
• organic gaseous compounds (OGC)	< 120 mg/Nm ³			< 120 mg/Nm ³
• nitrogen oxides (NO _x)	< 200 mg/Nm ³			< 200 mg/Nm ³
Flue gas mass flow	9.4 g/s			9.8 g/s
Flue gas temperature	267 °C			297 °C
Minimum chimney draught	12 Pa (0,12 mbar)			12 Pa (0,12 mbar)
Flue gas connection	Ø 187 mm, suitable for a pipe with an outer diameter of 180 mm			Ø 187 mm, suitable for a pipe with an outer diameter of 180 mm
Weight	Vermiculite interior	Ceramic interior	Cast iron interior	
• Basic appliance				
• Appliance with adjustable height frames and convection ventilator	• 164 kg • 179 kg	• 171 kg • 184 kg	• 199 kg • 214 kg	• 171 kg • 173 kg

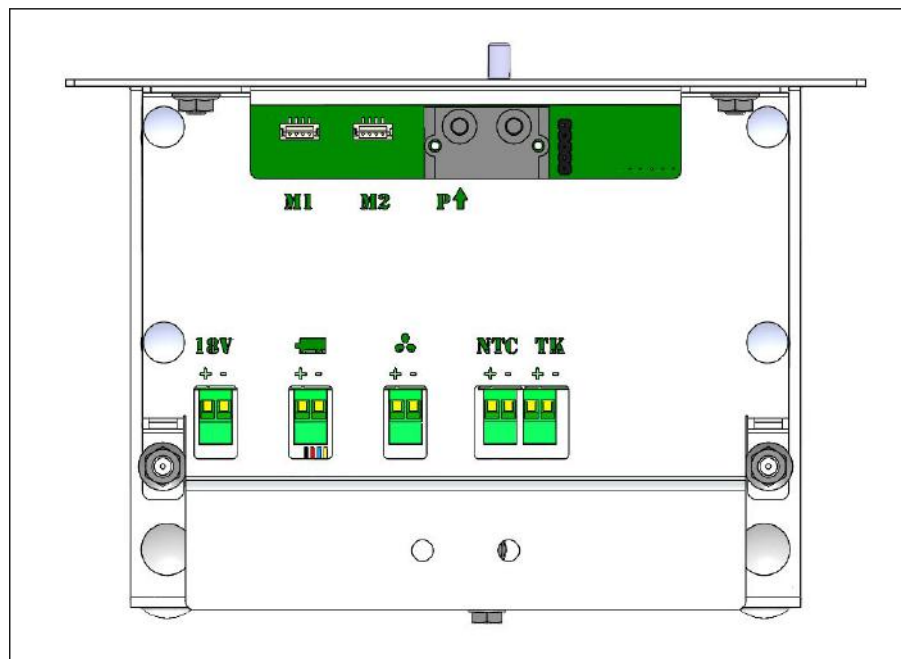
Minimum distance to flammable materials		
<ul style="list-style-type: none"> side wall back wall floor ceiling 	Refer to section 5	Refer to section 5
Used materials		
<ul style="list-style-type: none"> Combustion chamber side panels 	Vermiculite 750 kg/m ³ / Heat resistant ceramic 1600 kg/m ³ / cast iron **)	Cast iron
<ul style="list-style-type: none"> Combustion chamber insulation 	Vermiculite 750 kg/m ³ ***)	Vermiculite 750 kg/m ³
<ul style="list-style-type: none"> Combustion floor and grate 	Steel	Steel
<ul style="list-style-type: none"> Lower baffle 	Heat resistant ceramic 2000 kg/m ³ / Vermiculite 750 kg/m ³ **)	Steel / Vermiculite 750 kg/m ³
<ul style="list-style-type: none"> Upper baffle 	Vermiculite 750 kg/m ³	Vermiculite 750 kg/m ³
Combustion air supply	Pipe connection with diameter of 125 mm on the appliance or 3 holes with diameter of 125 mm on the optional convection ventilator / combustion air inlet box	3 holes with diameter of 125 mm on the convection ventilator / combustion air inlet box
Available options	<ul style="list-style-type: none"> Convection ventilator / combustion air inlet box Convection casing Combustion air inlet box Set of 2 adjustable height frames 	<ul style="list-style-type: none"> Convection ventilator
Battery Opti-Air system	-	9 V block PP3
Electrical energy consumption:		
<ul style="list-style-type: none"> Convection ventilator Opti-Air combustion control 	<ul style="list-style-type: none"> 69 W; 230 VAC not applicable 	<ul style="list-style-type: none"> 69 W; 230 VAC adapter 230VAC / 18VDC
The specific precautions that shall be taken when the local space heater is assembled, installed or maintained, are listed in the attached documents:	<ul style="list-style-type: none"> Installation and maintenance manual User manual 	<ul style="list-style-type: none"> Installation and maintenance manual User manual



*) Only room sealed if attached to an external combustion air supply line.

