

# KALFIRE

FIREPLACES

## Installation<sup>Ⓔ</sup> and instructions

Ⓔ CLOSED WOOD-BURNING FIREPLACES

DON'T COMPROMISE.



<b>Product</b>	Kalfire
<b>Product group</b>	Wood-burning fireplaces with a lifting door
<b>Application</b>	Open and closed
<b>Models</b>	Kalfire W45/48F Kalfire W53/50R Kalfire W60/51F Kalfire W65/38C Kalfire W66/48S Kalfire W70/33F Kalfire W71/62F Kalfire W80/52T Kalfire W85/40F Kalfire W90/47C Kalfire W90/47S Kalfire W100/61F Kalfire W105/47F Kalfire W105/47T

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# 1 Preface

## 1.1 Purpose of this manual

This Installation and User manual is intended for Kalfire-approved installers and contains necessary information about the installation of the Kalfire W. This manual is also intended to instruct users on the proper and safe usage of the Kalfire W. Always keep this manual close to the fireplace, so the information is available to users.

This manual contains instructions about:

- Safety that must be observed in order to avoid risks that could lead to physical and/or material damage;
- Instructions for the safe and proper installation of the fireplace;
- Optimal usage (igniting, burning and cleaning) of the fireplace;
- Maintenance and fireplace disposal.

The fireplace may only be installed by Kalfire-approved installers complying with all relevant national or local regulations. The current technology status, the provisions of the Building & Housing Inspectorate and the national and European regulations should be taken into account with regard to the installation work and the operation of the wood-burning fireplace once fully connected. Maintenance and repair work may only be carried out by a Kalfire-approved installer.

### Effective use

This wood-burning fireplace has been designed for use as an additional heat source and is not intended to function as the principal heating unit for part or the entirety of a residence.

The fireplace may only be used in accordance with the purpose for which it was designed and after reviewing the installation and user instructions.

The fireplace has been tested and approved according to CE standard EN-13229-a2. Every wood-burning fireplace that leaves the factory has been tested for technical and functional adherence to the relevant quality standards in force.

Modifications of whatever nature may also affect the safety of the fireplace. Changes will void the warranty. The inspection will also be rendered null and void.

If the fireplace is not installed correctly by a Kalfire-approved installer, all warranty and/or damage claims against Kalfire will be declared null and void.

These user instructions are available in various languages on [www.kalfire.com](http://www.kalfire.com) or via your Kalfire-approved installer. All translated instructions have been translated from a Dutch document, which is the original document.

## Disclaimer

All rights reserved. No part of this manual may be copied, distributed or translated into other languages, in full or in part, without the prior written permission of Kalfire. Kalfire reserves the right to make changes to the manual. Kalfire, however, cannot provide any warranty, implicitly or explicitly, for this manual. Any risk is fully for the account of the user.

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## 1.2 Pictograms

The following pictograms are used in this manual;



**DANGER!** Warning for flammable material. Follow instructions to ensure that the possibility of fire thanks to the sudden ignition of flammable materials is prevented.



**WARNING** General warning. Mitigate the risk of injury by carrying out the instructions carefully.



**Careful!** General warning. Mitigate the risk of material damage by following the instructions diligently.

**OBSERVATION(S)** Indicates important information.

## 1.3 Warranty

Kalfire products are assembled with the greatest possible care from premium materials. Despite this, should an error or defect become apparent, Kalfire will provide warranty coverage according to the following provisions.

1. The warranty period for Kalfire wood-burning fireplaces amounts to five years from the procurement date, that must be clearly legible on the proof of purchase.
2. The fireplace must be installed by a Kalfire-approved installer according to the accompanying Installation and User Manual and in compliance with all relevant national and regional standards in force.
3. Kalfire assumes no responsibility for errors or defects related to the installation of the fireplace. Placing of the appliance, the quality and material choice of the finished product and a check as to the quality and correct operation of the concentric flue duct system are the responsibility of the Kalfire-approved installer.
4. The warranty covers no right whatsoever to compensation in the event that the appliance cannot be used.
5. Glass, gaskets, baffle plates, chamotte stones or skamol plates as well as physical and chemical effects from the outside during transport, storage or installation are not covered by the guarantee.
6. The five-year warranty period does not apply to discolouration of the paint on the lamella and design rear and/or side panels; in which case, a period of 1 year applies.

7. Should disruption occur within the warranty period caused by a manufacturing error or material defect, Kalfire will deliver the components needed for repair to the Kalfire-approved installer of the fireplace, without paying compensation for dismantling or assembly.
8. Renewing or replacing components that fall under the scope of the guarantee do not extend the duration of the warranty.
9. Should the Kalfire-approved installer be unable to rectify the problem covered by the warranty, then he is entitled upon his own express desire to request Kalfire to assume responsibility for doing so (only valid in the Benelux, Germany, France and the United Kingdom).
10. Verification or repair of an entire fireplace or parts thereof can only take place by appointment, after prior consultation between Kalfire and the Kalfire-approved installer.
11. A proof of purchase with date must be presented to Kalfire should a possible home repair service (only available in the Benelux, Germany, France and the United Kingdom) be carried out within the warranty period.
12. In the event of home repair service outside the warranty period, material costs, working hours and call-out charges will apply.
13. This warranty is only valid if the fireplace has been used normally and only if wood has been used as fuel.

**The warranty is not applicable in the following circumstances:**

- If the aforementioned points have not been complied with, in part or in full.
- If alterations to the fireplace have been brought about without Kalfire's written permission to do so.
- If the fireplace passes into new ownership.
- If the fireplace has not been installed and/or utilised in accordance with the Installation and User Manual.
- Should deviation from the Kalfire specifications have occurred in any way or form during installation of the Kalfire-specified concentric flue duct system.
- Damage attributable to external influences (shocks, lightning, falling, flooding or overheating of the appliance) during transport, storage or installation.
- Should the fireplace be impacted by neglect, improper use and/or gross negligence.
- If the repair or delivery of individual parts be carried out by another manufacturer or by a professional installer who has not been approved by Kalfire.
- If the fireplace was transported without proper packaging and transport security.

## 1.4 Receipt and verification

### Verification upon receipt

The wood-burning fireplace is delivered as a fully-assembled appliance. The appliance is ready for use immediately after installation. Report any damage, missing parts or incorrect deliveries within five working days to Kalfire (according to the supply terms and conditions). Check the following upon receipt:

1. Check that the packaging has not been damaged.
2. Check the fireplace's glass panes for cracks or breakages.
3. On delivery, report damage caused during transport to the shipper on the packing slip.
4. Check that all parts/accessories have been delivered.
5. Check if the correct product has been delivered.

### Scope of delivery

- Wood-burning fireplace;
- Gloves;
- Installation and User Manual;
- Key (for raising and lowering the lifting door and using the secondary air regulation);
- Energy label.

## 2 Safety

### 2.1. Installation safety

- General installation instructions:**
- ⚠ WARNING** All of the installation procedures described may only be carried out by a Kalfire-approved installer.
- Please adhere to the installation instructions and regulations that apply to safety and health in your country (the Working Conditions Act, for example).
  - Follow the installation procedures diligently to avoid damage and accidents.
  - Always use adequate personal protective equipment (gloves, safety goggles and work clothing) during installation and maintenance of the fireplace.
  - The wood-burning fireplace weighs more than 25 kg, so it must be moved by two individuals or by using the correct tool.
  - Take care that the local conditions match the information on the identification plate of the fireplace. In the case of front and tunnel fireplaces, the identification plate is fixed at the lower right in the slit of the door's guide. In the case of corner fireplaces, 3-sided fireplaces and the room divider, the identification plate is located behind the design strip, visible when the door is opened.

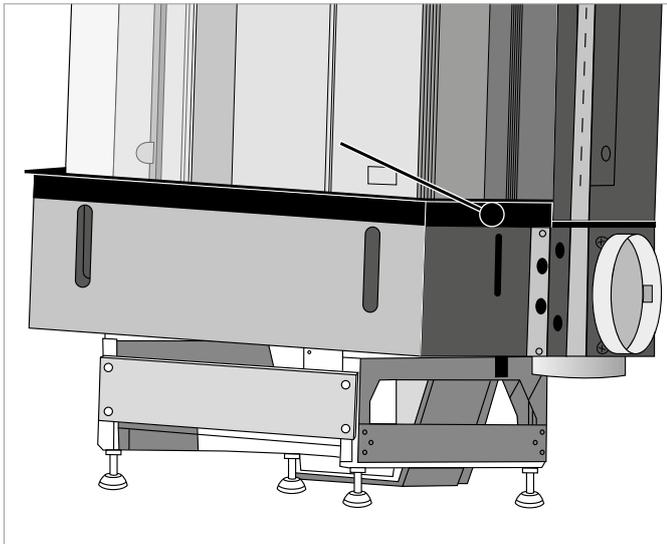


Figure 1: Location of identification plate (corner and 3-sided fireplaces)

- Only install a wood-burning fireplace in an area that has sufficient ventilation in compliance with the standards in force.
- Always perform a chimney calculation, as indicated in the Chimney Calculation (see Section 5.4).
- Always use a flue duct that corresponds to the inspection of the fireplace.
- Take the necessary precautions by using non-flammable materials to prevent overheating of floor, boards or walls close to the fireplace.
- Immediately after its installation, check the fireplace for proper functioning.

### 2.2 Installation instructions

The following conditions must be adhered to during installation:

- ⚠ WARNING** Ensure sufficient ventilation where the fireplace is to be installed.
1. Reference is made to both national and local legislation in force to determine a safe distance from the wall pass-through against which the appliance is mounted and the adjacent walls, roof ducts and windows.
  2. Only use non-flammable materials when installing the fireplace.
  3. Insulation material must meet national quality standards; it must be able to withstand high temperatures (at least 700° C) to prevent strong odours from developing during combustion.
  4. Use ceramic fibre panels or hard mineral wool panels to prevent loose insulating particles from circulating within the convection system.
  5. Do not allow the insulation material to cover the convection air inlets. Firmly attach the insulation to prevent the material from slipping.
  6. Use mats, sheets or strips made of silicate insulation materials (stone, klinkers, ceramic fibres); construction class a1 according to DIN 4102 part 1, with an upper limit temperature of at least 700° C, tested according to DIN 52271 and a nominal density of 80 kg/m. These materials must have a corresponding insulation material registration number according to AGI-Q 132. This number may not contain the combination '99'.
  7. For as far as this insulation layer is not kept away from walls, claddings or adjoining plates, attachments must be mounted at a mutual distance of max. 33 cm.
  8. Other insulation materials, consisting of, for example, covering concrete or mineral base materials, must have a General Urban Development Permit of the German Institute of Building Technology (DIBt). For further details, see DIN 18895 resp. and 13229/DIN 18160.
  9. Replacement insulation materials have various heat index values, depending on the thickness of the insulation material. The required thickness of the insulation material can be calculated from the graph supplied by the manufacturer.
  10. Some heat insulation materials can be used for pre-construction and heat insulation. This way you can significantly reduce the built-in depth. Cover heat insulating materials made from stone and clinker fibre, so they are not subject to wear, otherwise loose particles may be blown by the airflow into the mounting area. Other heat insulation plates may be supplied wear proof from the factory.

 **WARNING** The floor on which the fireplace is placed must have sufficient load-bearing capacity (for the weight of the fireplace, see Table 5).

 **DANGER!** The floor on which the fireplace is placed must consist of non-flammable materials. This is because hot ash and sparks can fall on the floor. This also goes for the walls behind and adjacent to the fireplace and the ceiling.

 **CAREFUL** The fireplace and the surround have different expansion rates. If a platform is used, the fire must be at least 4 mm clear of the **platform** in order to prevent damage. Too little room causes undesirable material tension.

Fireplace	Inspection				Isorath 1000				Promasil				Mineral wool (AGI Q 132)			
	Rear panel (cm)	Side panel (cm)	Roof (cm)	Base (cm)	Rear panel (cm)	Side panel (cm)	Roof (cm)	Base (cm)	Rear panel (cm)	Side panel (cm)	Roof (cm)	Base (cm)	Rear panel (cm)	Side panel (cm)	Roof (cm)	Base (cm)
W45/48F	5	5	9	*	2.6	2.7	5.3	*	2	2.1	4.1	*	5	5	9	*
W53/50R	10	10	9	*	2.6	2.7	5.3	*	2	2.1	4.1	*	10	10	9	*
W60/51F	10	10	9	*	2.6	2.7	5.3	*	2	2.1	4.1	*	5	5	9	*
W65/38C	5	5	9	*	2.6	2.7	5.3	*	2	2.1	4.1	*	5	5	9	*
W66/48S	5	5	9	*	2.6	2.7	5.3	*	2	2.1	4.1	*	10	10	9	*
W70/33F	10	10	9	*	2.6	2.7	5.3	*	2	2.1	4.1	*	5	5	9	*
W71/62F	10	10	9	*	2.6	2.7	5.3	*	2	2.1	4.1	*	5	5	9	*
W80/52T	10	-	9	*	2.6	-	5.3	*	2	-	4.1	*	5	-	9	*
W85/40F	5	5	9	*	2.6	2.7	5.3	*	2	2.1	4.1	*	5	5	9	*
W90/47C	10	10	9	*	2.6	2.7	5.3	*	2	2.1	4.1	*	5	10	9	*
W90/47S	10	5	9	*	2.6	2.7	5.3	*	2	2.1	4.1	*	5	5	9	*
W100/61F	10	10	9	*	2.6	2.7	5.3	*	2	2.1	4.1	*	5	5	9	*
W105/47F	5	5	9	*	2.6	2.7	5.3	*	2	2.1	4.1	*	5	5	9	*
W105/47T	10	-	9	*	2.6	-	5.3	*	2	-	4.1	*	5	-	9	*

Table 1: Prescribed insulation thickness between the fireplace and combustible materials

### 2.3. Kalfire front model in combination with flammable materials (e.g. a wooden wall)

During installation, pay attention to the distance to the flammable building materials:

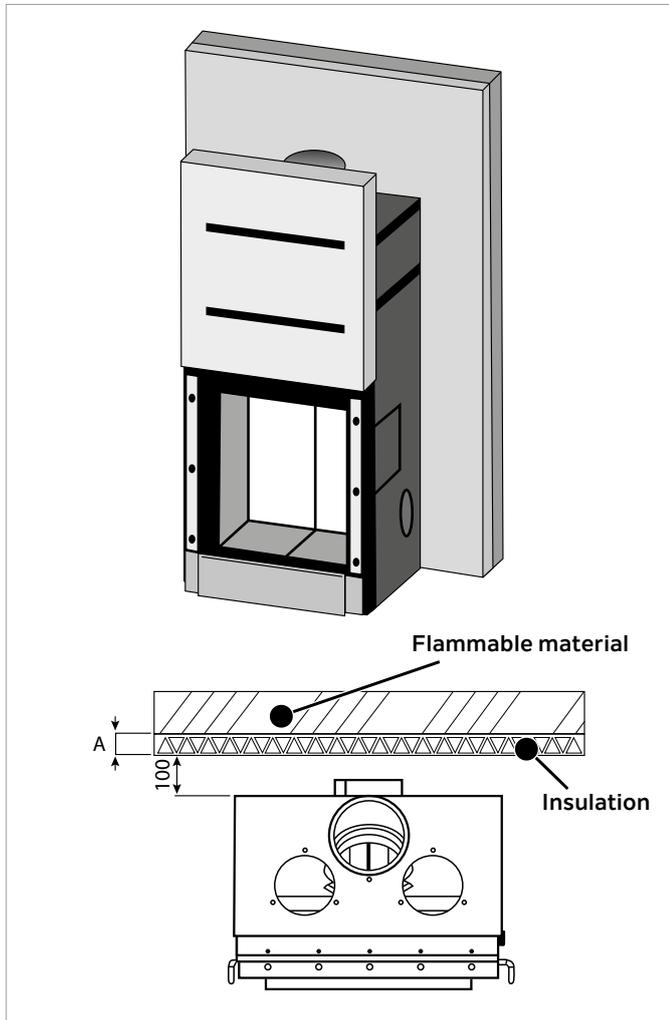


Figure 2: Cross-section of a Kalfire W front model in combination with a flammable wall

Flammable materials must be protected and/or insulated by insulation material. The minimal thickness (a) of the material depends on the type of insulation material and the fireplace in which it is used. The minimal thickness can be consulted in Table 1. The distance from the back or the side of the fireplace (if has been built into an alcove) to the insulation material must be a minimum of 10 cm.