**) The panels are made of these materials, dependent on the choice made at the time of purchase.

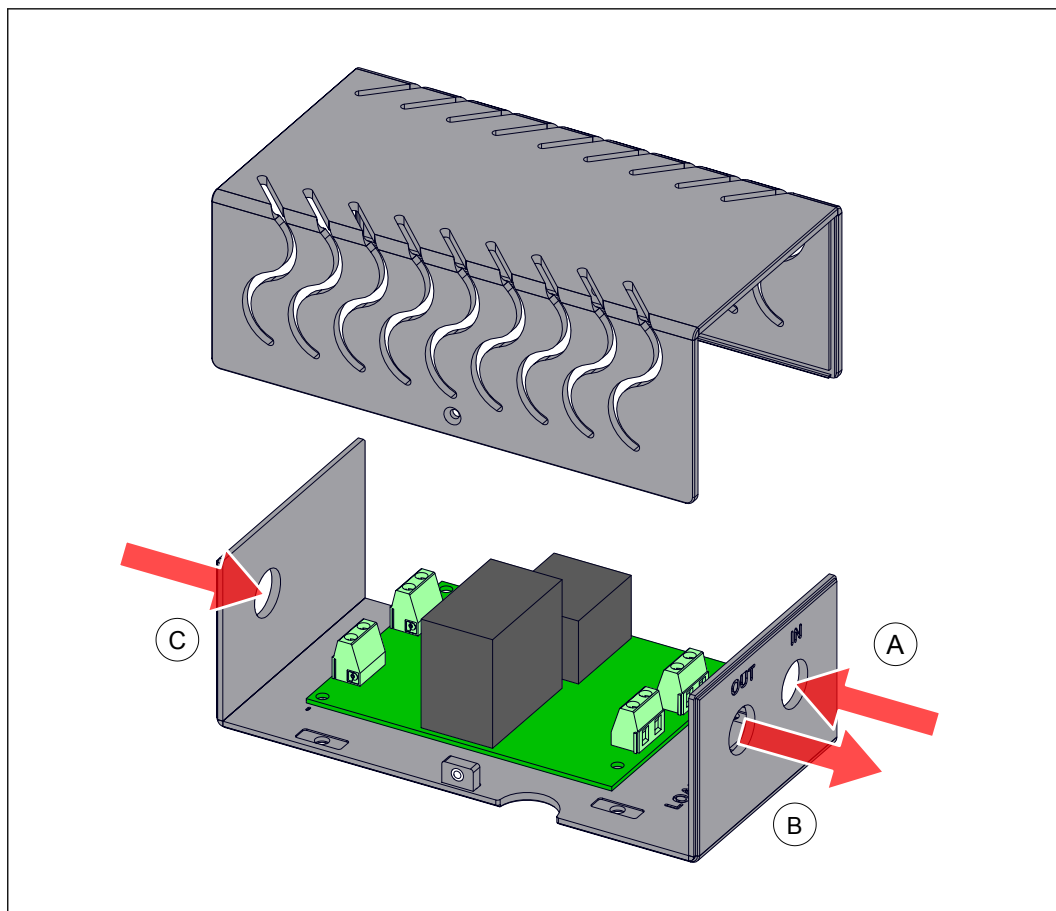
***) Only in combination with cast iron panels

10.2 Connections on Opti-Air system



	Item	Description
M1	Motor 1	Motor 1 drives the control valve of the primary air inlet
M2	Motor 2	Motor 2 drives the control valve of the secondary air and airwash inlet
P	Pressure measurement	Connection for the pressure line on the chimney to measure the chimney draught.
18V	Power supply	Use this connection for the 18 VDC power adapter. + = red wire - = black wire
Battery 	9V battery back-up	The 9V battery back-up makes sure the air valves go to a safe position when there is an electric power interruption. + = brown wire - = blue wire
	0 - 10 VDC output	Control voltage for the ventilator speed controller + = brown wire - = white wire
NTC	Room temperature measurement	Measures the room temperature with a NTC element (resistance measurement) + and - is black wire
TK	Thermocouple connection	Measures the gas temperature of the flue gasses in the appliance + = green wire - = white wire

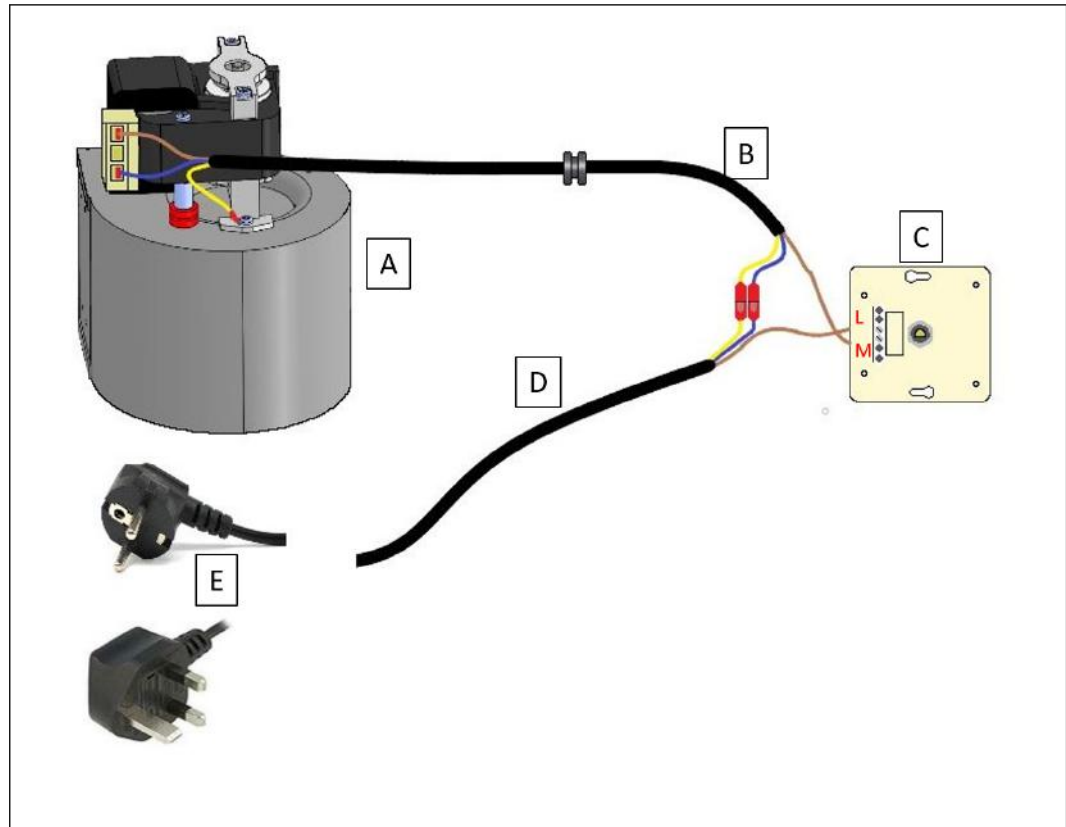
10.3 Connections on ventilator speed controller



- A 230 VAC input to ventilator speed controller
- B 0 - 230 VAC variable output to ventilator
- C 0 - 10 VDC variable control signal from Opti-Air system to ventilator controller

10.4 Connection scheme convection ventilator

- for appliances without an Opti-Air system -



- A Convection ventilator
- B Electric cable from dimmer to convection ventilator
- C Dimmer
- D Electric cable from plug to dimmer
- E 230 VAC Euro or UK plug

10.5

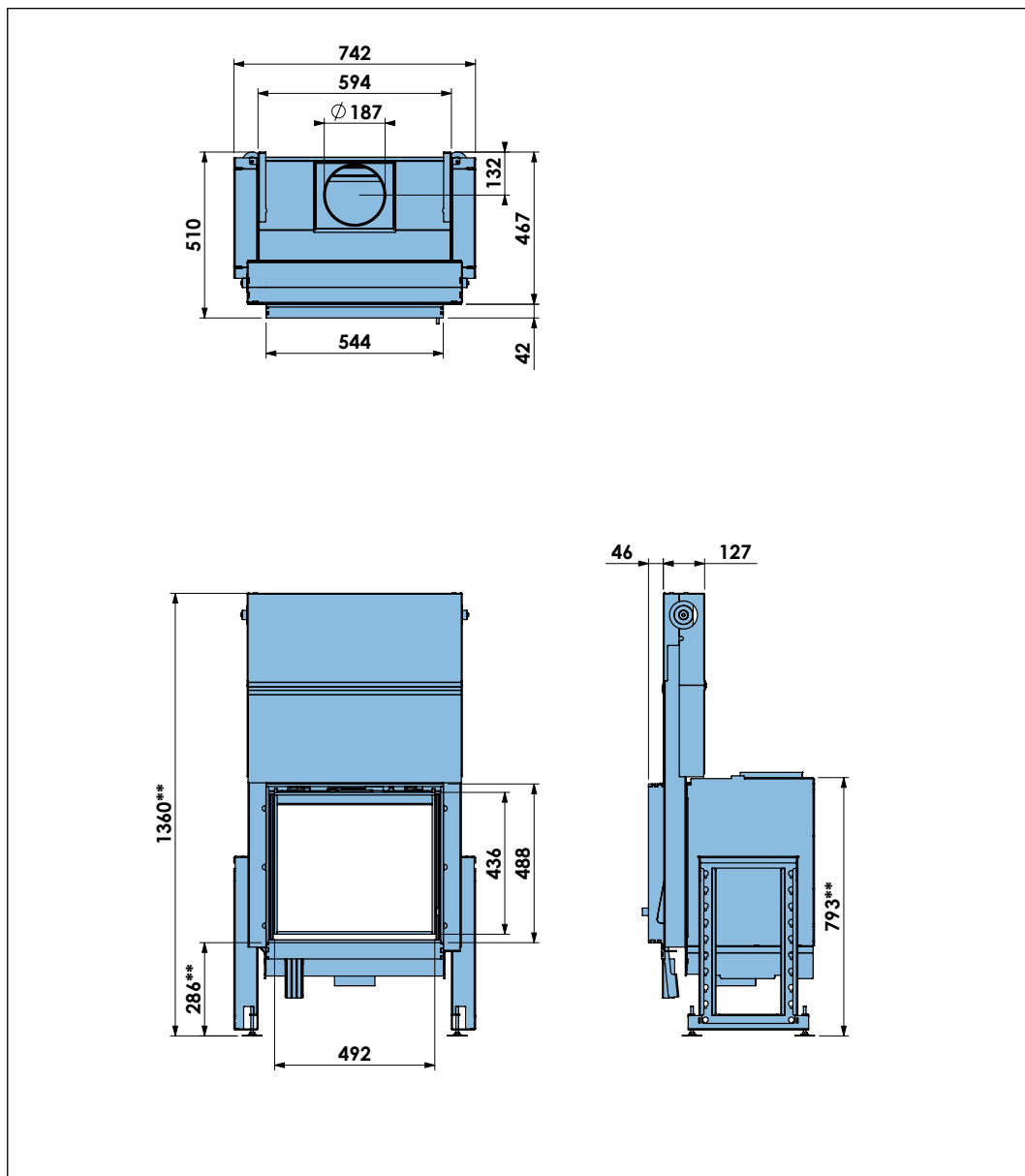
Product information according regulation (EU) 2015/1185