**DANGER!** Ensure that curtains, furniture and/or other flammable materials are at a minimum distance of 150 cm from the fireplace.

**WARNING** Ensure that windows are at least 100 cm away from the fireplace.

**DANGER!** The floor on which the fireplace is placed must consist of non-flammable materials. In front of the door to the fireplace, the (flammable) base should be protected (30 cm on both sides and 50 cm in the front of the fireplace).

### 2.4. Kalfire W53/50R model in combination with flammable materials (e.g. a wooden wall)

During installation, pay attention to the distance to the flammable building materials:

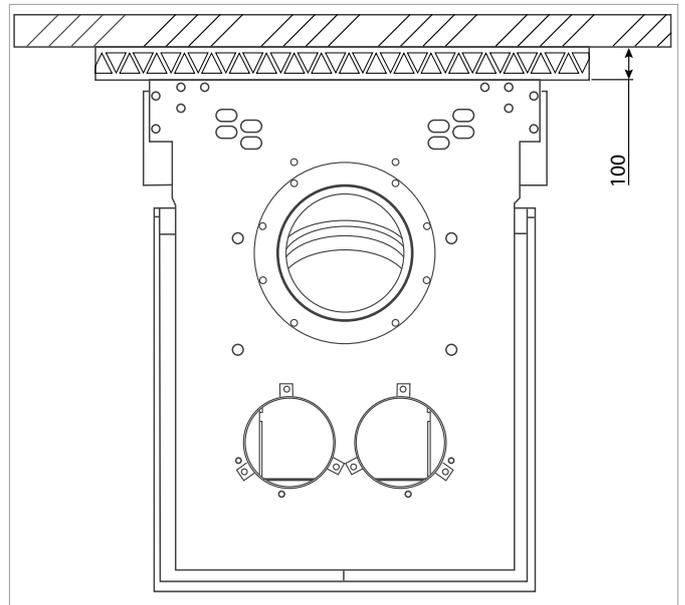


Figure 3: Cross-section of a Kalfire W room divider in combination with flammable materials

Flammable materials must be protected by insulation material that is at least 10-cm thick. The distance from the back of the fireplace to the insulation material must be a minimum of 10 cm.

**DANGER!** The floor on which you place the Kalfire W53/50R model must consist of non-flammable materials. The floor in front of the door opening must be protected to a distance of at least 50 cm in front of the appliance (sides with a glass door).

**DANGER!** If the W53/50R model is placed directly (without an air gap) against a wall made of flammable material and 10 cm of insulation, the fireplace may only be used for a maximum of 16 hours.

### 2.5. Kalfire W65/38C model in combination with flammable materials (e.g. a wooden wall)

During installation, pay attention to the distance to the flammable building materials:

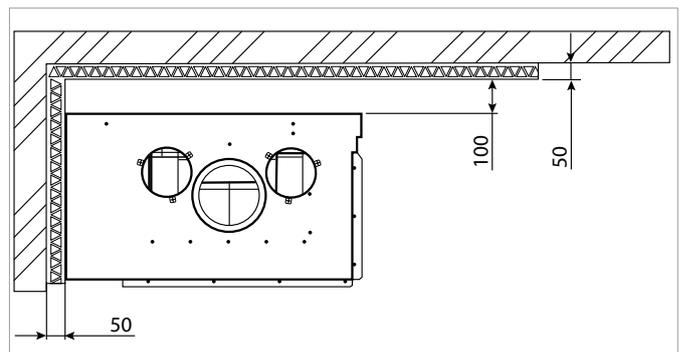


Figure 4: Cross-section of a Kalfire W65/38C model in combination with flammable materials

Flammable materials must be protected by insulation material that is at least 5-cm thick (Kalfire W65/38C). The distance from the back or the side of the fireplace to the insulation material must be a minimum of 10 cm.

**⚠ DANGER!** The floor on which you place the Kalfire W65/38R must consist of non-flammable materials. The floor in front of the door opening must be protected to a distance of at least 50 cm in front of the appliance (sides with a glass door).

**2.6. Kalfire W90/47C model in combination with flammable materials (e.g. a wooden wall)**

During installation, pay attention to the distance to the flammable building materials:

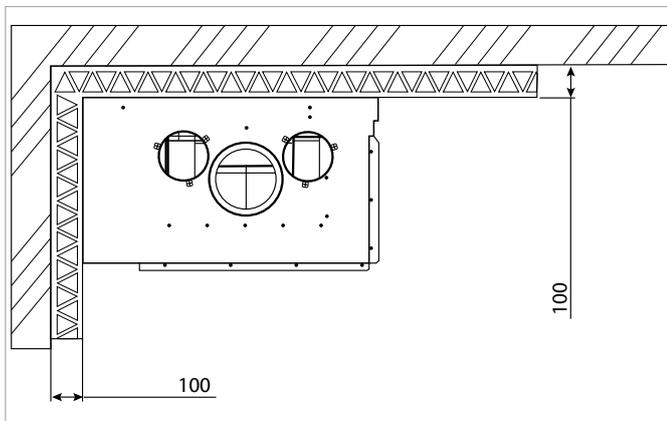


Figure 5: Cross-section of a Kalfire W90/47C model in combination with flammable materials.

Flammable materials must be protected by insulation material that is at least 10-cm thick (Kalfire W90/47C).

**⚠ DANGER!** The floor on which you place the Kalfire W90/47R must consist of non-flammable materials. The floor in front of the door opening must be protected to a distance of at least 50 cm in front of the appliance (sides with a glass door).

**2.7. Kalfire W66/48S and W90/47S models in combination with flammable materials (e.g. a wooden wall)**

During installation, pay attention to the distance to the flammable building materials:

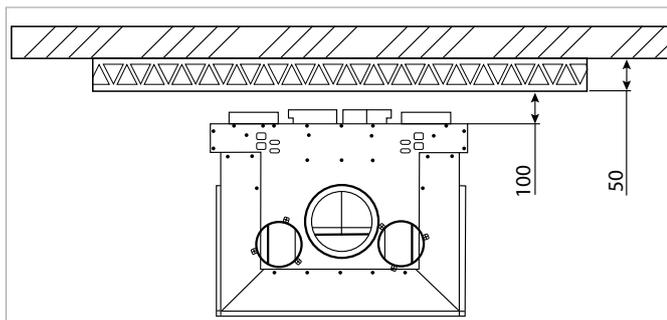


Figure 6a: Cross-section of a Kalfire W66/48S in combination with flammable materials

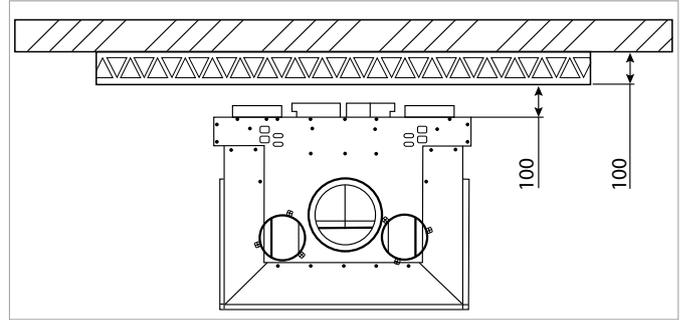


Figure 6b: Cross-section of a Kalfire W90/47S in combination with flammable materials

Flammable materials must be protected by insulation material that is at least 5 (Kalfire W66/48S) or 10-cm (Kalfire W90/47S) thick. The distance from the back or the side of the fireplace to the insulation material must be a minimum of 10 cm.

**⚠ DANGER!** The floor on which you place the Kalfire W66/48s or W90/47s must consist of non-flammable materials. The floor in front of the door opening must be protected to a distance of at least 50 cm in front of the appliance (sides with a glass door).

**2.8 Kalfire W80/52T and W105/47T models in combination with flammable materials (e.g. a wooden wall)**

During installation, pay attention to the distance to the flammable building materials:

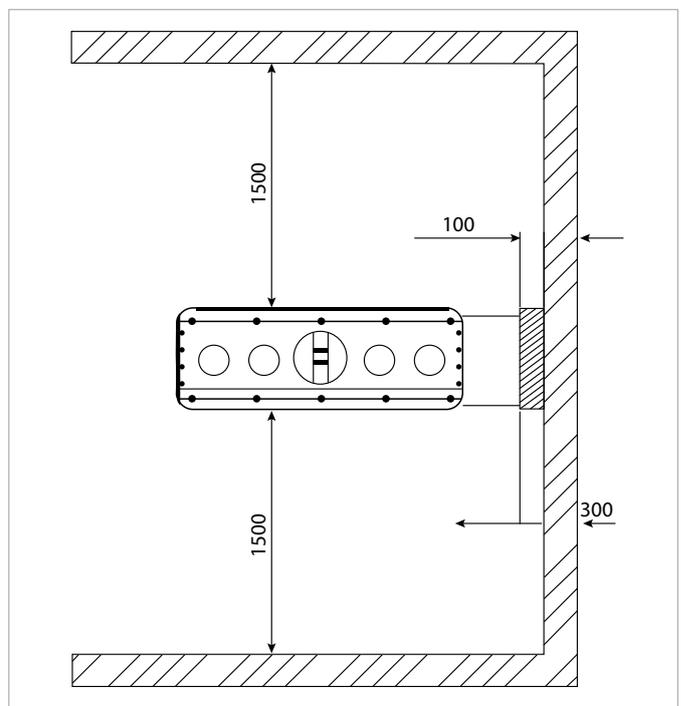


Figure 7: Cross-section of a Kalfire W tunnel model in combination with flammable materials

Flammable materials must be protected by insulation material that is at least 10-cm thick. The distance from the rear and side of the fireplace to the flammable material should measure at least 30 cm.

The floor on which you place the Kalfire W80/52t or W105/47t must consist of non-flammable materials. The floor in front of the door opening must be protected to a distance of at least 50 cm in front of the appliance (sides with a glass door).

### 2.9. Safe usage

There are risks associated with using a wood-burning fireplace. The temperature of all visible parts of the wood-burning fireplace can rise steeply, and there is a risk of fire or combustion. Therefore, be sure to take the following safety precautions (see Figure 8 and Figure 9):

**DANGER!**

**WARNING**

- Make sure that curtains, furniture and/or other combustible materials are at least 150 cm removed from the fireplace. If a fireguard is used, this distance must be at least 40 cm.
- The distance between any built-in furniture and fireplace must be at least 5 cm.
- The distance between any wall, floor and ceiling materials to the fireplace must measure at least 1 cm.

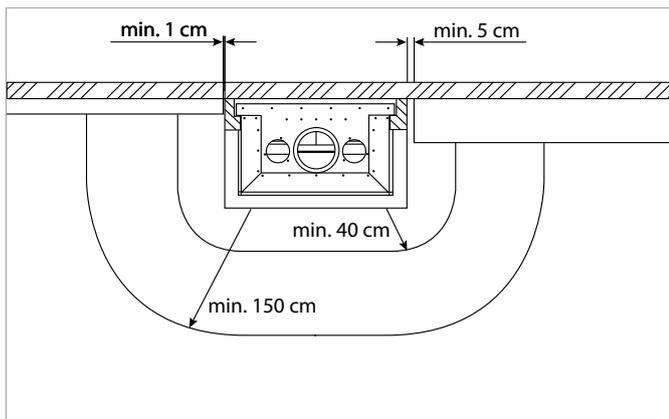


Figure 8: Cross-section of a Kalfire W 3-sided model

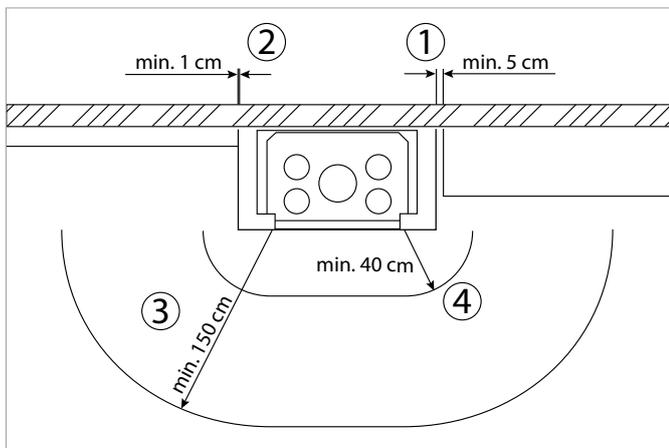


Figure 9: Cross-section of a Kalfire W front model

#### Danger of combustion

**DANGER!** Do not touch the fireplace! The fireplace is hot when it is burning or when the fire has just been extinguished. Ensure extra safety precautions and safety measures if less able-bodied persons, elderly people and/or children have access to the fireplace.

#### The risk of discolouration

**CAREFUL!** After the fireplace's convection system has been heated, dust particles, cigarette smoke, candles and oil lamps can cause discolouration of walls and ceilings. Ensure sufficient ventilation in the room in which the fireplace is installed.

**CAREFUL!** When heated, the fireplace's internal metal lining can expand. This can cause the layer of paint on the metal to deform, resulting in damage or imperfections. This can be restored with a spray can (available from Kalfire).

#### 2.9.1. Decorative elements

##### Selecting type of wood

**CAREFUL!** The fireplace is suitable for burning dry wood (15% maximum moisture content). Damp wood will dirty the ceramic pane, and it increases the risk of a chimney fire. It will also form an environmental nuisance and a nuisance to the neighbours as a result of the excessive smoke and/or odour that is released.

We recommend using chopped wood that has not been treated. Do not use MDF, stained/coated wood or flammable waste, due to the environment and the working life of the fireplace. The types of wood most suitable for fireplaces include beech, oak and birch.

**Careful!** When lighting the fireplace with an open door, use broadleaf wood, such as oak, beech and birch. These woods do not contain much resin. Burning resinous woods, such as pine, larch and spruce, releases a lot of sparks. Kalfire advises against burning hardwoods. It is better to mix different types of wood, for example, broadleaf wood with hardwood. These types of wood provide a lively flame and are better for the working life of the fireplace.

##### Wood storage

**Careful!** Always ensure that you store dry wood. For the wood to obtain the ideal moisture content, all types of wood must be stored for roughly 2 to 3 years in a dry, sheltered and well-ventilated area. For example, under a canopy adjacent to the house. A cellar or garage without proper ventilation is not a suitable storage area. Also, the wood should be stored chopped; otherwise the bark will impede the drying process. Wood often contains insects; therefore do not store the wood in the living room for lengthy periods.