Model identifier		Cuatro-7 60-60									
Equivalent models		Evo-7 50-40									
Indirect heating function		No									
Direct heat output		8.3 kW									
Indirect heat output		- kW									
Fuel	Preferred fuel (only one)	Other suitable fuel(s)	Emissions at nominal heat output (*) [mg/Nm ³ (13 % O ₂)]				Emissions at minimum heat output (*)(**) [mg/Nm ³ (13 % O ₂)]				
			PM	OGC	CO	NO _x	PM	OGC	CO	NO _x	
Wood logs, moisture content < 25 %	yes	no	≤ 40	≤ 120	≤ 1500	≤ 200	N.A.	N.A.	N.A.	N.A.	
Compressed wood, moisture content < 12 %	no	no									
Other woody biomass	no	no									
Non-woody biomass	no	no									
Anthracite and dry steam coal	no	no									
Hard coke	no	no									
Low temperature coke	no	no									
Bituminous coal	no	no									
Lignite briquettes	no	no									
Peat briquettes	no	no									
Blended fossil fuel briquettes	no	no									
Other fossil fuel	no	no									
Blended biomass and fossil fuel briquettes	no	no									
Other blend of biomass and solid fuel	no	no									
Characteristics when operating with the preferred fuel											
Seasonal space heating efficiency η_s [%]		66									
Energy efficiency index (EEI)		101									
Item		Symbol	Value	Unit	Item			Symbol	Value	Unit	
Heat output				Useful efficiency (NCV as received)							
Nominal heat output		P _{nom}	8.3	kW	Useful efficiency at nominal heat output			$\eta_{th, nom}$	76.3	%	
Minimum heat output (indicative)		P _{min}	N.A.	kW	Useful efficiency at minimum heat output (indicative)			$\eta_{th, min}$	N.A.	%	
Auxilliary power consumption				Type of heat output/room temperature control (select one)							
At nominal heat output	e _{l, max}	0.069	kW	Single-stage heat output, no room temperature control							yes
At minimum heat output	e _{l, min}	N.A.	kW	Two or more manual stages, no room temperature control							no
In standby mode	e _{l, s}	N.A.	kW	With mechanic thermostat room temperature control							no
Permanent pilot flame power requirement				With electronic room temperature control							no
Pilot flame power requirement (if applicable)	P _{pilot}	N.A.	kW	With electronic room temperature control plus day timer							no
				With electronic room temperature control plus week timer							no
				Other control options (multiple selection possible)							
				Room temperature control, with presence detection							no
				Room temperature control, with open window detection							no
				With distance control option							no
Contact details		Barbas Bellfires BV Hallenstraat 17 5531 AB BLADEL The Netherlands					www.barbas.com				
(*) PM = particulate matter, OGC = organic gaseous compounds, CO = carbon monoxide, NO _x = nitrogen oxides											
(**) Only required if correction factors F(2) or F(3) are applied.											

Model identifier	Cuatro-7 60-60 Opti-Air										
Equivalent models	Evo-7 50-40 Opti-Air										
Indirect heating function	No										
Direct heat output	9.5 kW										
Indirect heat output	- kW										
Fuel	Preferred fuel (only one)	Other suitable fuel(s)	Emissions at nominal heat output (*) [mg/Nm³ (13 % O₂)]				Emissions at minimum heat output (*)(**) [mg/Nm³ (13 % O₂)]				
			PM	OGC	CO	NO _x	PM	OGC	CO	NO _x	
Wood logs, moisture content < 25 %	yes	no	≤ 40	≤ 120	≤ 1500	≤ 200	N.A.	N.A.	N.A.	N.A.	
Compressed wood, moisture content < 12 %	no	no									
Other woody biomass	no	no									
Non-woody biomass	no	no									
Anthracite and dry steam coal	no	no									
Hard coke	no	no									
Low temperature coke	no	no									
Bituminous coal	no	no									
Lignite briquettes	no	no									
Peat briquettes	no	no									
Blended fossil fuel briquettes	no	no									
Other fossil fuel	no	no									
Blended biomass and fossil fuel briquettes	no	no									
Other blend of biomass and solid fuel	no	no									
Characteristics when operating with the preferred fuel											
Seasonal space heating efficiency η_s [%]	66										
Energy efficiency index (EEI)	100										
Item	Symbol	Value	Unit	Item				Symbol	Value	Unit	
Heat output				Useful efficiency (NCV as received)							
Nominal heat output	P _{nom}	9.5	kW	Useful efficiency at nominal heat output				$\eta_{th, nom}$	76.2	%	
Minimum heat output (indicative)	P _{min}	N.A.	kW	Useful efficiency at minimum heat output (indicative)				$\eta_{th, min}$	N.A.	%	
Auxiliary power consumption			Type of heat output/room temperature control (select one)								
At nominal heat output	e _{l, max}	0.075	kW	Single-stage heat output, no room temperature control						no	
At minimum heat output	e _{l, min}	N.A.	kW	Two or more manual stages, no room temperature control						no	
In standby mode	e _{l, sb}	N.A.	kW	With mechanic thermostat room temperature control						no	
Permanent pilot flame power requirement			With electronic room temperature control						yes		
Pilot flame power requirement (if applicable)	P _{pilot}	N.A.	kW	With electronic room temperature control plus day timer						no	
				With electronic room temperature control plus week timer						no	
			Other control options (multiple selection possible)								
			Room temperature control, with presence detection						no		
			Room temperature control, with open window detection						no		
			With distance control option						no		
Contact details	Barbas Bellfires BV Hallenstraat 17 5531 AB BLADEL The Netherlands					www.barbas.com					
(*) PM = particulate matter, OGC = organic gaseous compounds, CO = carbon monoxide, NO _x = nitrogen oxides											
(**) Only required if correction factors F(2) or F(3) are applied.											