## 3 Description

### 3.1.1 Description

There are five types of closed wood-burning fireplaces:

- Front fireplace (Kalfire W45/48F, Kalfire W60/51F, Kalfire W70/33F, Kalfire W71/62F, Kalfire W85/40F, Kalfire W100/61F, Kalfire W105/47F)
- Corner fireplace (Kalfire W65/38C, Kalfire W90/47C)
- 3-sided fireplace. (Kalfire W66/48S, Kalfire W90/47S)
- Tunnel fireplace (Kalfire W80/52T, Kalfire W105/47T)
- Room divider (Kalfire W53/50R)



**CAREFUL!** Only the Kalfire W60/51F, W71/62F and W85/40F can be used as an open fireplace.

The rear panel can be manufactured from:

- Skamol (standard version)
- Slats
- Design

The front and tunnel models and the room divider are standardly equipped with a 2.5 cm-deep x 4 mm-thick built-in frame.

Specific variations are available for every fireplace.

Possible accessories for the fireplace include:

- Installation package
- Sealing set
- Damper set
- Fresh air adapter
- Mantle iron set
- Platform support

Kalfire single-walled and double-walled flue ducts are available for the connection to the chimney.

### 3.1.2 Working

The Kalfire W models are suitable for burning dry wood. Fresh air is led into the wood-burning fireplace for combustion in two different ways: via a primary air regulation (this works automatically with the aid of a built-in thermostat) and a secondary air regulation (the user can shift this to influence the flames, with the help of a special key supplied with the fireplace).

When the wood-burning fireplace is used with an open door or when the fireplace is opened to replenish the wood, the (patented) fresh air valve will begin working. This valve ensures that the air does not end up directly in the fireplace, but is diverted to the room in which the fireplace is installed. So, using the fireplace with the door open optimally uses the fresh air for combustion.

The wood-burning fireplace has a lifting door that can be opened using the special key supplied with the fireplace.

The lifting door can be left open in any position desired and is frameless, so there is always an optimal view of the flames. The lifting door can also be tilted or pushed forward to facilitate cleaning.

The wood-burning fireplace is equipped with service hatches so that all moving parts remain accessible for service and maintenance.

## 4 Preparations

### 4.1 Checking the wood-burning fireplace

Before installing the fireplace, check that the floor's load-bearing capacity is sufficient to support the weight of the fireplace (see Table 5) and the intended surround. If this is not the case, the necessary measures must be taken (e.g. distributing the pressure points by using a form-retaining, fire-resistant plate).

#### 4.1.1 Pre-installation check

##### Verification upon receipt

1. Verification upon receipt of whether the supplied products are complete and undamaged. Report any defects directly to Kalfire and/or the transporter (see 1.4) .
2. Remove the transport security
  - front and tunnel fireplaces: remove the corner pins with a yellow sticker on the front from the convection casing.
  - 3-sided fireplaces and room divider: see Appendix B
  - corner fireplace Kalfire W65/38C: see Appendix C
  - corner fireplace Kalfire W90/47C: see Appendix D
3. Check the following components for proper functioning:
  - Raising and lowering the lifting door
  - Forward tilting action or sliding of door for cleaning
  - Secondary air regulation
  - Adjustment feet
  - Damper with control knob (accessory)
  - Possibly aeration valves (accessories)
4. Hand over the Installation and User Manual to the user of the fireplace.
5. Test the fresh air valve for proper operation. This valve is located to the rear of the fireplace (at the corner fireplaces on the side), behind the fresh air connection. When the door is closed, the fresh air flows through the secondary air regulation to the combustion chamber. When the door is opened, the fresh air enters the room via the convection casing and the outlet openings.

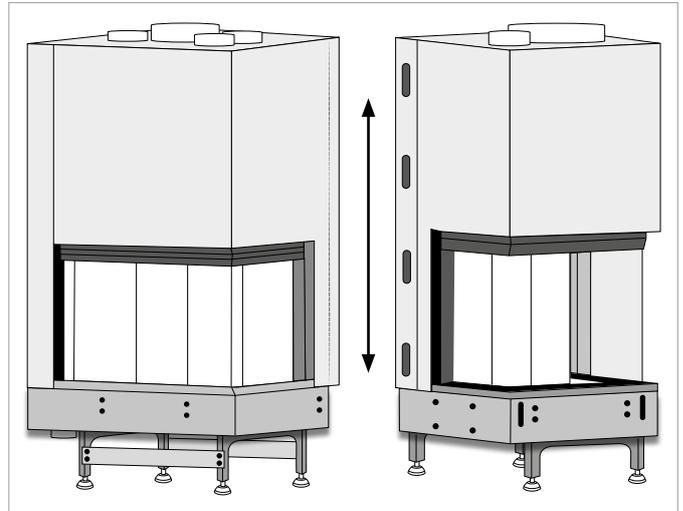


Figure 10: Kalfire W corner and 3-sided models: checking the lifting door

### 4.1.2 Checking the flue

To ensure proper functioning, we advise you to test/fire the fireplace as early as possible (even before you have finished it completely) (see Chapter 5):

- You can then determine whether an external damper is necessary.
- The enamel on the fireplace can harden before it is finished. This ensures less inconvenience for the user.
- You will know at an early stage whether the fireplace and flue are functioning properly.

#### Checks to be carried out while (test) burning

1. Check the flue for proper functioning; the minimum required draught is 12 Pa.
2. Test the secondary air regulation for proper operation; this works after 50 minutes of heating: (see Section 5.1.1)
  - extreme right position = maximum supply of combustion air
  - extreme left position = air supply closed; fire slowly is extinguished.
  - if the flames do not react, or do not react enough, to the change in the secondary air regulation, it may be worthwhile considering installing an external damper on the fireplace
3. Close all windows and doors (after about 50 minutes of burning) and switch off any air consumers such as hoods, fans, etc.
4. Then open the door of the fireplace to check that there is no smoke returning (see also the conditions for installing the fireplace (Section 5.1). If smoke is returning to the room, you can consider adjusting the baffle plates (see Section 5.5).
5. Use a little smoke to check the correct supply and discharge of the convection air.

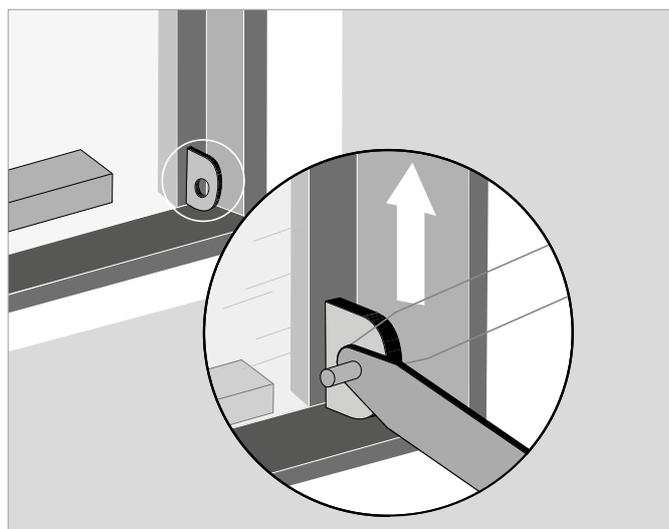


Figure 11: Opening the door to check the return of smoke to the room

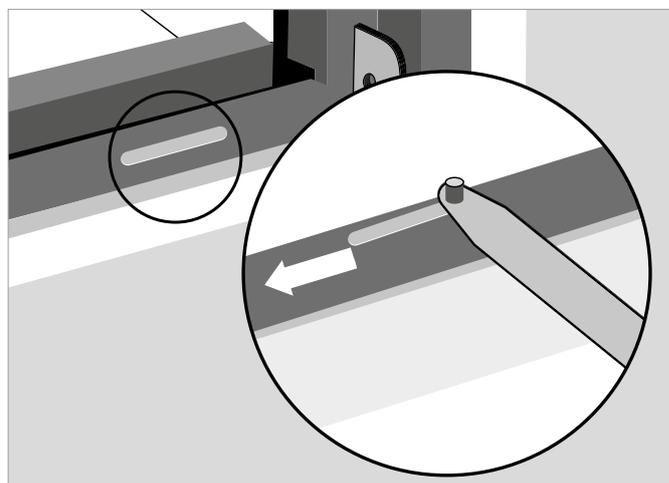


Figure 12: Secondary air regulation

## 5 Installation

**WARNING** Always use adequate personal protective equipment (gloves, safety goggles and work clothing) during installation and maintenance of the fireplace.

### 5.1 Placement

Installation is prohibited in the following situations:

- In stairwells, with the exception of buildings with no more than two residences;
- In entrances that are accessible to everyone;
- In spaces where highly flammable or explosive substances or mixtures are processed, stored or manufactured;
- In rooms or homes that are vented by air conditioning or air heating by fans, with the exception of the following cases where the risk-free functioning of the Kalfire is guaranteed:
  - The installation only circulates air within the room;
  - The installation has reliable safety provisions, so that excess pressure is automatically created in the room with the installed fireplace;
  - The combustion air flow from the fireplace and the volume flows of ventilation installations in the room and in the rooms connected via venting airways create negative pressure that remains below 0.04 mbar.

**Careful!** This situation must also be safeguarded if easily accessible control equipment used for the ventilating installation is moved or removed.

- Fresh air is supplied via the air supply system to operate the flue gas discharge system (e.g. through an open window or a fresh air supply).

#### 5.1.1 Working of combustion air

When the door is closed, the fire extracts the combustion air directly from the connection at the rear (A) or bottom (A'). This combustion air is guided into the combustion chamber via the secondary air regulation (B) and the primary thermostat (C), where it is used as primary or secondary combustion air.

##### Primary combustion air (P)

The thermostat automatically regulates this airflow. With a cold fireplace, the thermostat ensures that the air enters the combustion chamber via the lower spoiler. As the fireplace warms up, the air flow will gradually decrease. After approximately 50 minutes, the fireplace will be so hot that this airflow stops. The primary air regulation is 100% automatic and cannot be influenced.

##### Secondary combustion air (S)

You control this airflow manually by moving the secondary air regulation. This air, which is warmed up via risers to the left and right of the combustion chamber, is guided to the combustion chamber via the upper spoiler.

**CAREFUL!** Never entirely close the secondary air regulation. Without airflow from the secondary air control, the fire can suffocate, causing the fireplace's glass pane to become soiled more quickly.

When the door is open, the air requirement of the fireplace changes. A large volume of air will be sucked in through the large opening at the front. This air will be taken from the room where the fireplace is located.

When the door is open, the built-in fresh air valve ensures that the passage of the air to the combustion chamber is closed from the rear or bottom connection (see figures 14 - 16). Instead, the air is diverted to the convection casing, after which it flows heated into the room.

The air can then be used for the combustion process.

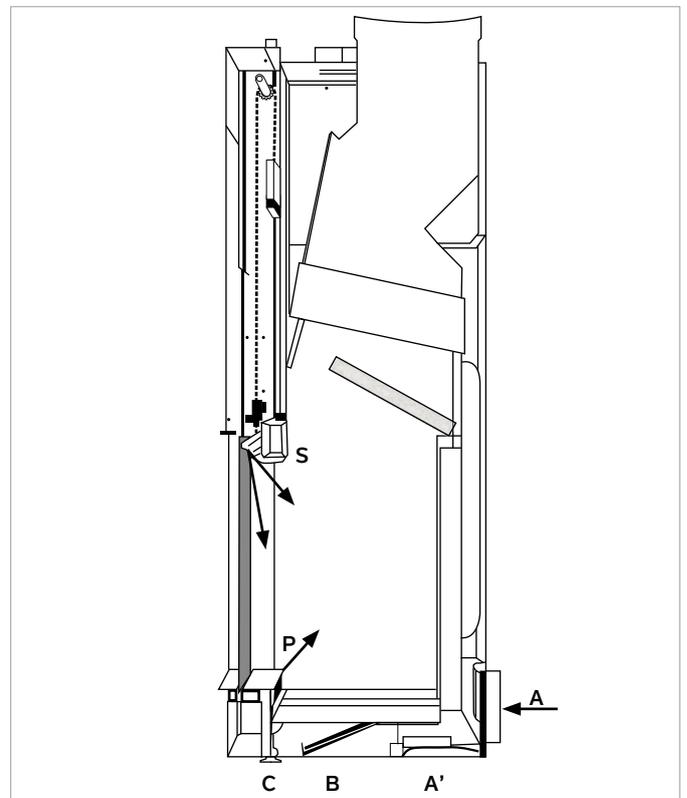


Figure 13: Cross-section of Kalfire W combustion air

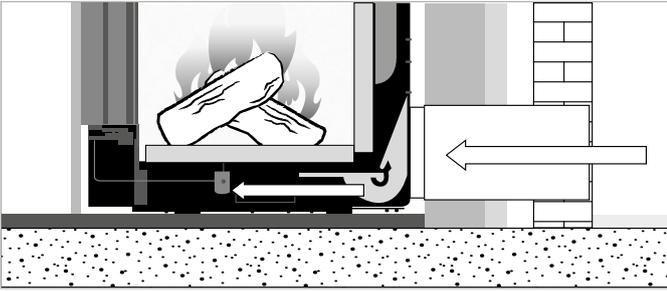


Figure 14: Detail of 'open valve'

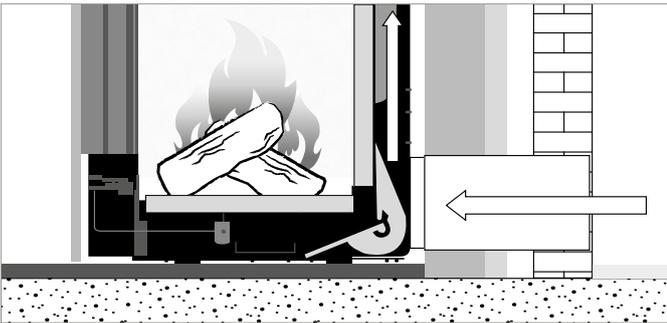


Figure 15: Detail of 'closed valve'

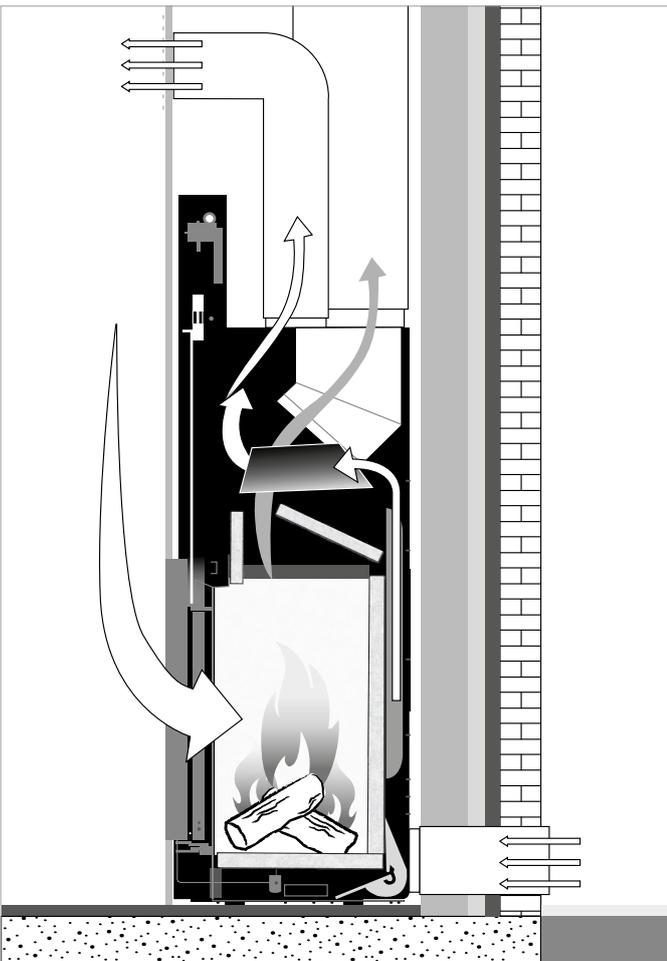


Figure 16: Kalfire W with door opened

## 5.2 Supply of combustion air



### WARNING

- The installation must have enough outside air to ensure problem-free combustion. If lower values are established based on the calculated volume of combustion air, building in the fireplace is for the risk of the Kalfire approved installer.
- If the length of the fresh air supply is more than 2 metres, there is a risk that the fire will not get enough fresh air for proper combustion.
- The use of flexible hoses to connect the fresh air is permitted up to a maximum of 1 metre.

The fireplace has a built-in fresh air valve. In normal situations, no additional air valve is required. In situations where the side gable is subjected to frequent high winds or where there are large indoor/outdoor pressure differences, it is advisable to mount an extra air valve. In that case the valve must be clearly marked to indicate the open and closed position. Inform the user about the function and operation of the valve(s).



### WARNING

- Some air valve manufacturers utilise plastic sleeves. Mount these outside the heat radiation range of the fireplace.
- Take care that the fresh air actually is outside air. For example, if the combustion air originates from a cellar, this cellar must have sufficient air vents to ensure that any extracted air is replaced by fresh, outside air.
- Ensure that the gratings are placed so that they cannot become blocked

### 5.2.1 Base or rear fresh air connection(s)

The fresh air connection is situated on the side or underside of corner fireplaces. The fresh air connection cannot be relocated to the rear.

Front and tunnel fireplaces, 3-sided fireplaces and the room divider standardly have the fresh air connection at the rear, this can be relocated to the underside:

1. Demount the connecting collar at the rear of the fireplace.
2. Demount the cover plate at the base of the fireplace and fit it at the rear at the site of the connecting collar.
3. Mount the connecting collar onto the base of the fireplace at the site of the cover plate.

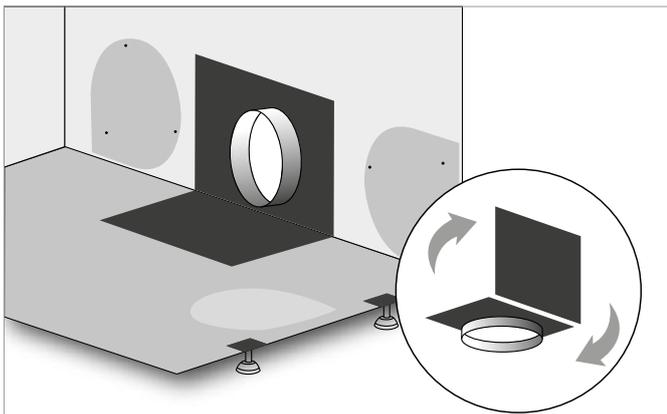


Figure 17: Moving the fresh air connection

### 5.2.2 Fresh air connection without connecting collar (front models)

If there is not enough space for the connecting collar, you can disassemble it and connect the air structurally. You will position the fireplace against or on a fresh air opening. Use a ceramic cord to seal off the transition between the fireplace and the constructed opening (optionally available).

#### Examples:

- The fireplace is positioned against an opening to a cellar.
- The fireplace is positioned against an outside wall, which has an opening to the outside air.

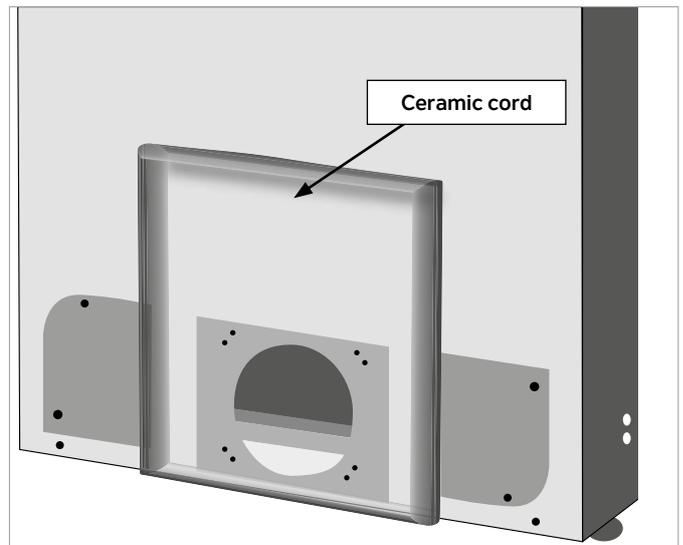


Figure 18: Fresh air connection without connecting collar

#### Kalfire W connection set (optional)

- A ceramic cord to fill gaps of a maximum 2 cm.
- Metal strips for attaching the cord to the fireplace.

### 5.2.3 Alternative fresh air intake(s) Kalfire W53/50R

The Kalfire W53/50R has a standard fresh air intake with a diameter of Ø180 mm at the back of the fireplace. This fresh air intake can be replaced by two intakes of Ø150 mm, by using an optional "Airbox 2 x Ø150 mm". Using this Airbox will not affect the burning capacity. In some cases it may simplify the installation. You need to order the Airbox 2 x Ø150 mm separately, with the fireplace.



**PLEASE NOTE!** The Airbox 2 x Ø 150 mm cannot be converted to the bottom of the unit. After the Airbox 2 x Ø 150 mm has been fitted, the total installation depth of the fireplace will increase by 21 mm.

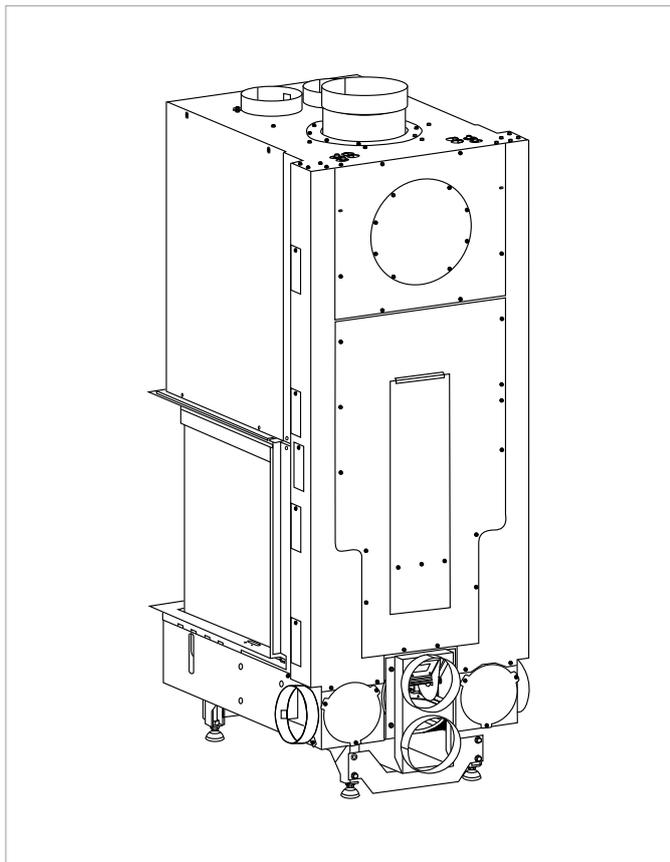


Figure 19. Kalfire W53/50R with Airbox 2 x Ø150 mm

### 5.3 Supply of convection air

There is a convection casing around the fireplace, which pleasantly and efficiently heats the room continuously. For optimal operation, you need a convection set. This (optional) convection set consists of:

#### Kalfire W45/48F and W60/51F

- 4 aluminium hoses Ø150 mm 1.25 m: two 2.5-m hoses that are divided into 4 hoses.
- 8 clamping strips
- 4 grills: outer dimensions 20 cm × 20 cm, recess dimensions 16.5 cm × 16.5 cm, with 2 connecting collars Ø150 mm.
- Mantel iron: this must be sawn to the correct size.
- Felt roll for creating an expansion joint between the metal of the mantle iron and the casing.

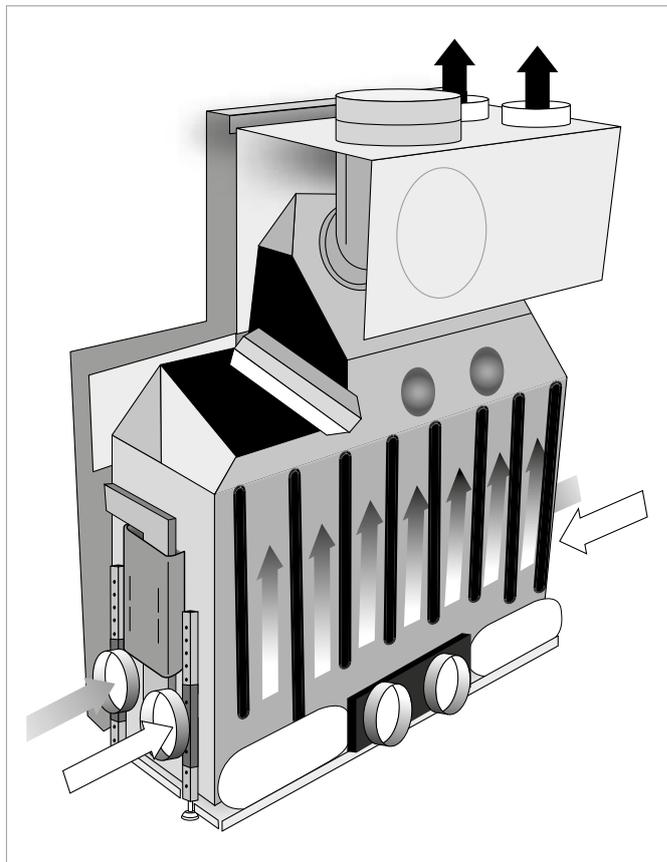


Figure 20: Convection casing operation

#### Kalfire W70/33F, W71/62F, W85/40F, W100/61F and W105/47F

- 8 aluminium hoses Ø150 mm 4 × 1.25 m long and 4 × 0.62 m. (2 hoses of 2.5 m to be divided into 4 hoses and 1 hose of 2.5 m to be divided in).
- 16 clamping strips.
- 4 grills: outer dimensions 35 cm × 20 cm, recess dimensions 33 cm × 16.5 cm, with 2 connecting collars Ø150 mm.
- Mantel iron: this must be sawn to the correct size.
- Roll of felt for making an expansion joint between the metal of the mantle iron and the casing.

#### Kalfire W65/38C

- 2 aluminium hoses Ø150 mm 1.25 m: one 2.5-m hose to be divided into 2 hoses.
- 4 clamping strips.
- 2 grills: outer dimensions 20 cm × 20 cm, reserve dimensions 16.5 cm × 16.5 cm, with connecting collar Ø150 mm.

The mantle iron (including accessories) for the right and left Kalfire W65 corner fireplace must be ordered separately.

#### Kalfire W90/47C

- 4 aluminium hoses Ø150 mm 1.25 m: two 2.5-m hoses to be divided into 4 hoses.
- 8 clamping strips.
- 4 grills: outer dimensions 20 cm × 20 cm, reserve dimensions 16.5 cm × 16.5 cm, with connecting collar Ø150 mm.

**Kalfire W66/48S, W53/50R and W80/52T**

- 2 aluminium hoses Ø150 mm 1.25 m: two 2.5-m hoses to be divided into 4 hoses.
- 8 clamping strips.
- 4 grills: outer dimensions 20 cm × 20 cm, reserve dimensions 16.5 cm × 16.5 cm, with connecting collar Ø150 mm.

The mantle iron (including accessories) for the Kalfire W66/48S and W90/47C models must be ordered separately.

**Kalfire W90/47S**

- 2 aluminium hoses Ø150 mm 1.25 m: one 2.5-m hose to be divided into 2 hoses.
- 4 clamping strips.
- 2 grills: outer dimensions 20 cm × 20 cm, reserve dimensions 16.5 cm × 16.5 cm, with connecting collar Ø150 mm.
- 2 grills: outer dimensions 35 cm × 20 cm, reserve dimensions 33 cm × 16.5 cm, with connecting collar Ø150 mm.

The mantle iron (including accessories) for the Kalfire W90/47S model must be ordered separately.

**Kalfire W105/47T**

- 8 aluminium hoses Ø150 mm 4 × 1.25-m long and 4 × 0.62 m. (2 hoses of 2.5 m to be divided into 4 hoses and 1 hose of 2.5 m to be divided into 4 hoses).
- 16 clamping strips.
- 4 grills: outer dimensions 35 cm × 20 cm, reserve dimensions 33 cm × 16.5 cm, with 2 connecting collars Ø150 mm.
- Mantel iron: this must be sawn to the correct size.
- Felt roll to create an expansion joint between the metal of the mantle iron and the surround.

The convection set can be ordered separately from Kalfire. Instead of a grating, openings (e.g. recessed plinths) can be used. Do not reduce the convection openings

Place all grills/openings, top and bottom, to initiate natural circulation. The grills/openings must be in the same room as the fireplace.

**Working method when using convection grills**

Ensure that, at the base, there is sufficient supply for the cold convection air from the room. At the top, connect the grills to the outlet openings of the warm convection air (see Table 2).

Kalfire type	W45/48F W53/50R W60/51F W65/38C W66/48S W80/52T W90/47S	W71/62F W85/40F W90/47C W70/33F W100/61F W105/47F W105/47T
Inlet of convection air	2 × Ø150 mm	4 × Ø150 mm
	355 cm <sup>2</sup>	705 cm <sup>2</sup>
Outlet of convection air	2 × Ø150 mm	4 × Ø150 mm
	355 cm <sup>2</sup>	705 cm <sup>2</sup>

Table 2: Throughput openings for convection air

 **CAREFUL!** Place the gratings so that the flow is maintained and cannot become clogged.

### Use of openings

If you do not want to use grills, openings at the top and base of the surround (chimney breast) are also sufficient. For throughput openings, see Table 2. These openings serve the same function as the gratings and supply and extract the convection air. We advise you to place tubes or hoses onto the outlet openings. This makes the convection system (just a little) more powerful and the heat is guided more easily to the openings.

**WARNING** If you do not use the recommended convection set, the Kalfire may be damaged by overheating and the room may experience strong discolouration. There is always a risk of discolouration, but this risk can be considerably reduced, by correctly ventilating the room.

**DANGER!** Mount the grills at a distance of at least 30 cm from the ceiling or wall. Ensure there are no flammable materials closer than 30 cm next to and 50 cm above the gratings.

### 5.4 Flue connection

Calculate the flue duct using the calculation values of the chimney calculation. A chimney calculation is made for the roof pass-through and the wall pass-through. The chimney calculation is suitable for the Kalfire W. Kalfire cannot guarantee the proper functioning of the fireplace if your configuration does not comply with the chimney calculation.

**CAREFUL!** Many elbows and/or horizontally-mounted components of the flue duct can create substantial resistance.

Connecting the fireplace to the existing chimney. The operational height of the flue must be at least 4.5 metres (draught 12 Pa), calculated from the point where the flue duct is installed on the fireplace.