11 Dimensions

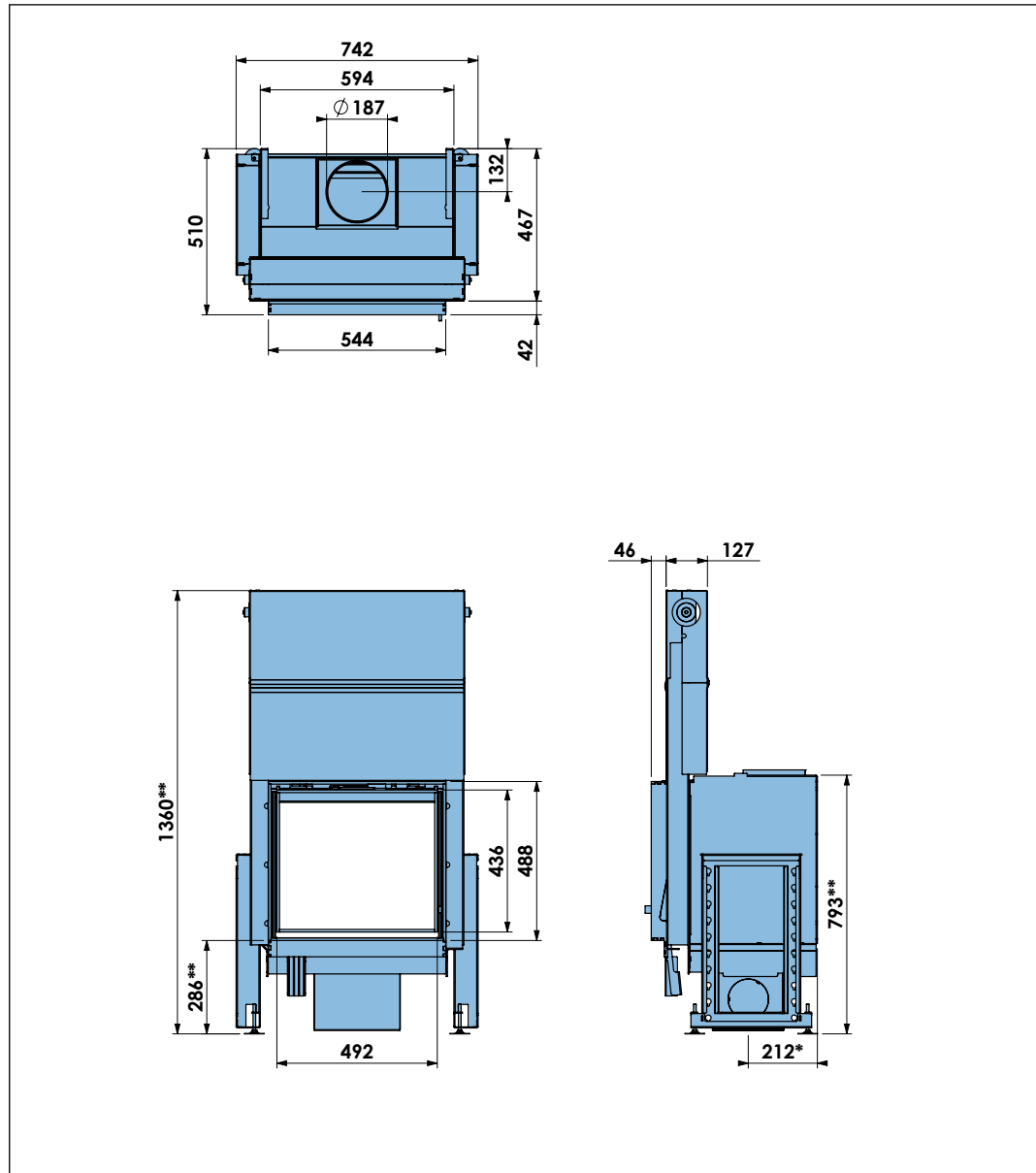
11.1 EVO-7 50-40, basic model



11.2 EVO-7 50-40 with air box

*) 3 Combustion air inlet openings (Ø 125 mm) at the left side, right side and bottom of the air box.

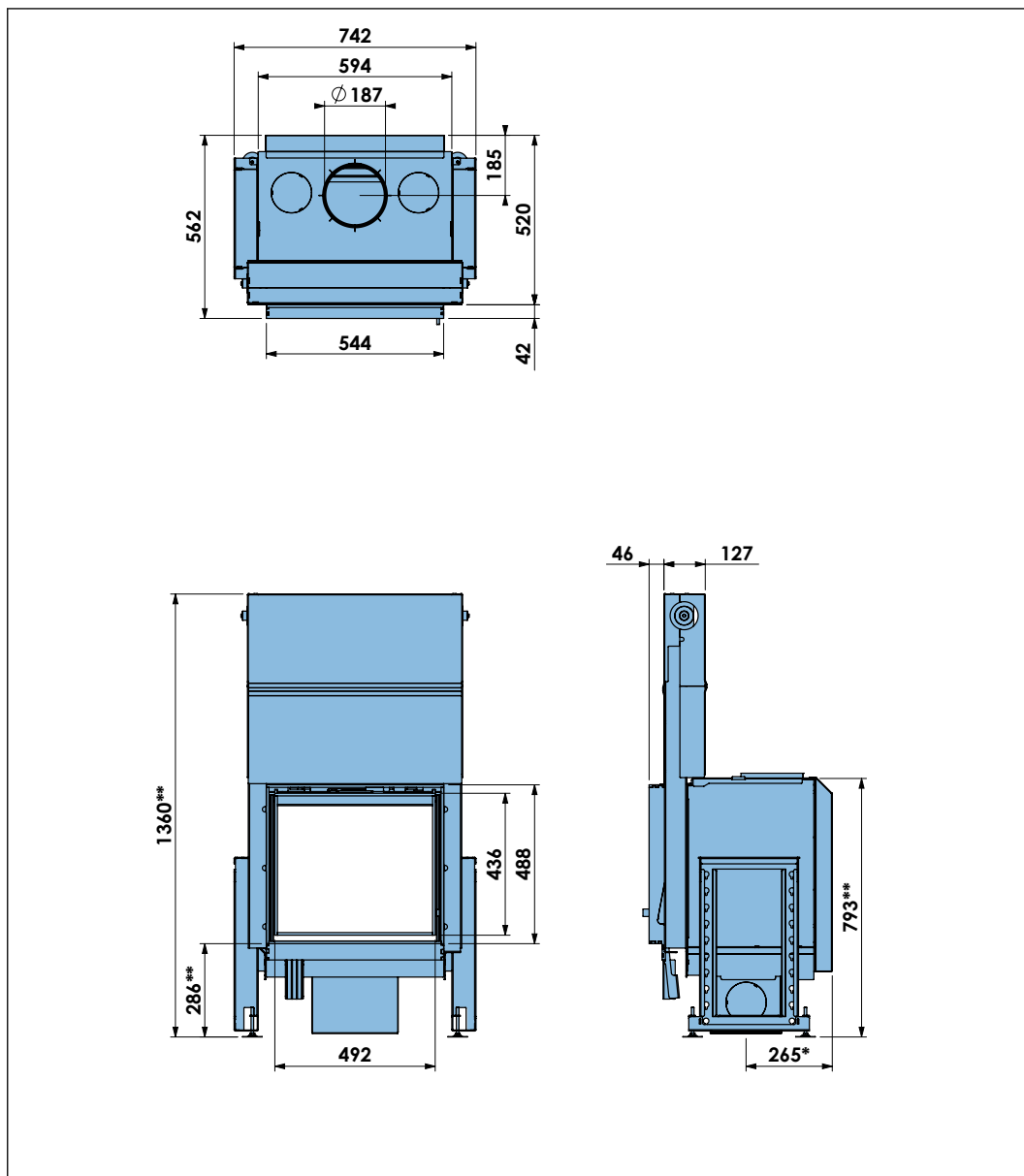
An optional Opti-Air system is integrated in the combustion air box.