**WARNING** Take local legislation and environmental factors into account.

Kalfire type	Firebox (mm) Width/height	Firebox (cm <sup>2</sup> )	Minimum fresh air supply	Flue Ø (mm)
W45/48F	415/ 454	1884	1× Ø150 mm	150
W53/50R	480/340 530/340 (2×)	4556	1× Ø180 mm	200
W60/51F	545/ 470	2560	1× Ø150 mm	180
W65/38C	610/ 374 333/ 374	3527	2× Ø150 mm	180/200
W66/48S	620/ 475 355/ 475 (2×)	4631	2× Ø150 mm	200
W70/33F	305/ 665	2028	2 × Ø150 mm	180
W71/62F	655/ 580	3800	2× Ø150 mm	250
W80/52T	747/ 485(2×)	3625 (2×)	2× Ø150 mm	200
W85/40F	795/ 360	2860	2× Ø150. mm	200
W90/47C	870/ 460 390/ 460	5796	2× Ø150 mm	250
W90/47S	870/ 460 390/ 460 (2×)	7590	2× Ø150 mm	250/300
W100/61F	570/ 926	5278	2× Ø150 mm	250
W105/47F	995/ 440	4380	2× Ø150 mm	250
W105/47T	995/ 440 (2×)	4380 (2×)	2× Ø150 mm	250

Table 3: Chimney/flue diameter and firebox per model

If you do not want to use the flue diameters listed in **Table 3**, you can use the formula below to calculate a potentially smaller diameter.

$F_{sch} = \frac{F_{so} \times e}{\sqrt{H_{sch}}}$	Fsch	Flue section in cm <sup>2</sup>
	Fso	Surface of firebox in cm <sup>2</sup>
	Hsch	Height of flue in metres measured from the upper side of the Kalfire. Influence factor between 0.2 and 0.6 determined by the flue quality:
	e	0.2 with a perfect flue, straight above the Kalfire; 0.6 with connection less than 45°.

**Permitted reduction:**

- Flue Ø150 ➔ Reduction not allowed.
- Flue Ø180 ➔ Maximum reduction of 30 mm. Reduction not allowed for the Kalfire W65/38C.
- Flue Ø200 ➔ Maximum reduction of 20 mm. Reduction not allowed for the Kalfire W53/50R, W66/48S and W80/52T.
- Flue Ø250 ➔ Maximum reduction of 50 mm.

**WARNING** After reducing the flue, it is no longer possible to use the models suitable for this as an open fireplace (Kalfire W60/51F, W71/62F, W85/40F) Reduction is permitted immediately behind the damper/connecting collar, but not any deeper into the flue. In case of doubt, always use the connection diameter indicated on the fireplace.

- Avoid horizontal runs; one extension may be placed with adjustable elbows with a maximum change of direction of 45°. Apply it directly to the appliance.
- Kalfire advises you to insulate the flue; this will reduce the risk of the smoke condensing and will improve the draught. Use the Kalfire stainless steel double-walled flue duct for this purpose.
- Kalfire advises you not to use larger flue diameters than the connection present on the Kalfire. Using a larger flue diameter can result in the following problems:
  - Too fast and uncontrolled combustion
  - Irregular flames;
  - Reduced heat output.
- Use a draught hood if there is a flue with a (too) strong draught that can cause quick, uncontrolled combustion and irregular flames.
- Use of different flue diameters to those indicated, is entirely for the risk of the installer; when the door is opened, smoke may escape back into the room or it may be more difficult to ignite the fireplace.
- Take factors in the surrounding environment into account that could cause a strong draught in the flue. For example, frequent high winds, which require a damper to be mounted.
- Pay attention that it is also possible to sweep the chimney in the connection piece.

### 5.4.1 Rear connection (Kalfire W45/48F, W60/51F, W70/33F, W71/62F, W85/40F, W100/61F, W105/47F)

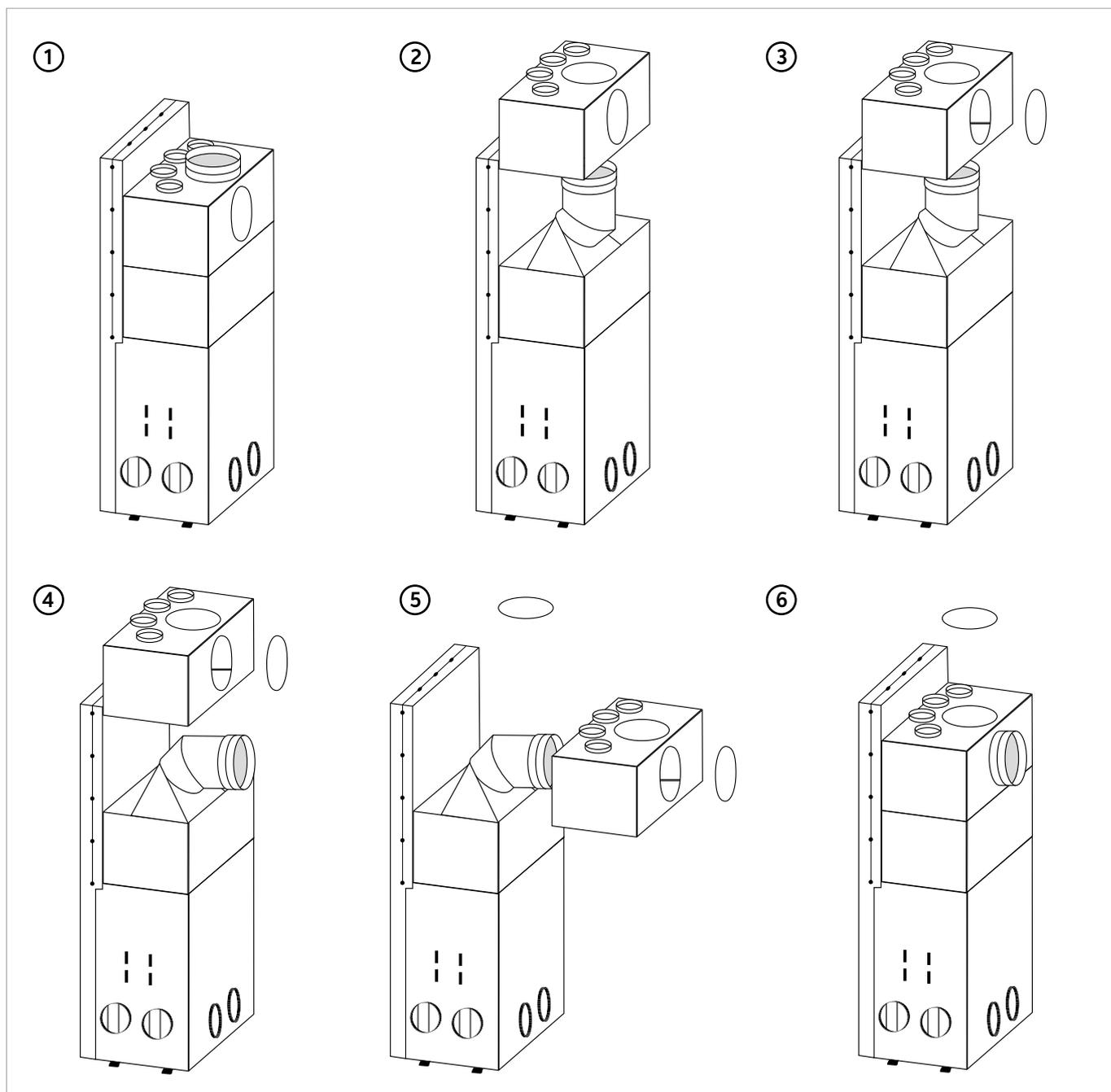


Figure 21: Converting a top flue connection into a rear flue connection (6 steps)

The Kalfire W front fireplace is standardly delivered with the flue exit connection on the top of the appliance. This can be converted into a rear connection.

1. Demount the upper part of the convection casing.
2. The connection piece is now visible, and the four bolts can be unscrewed.
3. Turn the connecting piece 180°.
4. Press the punched cover out of the convection casing; this cover is used to close off the upper connection.

5. Mount the upper part back onto the fireplace.
6. Place the cover onto the opening on the top.
7. Continue with the connection of the fireplace.

#### Points for attention:

- Make sure that all the horizontal parts of the rear connection can be reached for cleaning.
- The horizontal part may be a maximum 50 cm.

### 5.4.2 Rear flue connection of Kalfire W53/50R

The Kalfire W53/50R is standardly delivered with the flue exit connection on the top of the appliance. This can be converted into a rear connection, see Appendix F.

### 5.4.3 Reducer ring

This fireplace is standardly delivered with a reducer ring (excepting the Kalfire W53/50R) This ring can be used to connect various flue systems to the Kalfire.

Kalfire type	Connecting collar (mm)	A (mm)	B (mm)	C (mm)
W45/48F	Ø148 ±2	Ø156 ±1	Ø136 ±1	Ø152 ±1
W60/51F, W70/33F, W65/38C	Ø178 ±2	Ø186 ±1	Ø166 ±1	Ø182 ±1
W85/40F, W66/48S, W80/52T, W53/50R	Ø198 ±2	Ø206 ±1	Ø186 ±1	Ø202 ±1
W53/50R, W71/62F, W90/47C, W90/47S, W100/61F, W105/47F, W105/47T	Ø248. ±2	Ø256 ±1	Ø236 ±1	Ø248. ±1

Table 4: Diameter of chimney connecting collar

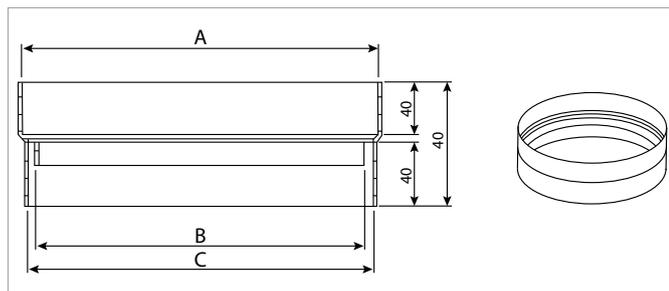


Figure 22: Reducer ring

An adapter ring is supplied with the Kalfire W65/38C and the W90/47S models; this ring is slid onto the reducer ring. The adapter ring for the Kalfire W65/38C is Ø180/ Ø200, the reducer ring for the Kalfire W90/47S is Ø250/ Ø300. When choosing the flue duct, bear in mind:

#### Kalfire W65/38C

Connection to a Ø200 flue duct is only possible with a chimney duct of minimum 4.5 metres and maximum 6 metres long

#### Kalfire W90/47S

Connection to a Ø300 flue duct is only possible with a chimney duct of a minimum 4.5 metres and a maximum 6 metres long.

### 5.5 Mounting the damper (optional)

The fireplace is standardly delivered without a damper. An external damper can be used to influence the draught (suction) in the flue. If there is too much suction in the flue, we advise you to use a damper. You can test whether a damper is necessary while checking the fireplace. Pay extra attention to this aspect, if the flue is longer than 7 metres. Normally, the fireplace can be controlled well using the secondary air regulation.

#### Points for attention:

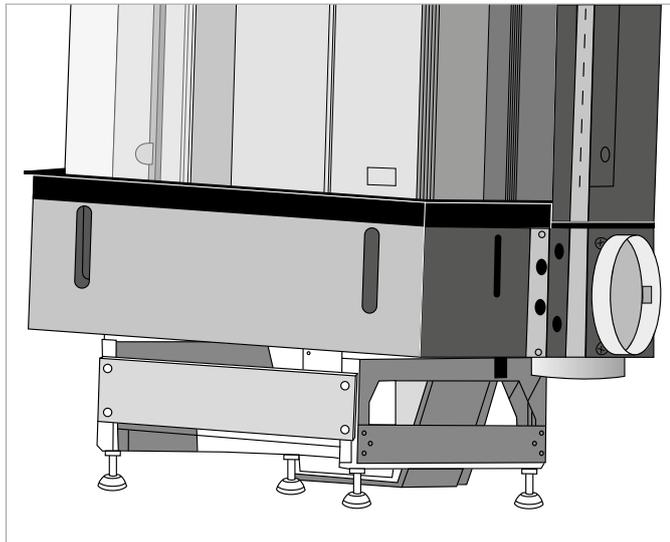
- Make sure that the position of the damper is visible for the end user. For this purpose, most of the operating knobs have a position indication (Open = Auf or +, Closed = Zu or -).
- Check the functioning of the damper before completing the installation of the fireplace.
- Make sure that the end user is familiar with how the damper functions.

## 5.6 Adjusting the fireplace

The fireplace is placed on adjustable feet.

### Adjusting the feet

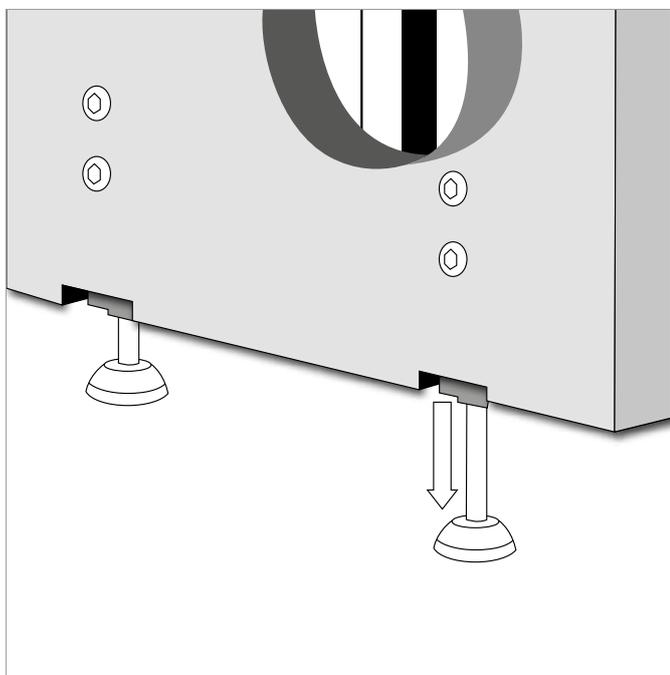
Kalfire corner and 3-sided fireplaces and the room divider.



### Fine adjustment

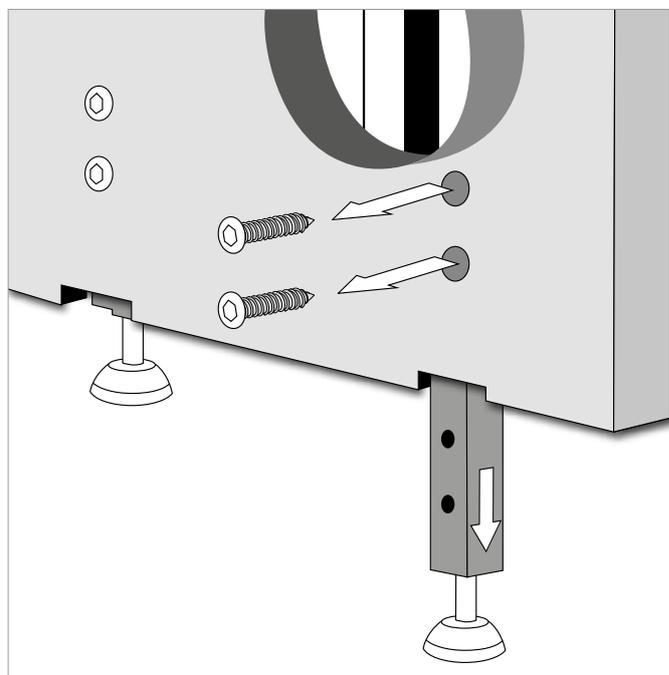
Screw the adjustment foot bolt to set the precise height. Range 3 cm. Use this method to set the fireplace perfectly level.

### Kalfire front and tunnel fireplaces



### Rough adjustment

Unscrew the two bolts and roughly set the height. Range 38 cm. Do not forget to replace the two bolts.



### Fine adjustment

Screw the adjustment foot bolt to set the precise height. Range 3 cm. Use this method to set the fireplace perfectly level.

## 5.6.1 Practical connection examples: combustion air and convection

### Situation 1 - Recommended situation

The combustion air is connected directly to the fireplace from outside. The outside air is not in contact with the room in which the fireplace is installed or with the chimney breast. The convection system is also connected directly to the fireplace. There are no open connections between the interior of the chimney breast and the room in which the fireplace is installed.

### Situation 2

The combustion air is connected directly to the fireplace from outside. The outside air is not in contact with the room the fireplace is installed in or with the chimney breast. The convection system is only in contact to the room in which the fireplace is installed.

### Situation 3

The combustion air cannot be connected directly to the fireplace; this air must be taken from the room the fireplace is installed in. This mainly occurs in an existing situation, in which the combustion air can only be taken from the room the appliance is in. The convection system must then be physically separated from the combustion air; connect the lower and upper convection gratings directly to the appliance. The combustion air reaches the fireplace through extra openings in the chimney breast. See the Technical Data (Table 4) for the throughput of these openings. The convection connections at the top of the fireplace must be connected at all times.

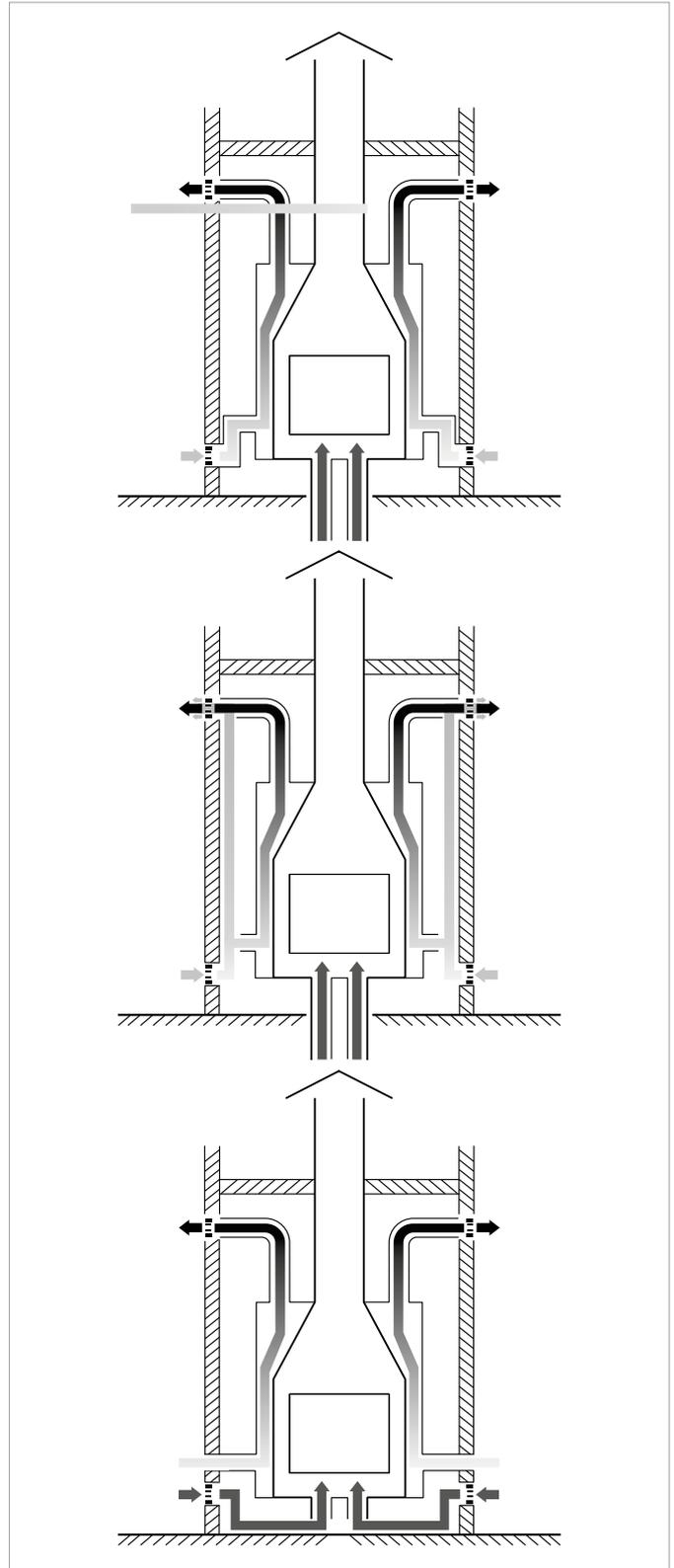


Figure 23: From top to bottom, situations 1, 2 and 3.

## 5.7 Baffle plates

The fireplaces are equipped with one or more removable baffle plates, with which flue gases are monitored. These baffle plates are situated above the smoke hood just below the heat exchanger. With the larger models, the baffle plate consists of several parts. The baffle plates ensure optimal combustion. In the following situations, it may be necessary to decrease the size of the baffle plates:

- Smoke is returning to room;
- Poor exhaust of the flue gasses;
- Condensation in the flue duct.

Whether you completely remove the baffle plates depends on the situation. In any case, this applies when the fireplace is used with an open door.

**WARNING** Always use adequate personal protective equipment (gloves, safety goggles and work clothing) during installation and maintenance of the fireplace.

**CAREFUL!** When reducing a baffle plate, do not cut away too much. The plate must still be able to rest on the support bracket.

### Kalfire W45/48F, Kalfire W70/33F and W105/47F

1. Remove the baffle plate and see if this solves the problem. If the problem still occurs, then something else is the cause. If removing the plate solves the problem, proceed with the next step.
2. Use a saw or knife to cut away a 1-cm wide strip at the front of the baffle plate.

**CAREFUL!** A maximum of 6 cm can be removed from the baffle plate.

3. It may be necessary to remove the baffle plate entirely.

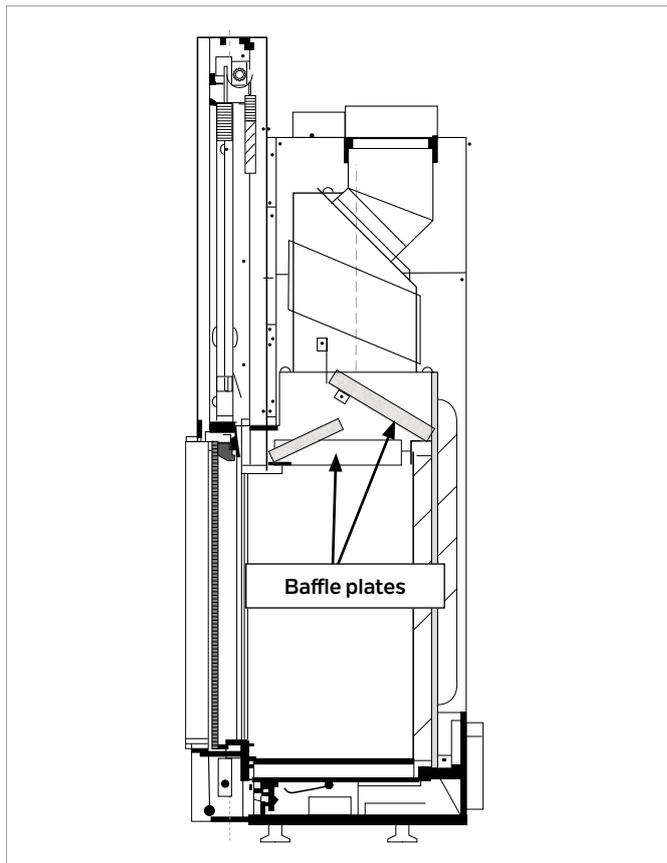


Figure 24: W45/48F

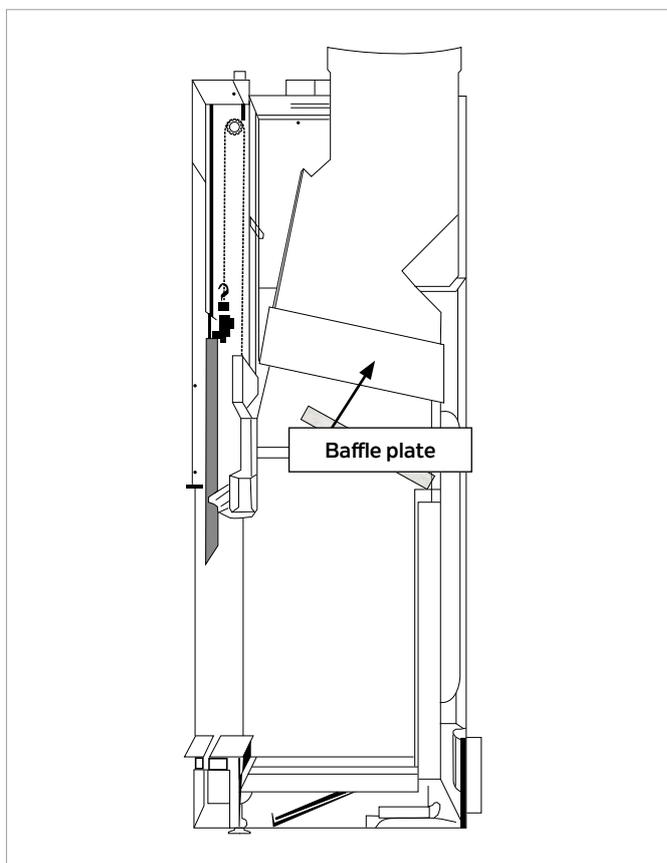


Figure 25: W70/33F and W105/47F

**Kalfire W60/51F, W71/62F and W85/40F**

**WARNING** If the Kalfire W60/51F, W71/62F or W85/40F models are lit while open, all baffle plates must be removed.

1. Remove the baffle plate and see if this solves the problem. If the problem still occurs, then something else is the cause. If removing the plate solves the problem, proceed with the next step.
2. Use a saw or knife to cut away a 1-cm wide strip at the front of the baffle plate.

**CAREFUL!** A maximum of 6 cm can be removed from the baffle plate.

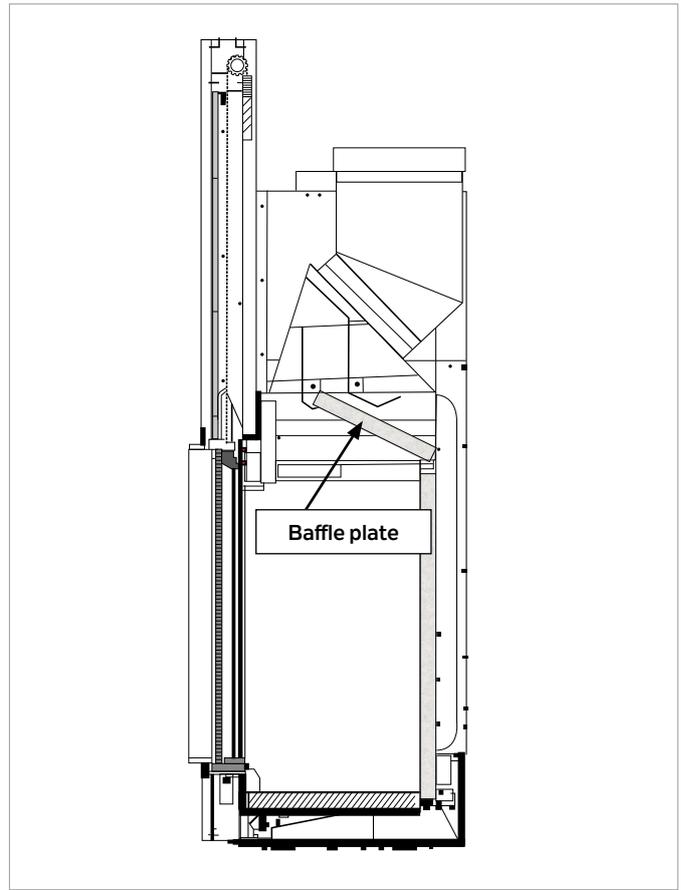


Figure 26: W60/51F, W71/62F and W85/40F

**Kalfire W100/61F**

1. Remove the baffle plate and see if this solves the problem. If the problem still occurs, then something else is the cause. If removing the plate solves the problem, proceed with the next step.
2. Use a saw or knife to cut away a 1 cm wide strip at the front of the baffle plate.

**CAREFUL!** A maximum of 6 cm can be removed from the baffle plate.

3. When used as an open fireplace, the baffle plates should be removed completely.

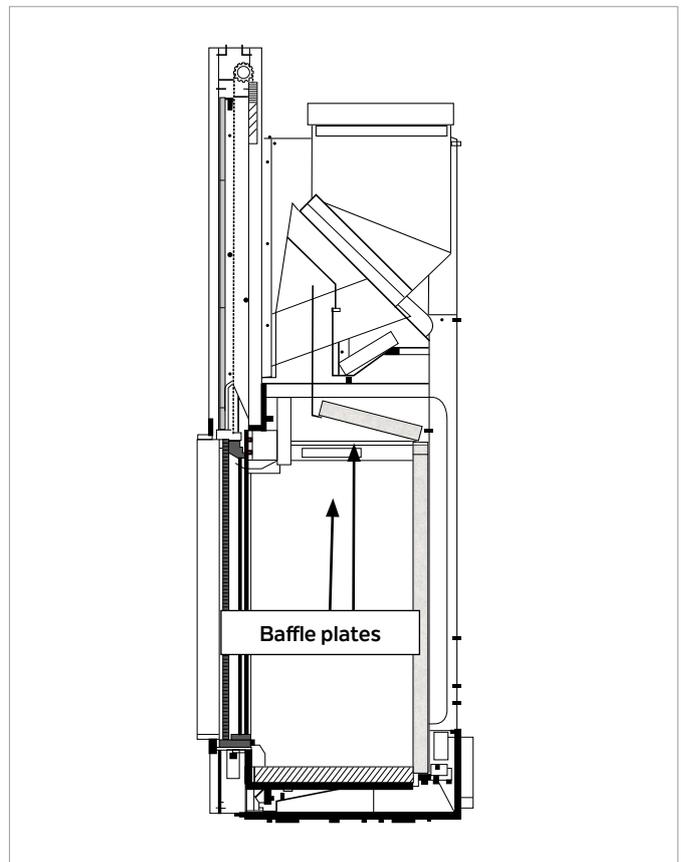


Figure 27: W100/61F

### Kalfire W53/50R, W65/38C, W90/47C, W66/48S and W90/47S

1. Remove the baffle plate and see if this solves the problem. If the problem still occurs, remove the upper baffle plate. If the problem still occurs, then something else is the cause. If removing the plate solves the problem, proceed with the next step.
2. Use a saw to cut away a 3-cm wide strip at the front and the rear of the baffle plate. If necessary, do this for both baffle plates.

A 3-sided and a corner fireplace is always a more sensitive product than a fireplace with a door at the front. Particularly when used with an open door. When the Kalfire W53/50R, W65/38C, W90/47S, W66/48C or W90/47S is used as an open fireplace, some smoke may flow back into the room. Even if both baffle plates have been removed. This may have a number of causes:

- Insufficient pull in the chimney duct.
- The air flow patterns in the room where the 3-sided fireplace has been installed.
- Too low ignition temperature.