11.3 EVO-7 50-40 with air box and convection casing

*) 3 Combustion air inlet openings (Ø 125 mm) at the left side, right side and bottom of the air box.

An optional Opti-Air system is integrated in the combustion air box.

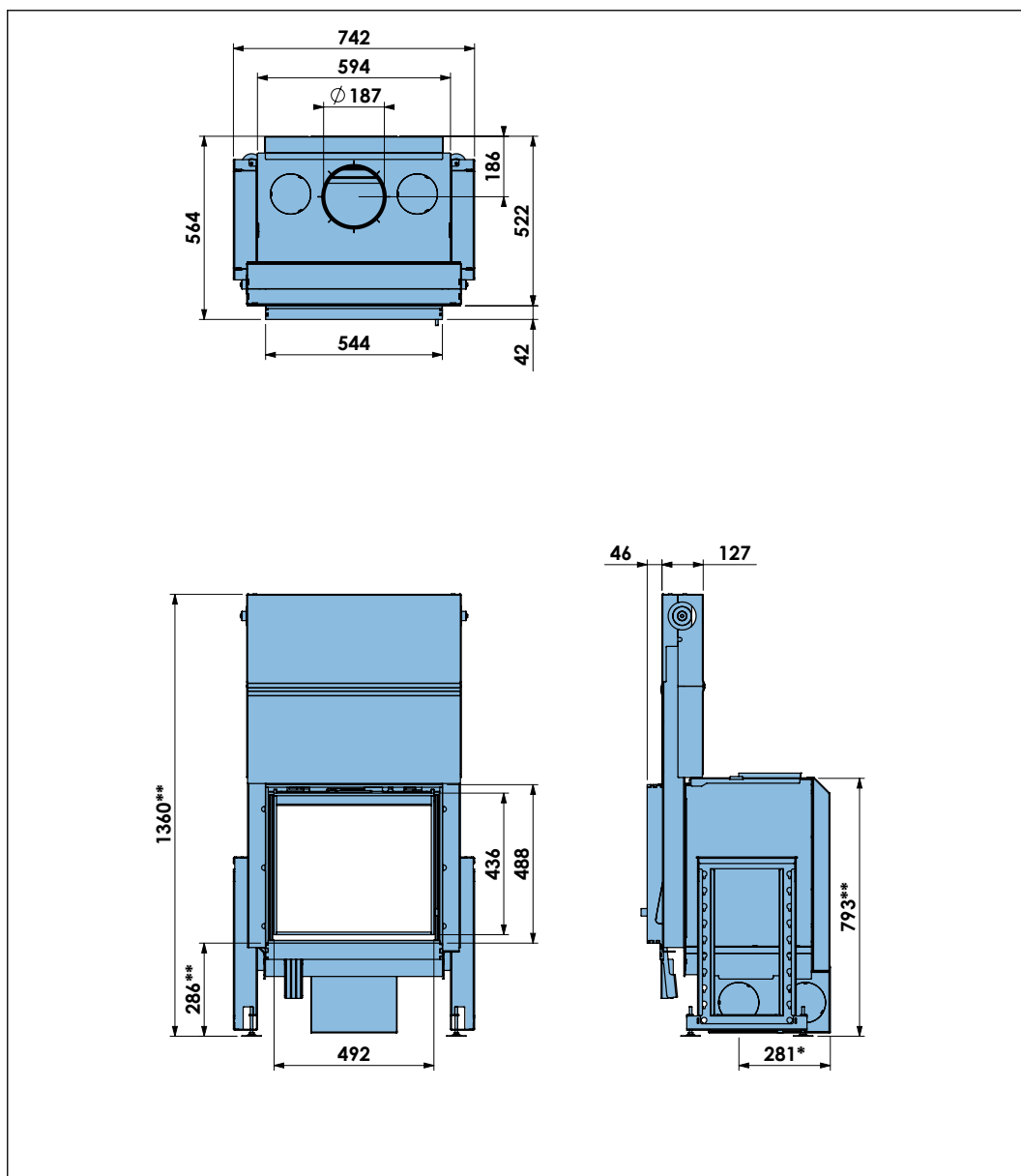


11.4 EVO-7 50-40 with combustion air / convection ventilator box and convection casing

*) 3 Combustion air inlet openings (Ø 125 mm) at the left side, right side and bottom of the air box.