**CAREFUL!** The Kalfire W53/50R is not suitable to be used as an open fireplace. Only open the door of the firebox if strictly necessary (e.g. to add logs)

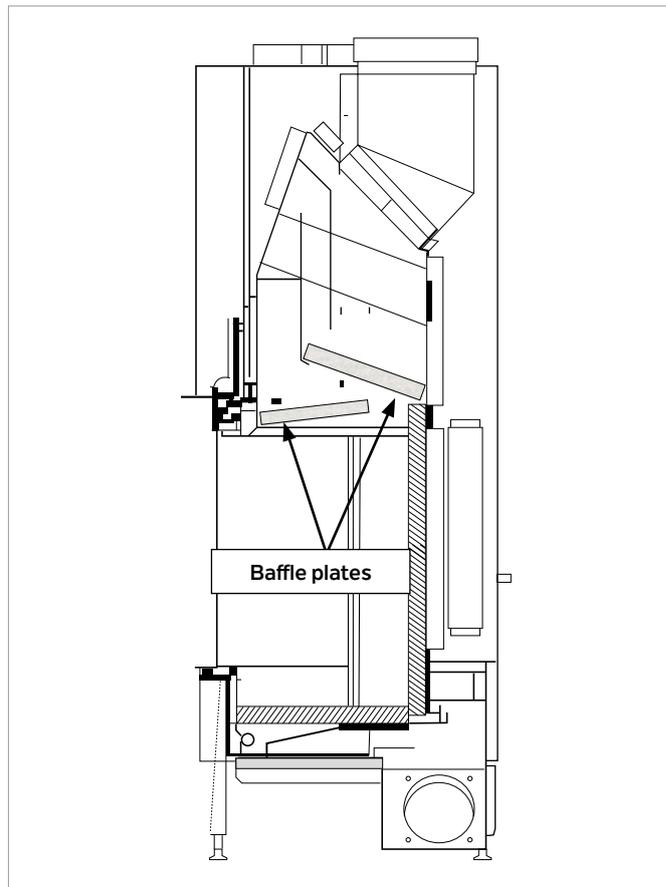


Figure 28: W53/50R, W65/38C, W90/47C, W66/48S, W90/47S

### Kalfire W80/52T and W105/47T

1. First remove all baffle plates (6 pieces). If this solves the problem, it is a good idea to adjust the baffle plates. Proceed with step 2 and/or 3. If the situation remains unchanged, the appliance is not the cause of the problem, so there is no point in adjusting the baffle plates, replace them in the fireplace.
2. To begin, cut a strip approximately 1 cm wide at the front of the baffle plate using a saw, and check whether this provides sufficient results. If the result is insufficient, you can once again cut off a strip and repeat this until the desired result is achieved.



**CAREFUL!** Take care that the plates are still able to rest on the supports.

3. In certain situations, it may be necessary to remove the baffle plate entirely.



**CAREFUL!** The Kalfire W80/52T and W105/47T are not suitable to be used as an open fireplace. Only open the door of the firebox if strictly necessary (e.g. to add logs).

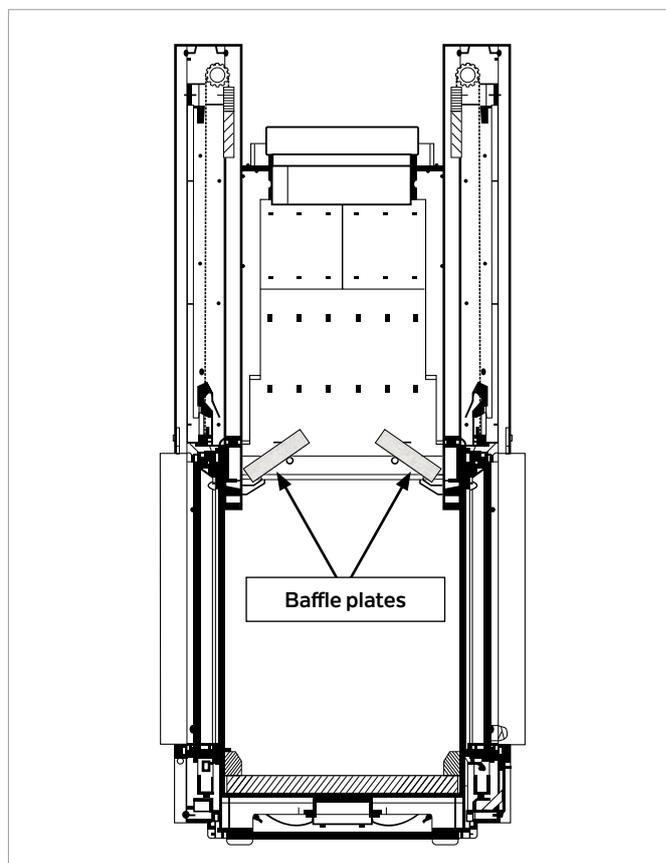


Figure 29: W80/52T and W105/47T

## 5.8 Fireplace testing

Test the fireplace by lighting it (see Chapter 5 'Lighting the fireplace') and check the operation of the flue before finishing the surround.

**! CAREFUL!** When the newly-installed fireplace burns for the first time, the enamel can emit a smell. This smell will disappear naturally after a few hours, once the enamel has completely hardened.

## 5.9 Placing and finishing the fireplace surround

To create the surround around the fireplace, materials with the following characteristics can be used:

- Resistant to high temperatures, minimum 700 °C.
- Free from materials that can cause fumes and odour nuisance.
- Dimensionally stable, even after lengthy exposure to high temperatures.

Keep in mind the following:

1. The surround must have no direct connection to the fireplace; it must be self-supporting.
2. Seal the joints between the fireplace and the surround, using heat-resistant glass fibre or ceramic cord.
3. Use a mantel iron for easy and stable mounting of the span above the door of the fireplace.

### Side panel finish

**! WARNING** Never attach this mantel iron to the actual fireplace, but to the side of the surround or use tie rods to attach it to the ceiling or wall.

4. Ensure that the thickness of the surround above the door of the fireplace does not exceed 11 cm. Otherwise, the fireplace will be too deeply recessed and it will be difficult to operate and/or clean the door.
5. Finish the surround using materials that do not contain any plastic substances. High temperatures may cause plastic to discolour.
6. Before completely closing off the surround, ensure that the inside is clean and free of dust. Preferably use a vacuum cleaner to clean the inside of the surround. If you fail to do this, dust particles may cause problems with the air flow of the convection system.
7. The fireplace is surrounded by a metal strip which facilitates the join between the surround and the fireplace. These metal strips can be hidden from view on the front; all the lines of the surround then merge into the finishing strips. The side strips can be demounted inwards, so the guide can be accessed in the event of maintenance.

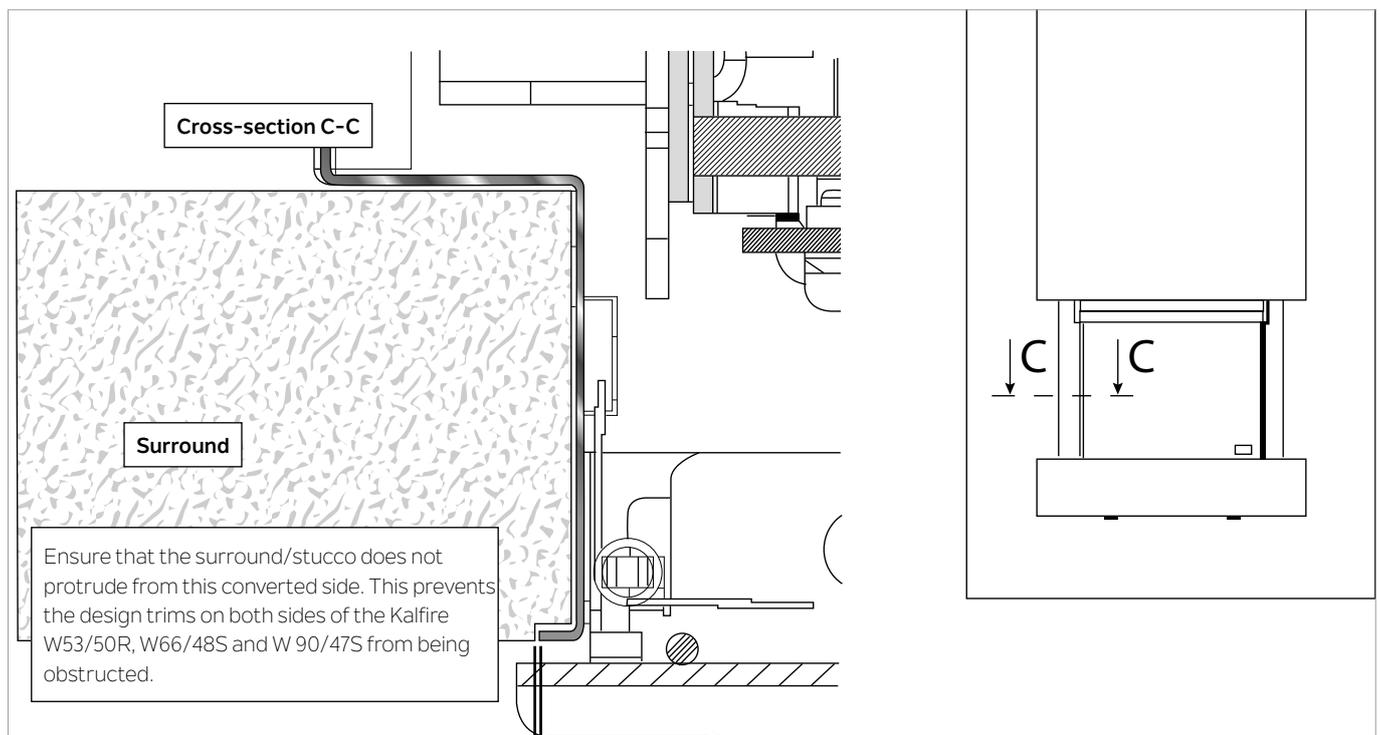


Figure 30: Side panel finish

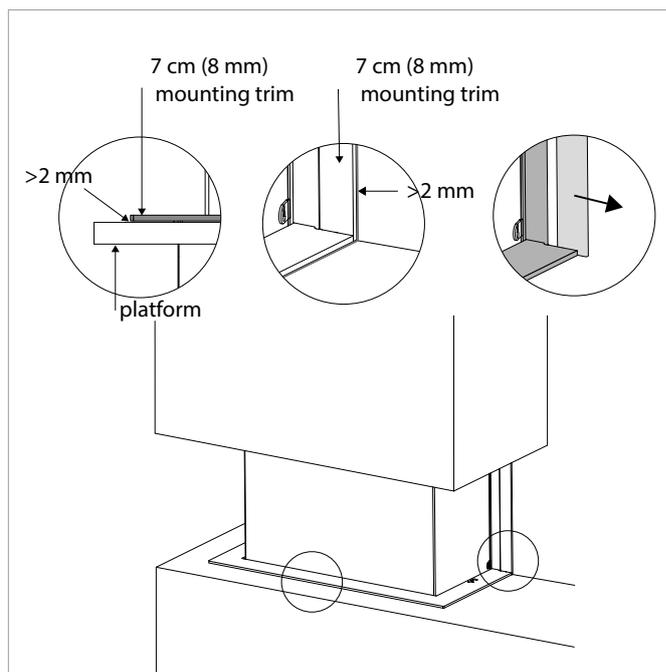
### 5.10 Finishing the Kalfire corner, 3-sided and room divider models

The surround of the Kalfire corner, 3-sided and room divider models must be at least 2 mm free from the mounting trim and from the horizontal trim (corner and 3-sided models) located above the door.

**⚠ CAREFUL!** The platform must not touch the mounting trim, let 2 mm between the plateau and the trim.

### 5.11 Finishing the Kalfire corner, 3-sided and room divider models with a 7 cm (8 mm) mounting trim

The finishing of a corner, 3-sided or room divider model with a 7 cm (8 mm) mounting trim, may not be built directly against the mounting trim. The mounting trim must always be placed on (lower part of the trim) or in front (the vertical part(s) of the trim) of the finishing surround. There must always be at least 2 mm between the mounting trim and the surround, as the fireplace will expand during operation. To remove the trim (for service purposes) the vertical part(s) of the mounting trim situated next to the vertical flap can be pushed aside.



Kalfire type	W45/48F	W53/50R	W60/51F	W70/33F	W71/62F	W85/40F	W100/61F	W105/47F
Type of plate	P8-2018-0071	P8-020-2018	P8-003-2015	P8-017-2015	P8-025-2011	P8-001-2015	P8-066-2010	P8-019-2015
Inspection body	2013	1004	1004	1004	1004	1004	1004	1004
Standard	EN13229 A2	EN13229 A2	EN13229 A2	EN13229 A2	EN13229 A2	EN13229 A2	EN13229 A2	EN13229 A2
Output (kW)	9.2	6.5-13	6.6-13.2	6-12	8-16.0	7.4-14.8	8.8-17.6	8.8-17.6
Flue gas mass flow (g/s)	x	14.04	11.3	10.3	12.7	13.2	17.34	15.9
Heat output (%)	84	80%	81	80	83	81	80	81
Flue gas temperature (°C)	238	230	260	282	302	257	255	245
CO at 13%O2 (%)	0.073	0.09	0.08	0.09	0.1	0.06	0.09	0.08
CO2 content (%)	10.831	8.09	10.1	10.5	10.6	9.72	8.8	9.46
Dust content at 13%O2 (mg/nm <sup>3</sup> )	22	33	13	34	11	17	22	11
NOx at 13%O2 (mg/nm <sup>3</sup> )	47	99.55	119	87	113	80.7	116	118
CnHm at 13%O2 (mg/nm <sup>3</sup> )	75	60	58	74	61	25.6	90	60
Min. flue draught (Pa)	12	12	12	11	12	11.6	13	12
Insulation: side panel (cm)	5	5	10	10	10	10	5	5
Insulation according to AGI Q 132 (Table 1, page 4) Rear panel (cm)	5	10	10	10	10	10	5	5
Base insulation (cm)	0	0	0	0	0	0	0	0
Roof insulation (cm)	9	9	9	9	9	9	9	9
Flue exit connection (mm)	∅150	200	∅180	∅180	∅250	∅200	∅250	∅250
Combustion air connection (mm)	1 × ∅150 mm	1x180	1 × ∅150 mm	2 × ∅150 mm				

Kalfire type	W45/48F	W53/50R	W60/51F	W70/33F	W71/62F	W85/40F	W100/61F	W105/47F
Convection connection inlet (mm)	2× Ø150 mm	2x150	2× Ø150	4× Ø150	4× Ø150	4× Ø150	4× Ø150	4× Ø150
Convection connection outlet (mm)	2× Ø150	2 x 150	2× Ø150	4× Ø150	4× Ø150	4× Ø150	4× Ø150	4× Ø150
Weight (kg)	180	327	226	210	271	257	430	328

Table 5a: Kalfire W Technical Data

Kalfire type	W65/38C	W90/47C	W66/48S	W90/47S	W80/52T	W105/47T
Type of plate	P8-020-2014	P8-048-2010	P8-054-2015	P8-004-2013	P8-070-2015	P8-007-2010
Inspection body	1004	1004	1004	1004	1004	1004
Standard	EN13229 A2					
Output (kW)	6.5-13	7.5-14.9	6.7-13.3	9.0-18	8.4-16.8	8,8-17,6
Flue gas mass flow (g/s)	10.2	14.95	13.04	15.5	15.8	20.87
Heat output (%)	82	80	80	82	80	78
Flue gas temperature (°C)	257	241	247	248	262	277
CO at 13%O2 (%)	0,1	0.10	0.07	0,1	0,09	0.10
CO2 content (%)	10.8	8.6	8.8	9.9	9.3	7.4
Dust content at 13%O2 (mg/nm <sup>3</sup> )	35	20	10	30	12.8	25
NOx at 13%O2 (mg/nm <sup>3</sup> )	94	138	111	112	119	150
CnHm at 13%O2 (mg/nm <sup>3</sup> )	82	93	49	78	65	110
Min. chimney draft (Pa)	13	13	12	12	12	11
Insulation: Side panel (cm)	5	10	10	5	-	-
Insulation according to AGI Q 132 (Table 1, page 4) Rear panel (cm)	5	10	10	10	10*	10*
Base insulation (cm)	0	0	0	0	0	0
Roof insulation (cm)	9	9	9	9	9	9
Flue exit connection (mm)	ϕ180	ϕ250	ϕ200	ϕ250	ϕ200	ϕ250
Combustion air connection (mm)	2× Ø150 mm					
Convection connection inlet (mm)	2× Ø150 mm	4× Ø150 mm	2× Ø150 mm	2× Ø150 mm	2× Ø150 mm	4× Ø150 mm
Convection connection outlet (mm)	2× Ø150 mm	4× Ø150 mm	2× Ø150 mm	2× Ø150 mm	2× Ø150 mm	4× Ø150 mm
Weight (kg)	270	320	270	360	385	435

Table 5b: Kalfire W Technical Data

## 6 Lighting the fireplace

### 6.1 Lighting the fireplace for the first time

**!** **CAREFUL!** When the fireplace is lit for the first time, the enamel will burn in and cure. This causes nuisance in the form of odour and fumes. If the fireplace has a slatted rear panel, use only a very small quantity of wood (max. 2 kg/hour) the first time a fire is lit. If too much wood is burned, the paint could burn or flake off of the slatted rear panel.