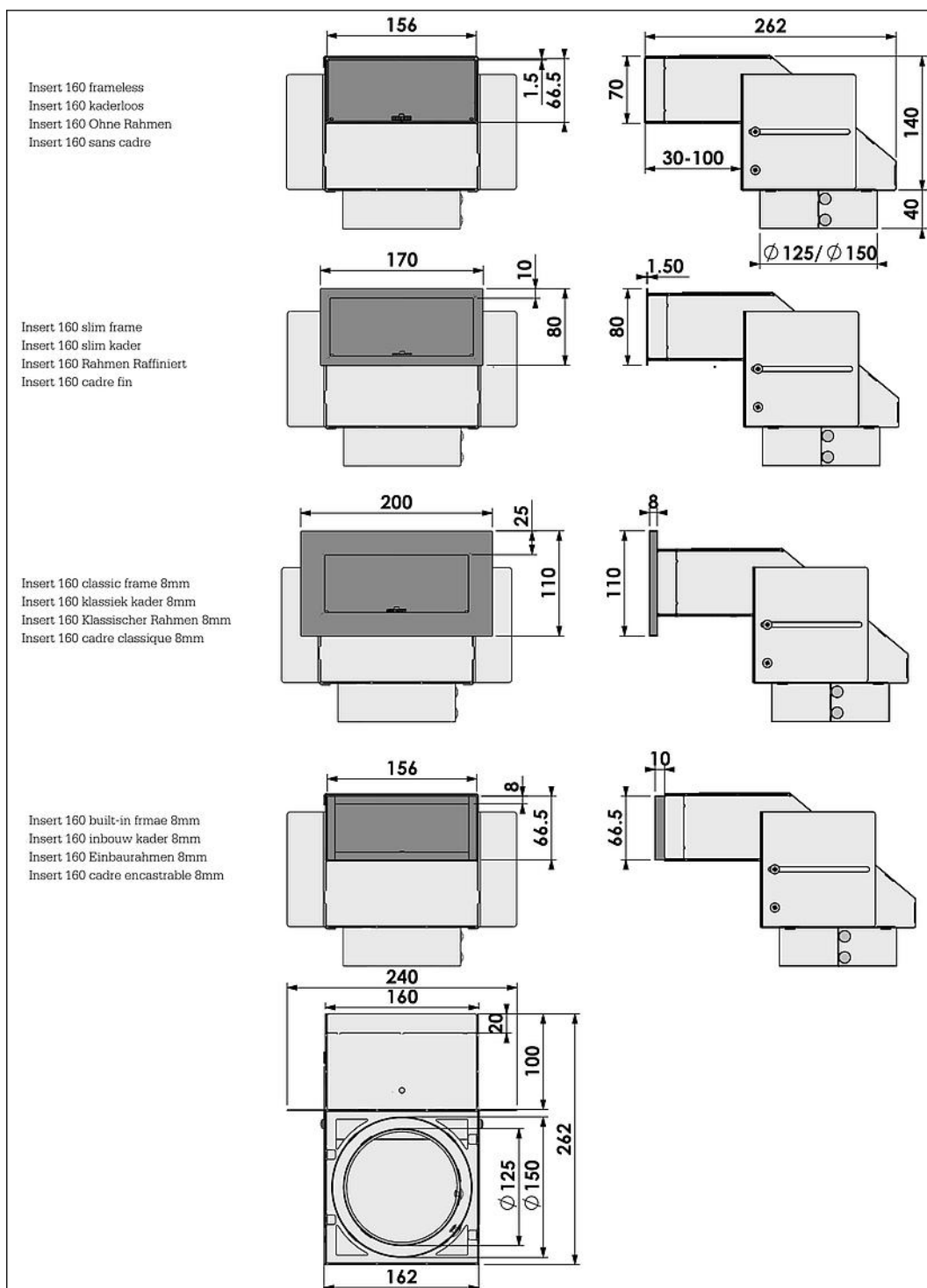
*) 2 Convection air inlet openings (Ø 125 mm) at the left side and right side of the convection ventilator / combustion air box.

An optional Opti-Air system is integrated in the combustion air/ convection ventilator box.

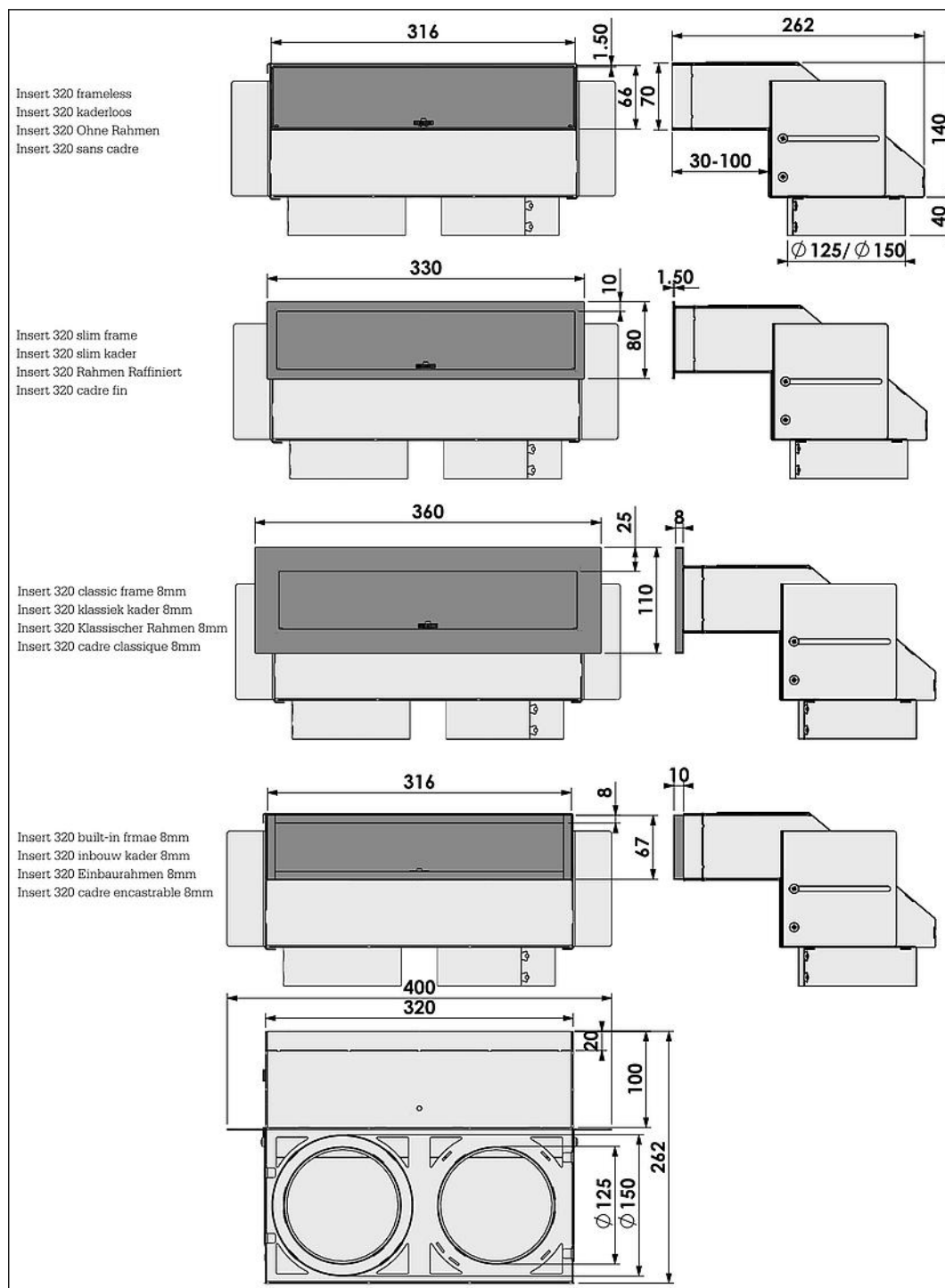


11.5

BARBAS Airbox 160 with 4 insert models



11.6 BARBAS Airbox 320 with 4 insert models



12 Warranty Terms

To make a claim under the warranty, it is important to register the Barbas appliance after purchase via www.barbasbellfires.com.

Barbas Bellfires Warranty Terms

Barbas Bellfires B.V. guarantees the quality of the supplied Barbas appliance and the quality of the materials used. All Barbas appliances are developed and manufactured according to the highest possible quality standards. If, despite all this, something should prove amiss with the Barbas appliance you have purchased, Barbas Bellfires B.V. offers the following manufacturer's warranty.

Article 1: Warranty

1. If Barbas Bellfires B.V. determines that the Barbas appliance you have purchased is defective as a result of a flaw in the construction or material, Barbas Bellfires B.V. guarantees to repair or replace the appliance free of charge, without charging any costs for labor or spare parts.
2. Repair or replacement of the Barbas appliance will be undertaken by Barbas Bellfires B.V. or by a Barbas dealer as designated by Barbas Bellfires B.V.
3. This warranty is supplementary to the existing legal national warranty of Barbas dealers and Barbas Bellfires B.V. in the country of purchase and is not intended to restrict your rights and claims based on the applicable legal provisions.

Article 2: Warranty conditions

1. Should you wish to claim under the warranty, please contact your Barbas dealer.
2. Complaints should be reported as quickly as possible after they have manifested themselves.
3. Complaints will only be accepted if they are reported to the Barbas dealer, together with the serial number of the Barbas appliance which is stated on the enclosed documents.
4. In addition, the original receipt (invoice, receipt, cash receipt) showing the date of purchase must also be submitted.
5. Repairs and replacements during the warranty period do not give any entitlement to an extension of the warranty period. After a repair or replacement of warranty parts, the warranty period shall be deemed to have started on the date of purchasing the Barbas appliance.
6. If a certain part is eligible for the warranty and the original part is no longer available, Barbas Bellfires B.V. shall ensure that an alternative part of at least the same quality shall be provided.

Article 3: Warranty exclusions

1. The warranty on the Barbas appliance ceases to be in effect if:
 - a. it is not installed according to the installation instructions, and to national and/or local regulations;
 - b. it has been installed, connected or repaired by a non-Barbas dealer;
 - c. it has not be used or maintained according to the instructions for use;

- d. it has been changed, neglected or roughly treated;
- e. it has been damaged as a result of external causes (outside the appliance itself), for example, lightning strike, water damage or fire;
- 2. In addition, the warranty lapses if the original purchase receipt shows any change, deletion, removal or if it is illegible.

Article 4: Warranty area

- 1. The warranty is only valid in those countries where Barbas appliances are sold through an official dealer network.

Article 5: Warranty period

- 1. This warranty will only be granted during the warranty period.
- 2. The body of the Barbas appliance is guaranteed for a period of 10 years against construction and/or material faults, starting from the moment of purchase.
- 3. For other parts of the Barbas appliance, a similar warranty applies from the moment of purchase for a period of two years.
- 4. For user parts such as glass, glass sealing cord and the interior of the combustion chamber, a similar guarantee is given until after the first burning.

Article 6: Liability

- 1. A claim granted by Barbas Bellfires B.V. under this warranty does not automatically imply that Barbas Bellfires B.V. also accepts liability for any possible damage. The liability of Barbas Bellfires B.V. never extends further than that stated in these warranty conditions. Any liability of Barbas Bellfires B.V. for consequential damage is expressly excluded.
- 2. That stated in this provision is not valid if and to the extent that it derives from a mandatory provision.
- 3. All agreements entered into by Barbas Bellfires B.V. are, unless specifically stated otherwise in writing and to the extent that they are permitted based on applicable law, subject to the FME-CWM general sales and delivery conditions for the technology industry.

Barbas Bellfires B.V.
 Hallenstraat 175531 AB Bladel
 The Netherlands
 Tel: +31-497339200
 Email: info@Barbas.com

Carefully retain the enclosed documents; they show the serial number of the appliance. You will need this if you wish to claim under the warranty.

barbas .

Your Barbas dealer