Make sure the room in which the fireplace is located is well ventilated. It is advisable to light the fireplace during the day, and open all doors and windows in order to reduce the odour nuisance. Proper ventilation also reduces the risk of discolouration. Below are some tips from the Dutch decorative heating guild (see [www.sfeerverwarmingsgilde.nl/faq](http://www.sfeerverwarmingsgilde.nl/faq)):

- Minimise the use of candles and oil lamps and keep the wick as short as possible. Candles and oil lamps produce considerable amounts of soiling and unhealthy soot particles in your home.
- Wait at least 6 weeks before igniting a newly installed masonry mantelpiece or after renovation work. The building moisture must disappear completely from the walls, floor and ceiling.
- With renovations or new building work, ensure there is extra ventilation to remove volatile solutions from your home.
- Avoid smoking. Smoking is not only bad for your health, but cigarette and cigar smoke also contain tar that will cause deposits on colder and damp walls when heated.

**!** **WARNING** Enamel that has not yet cured is particularly sensitive. Avoid touching the enamelled parts of the fireplace. Leave the door open, approximately 5 cm, the first time that the fireplace is lit and close the door after it has cooled down. When heated the enamel is soft and will stick sooner. If the door does stick to the fireplace, it can be tilted (see Section 7.5)

### 6.2 Opening the lifting door

1. Insert the key supplied with the fireplace, with the short side in the small hole of the door on the bottom right.
2. Move the key up. The first 3 cm can be quite difficult, because the door has to be pulled out of the lock. After this, it will be easier.
3. The door can be left open in any desired position.
4. To close the door, place the key in the small hole of the door at the top right and move the key down.

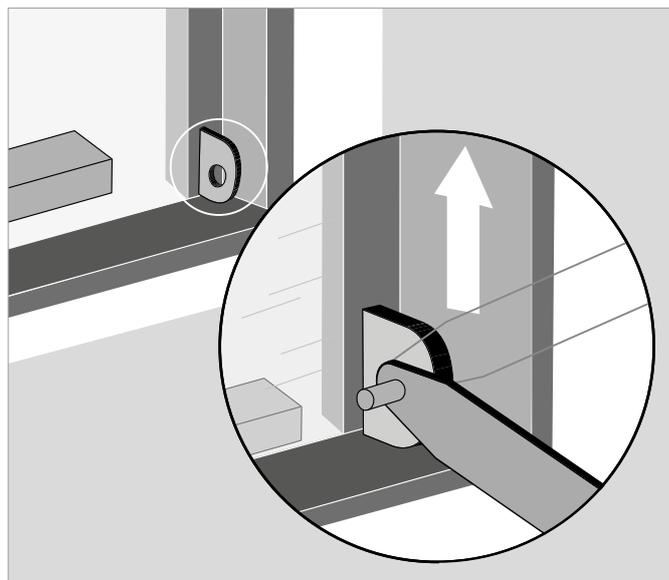


Figure 31: Illustration of the end of the key (detail)

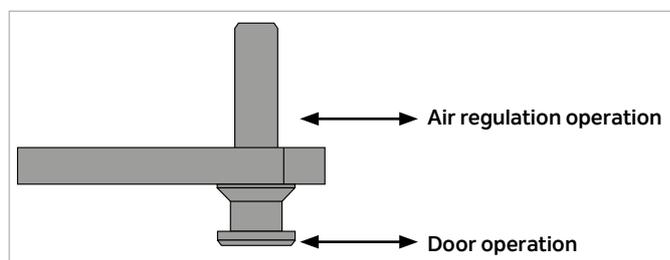


Figure 32: Operating key

### 6.3 Air regulation

The fireplace has two types of air regulation (ways in which fresh air is guided into the fireplace):

1. Primary air
2. Secondary air

#### 6.3.1 Primary air

The primary air is regulated automatically and ensures that the wood is easily ignited. For optimal heat output, the supply of primary air stops automatically after approximately 50 minutes of heating. The primary air valve will close automatically.

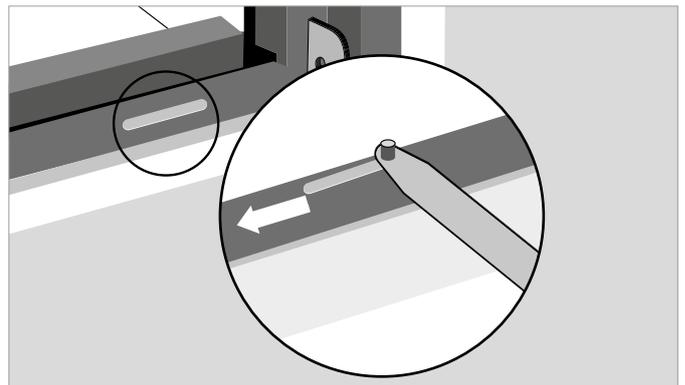
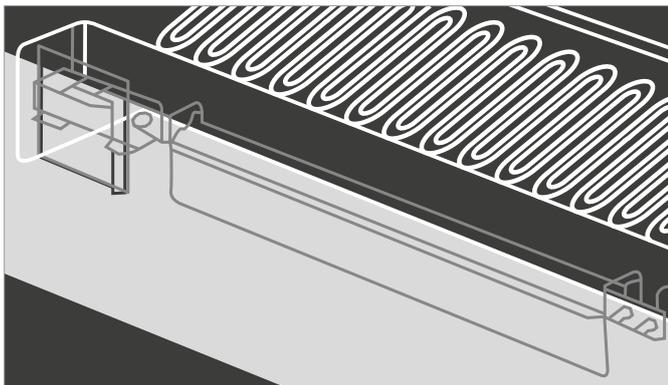
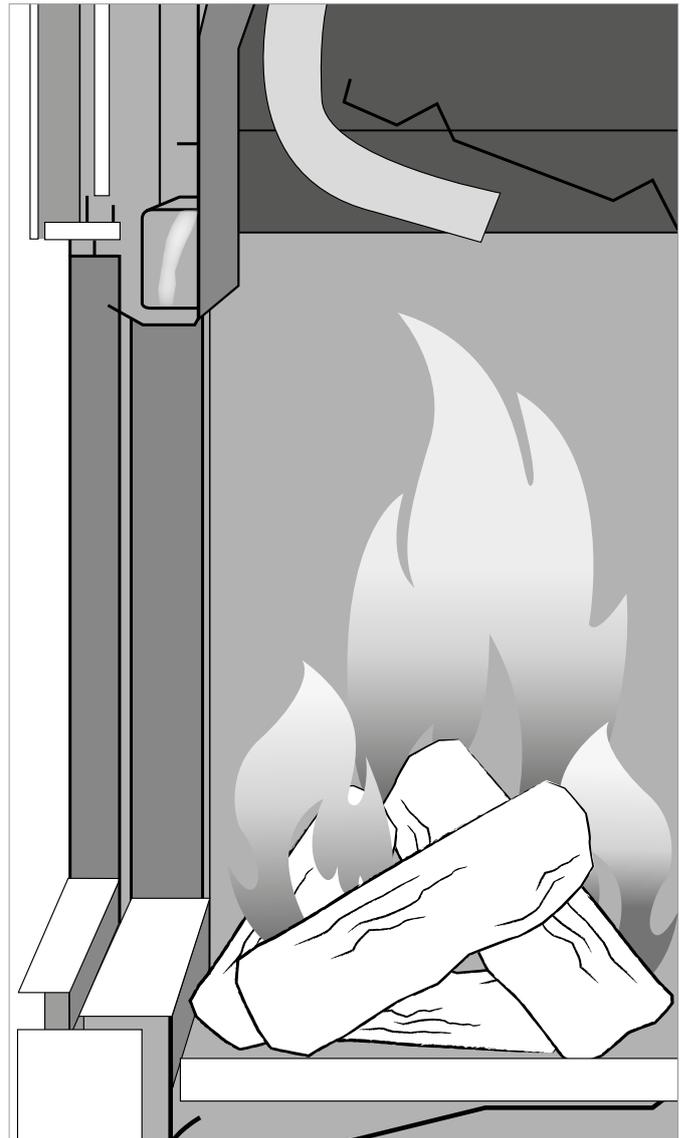
When the primary air valve is closed, the air enters the combustion chamber through the top spoiler. This top spoiler also ensure that the glass pane remains clean. When the draught in the chimney exceeds 12 Pascal, and dry wood is being burned, you will be able to keep the window clean for a considerable length of time. Using the secondary air regulation, you can regulate the amount of air led to the fire via the top spoiler (see Section 6.3.2). This works best when the primary air valve is closed (after approximately 50 minutes of burning).

#### 6.3.2 Secondary air

You can regulate the flames yourself via the secondary air control, which is located on the right side of the fireplace.

1. Insert the side of the key into the groove of the secondary air regulation. Use the right side of the key.
2. By moving the key to the left, the air supply to the fire will decrease. The fire will burn more calmly (provided that the primary air valve has closed automatically).
3. By moving the key to the right, the air supply to the fire will increase. And your fire will burn more strongly.

**⚠ CAREFUL!** Never completely close off the secondary air regulation. When the flames are extinguished, the glass pane may become soiled.



## 6.4 Using the fireplace with an open or a closed door

The fireplace can be used with an open or a closed door (Kalfire W60/51F, W71/62F and W85/40F). When the door is open, the heat output will fall to approximately 20%. The wood consumption will increase; as air has unregulated access to the wood. The advantage is you have a cosy hearth fire.

The main difference between using the fireplace with an open door or a closed door is that each use has a different air requirement. To optimally regulate the required air when using the fireplace with an open door, the fireplace is equipped with a fresh air valve (patented) at the rear.

The fresh air valve ensures that the air required to maintain proper airflow is always used in the most efficient way when the door is open. The valve redirects the fresh air into the room where the fireplace is installed, so that it can be used optimally for combustion. (see also Section 5.1.1)

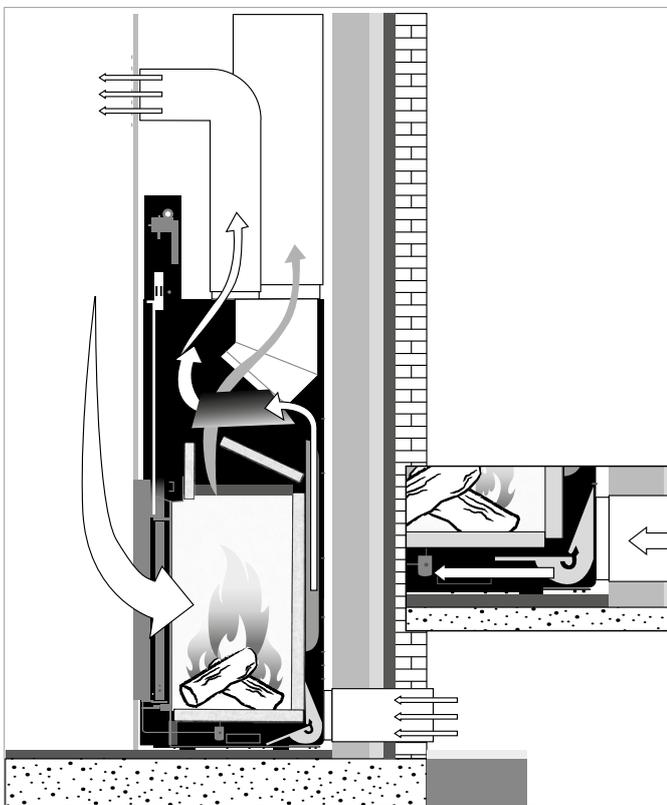


Figure 33: Open door

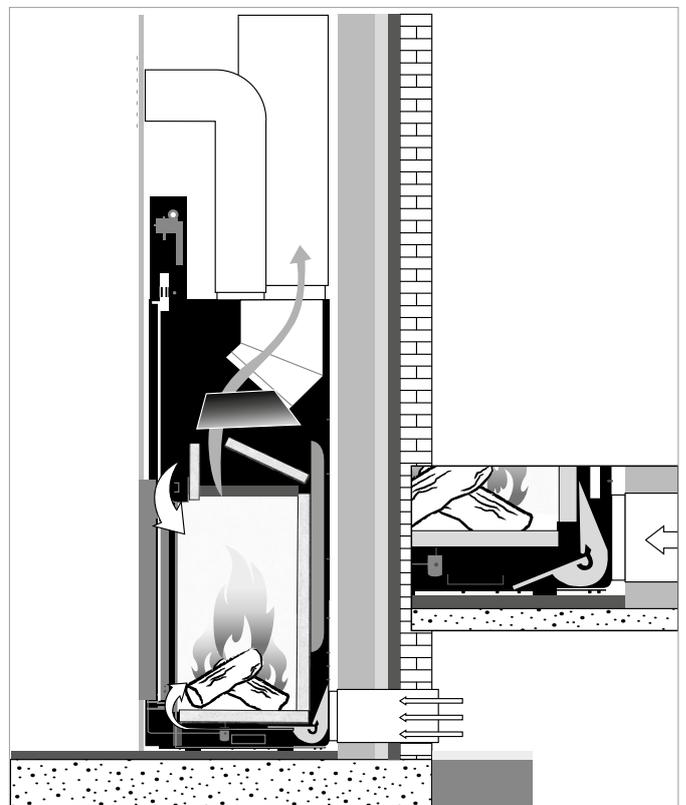


Figure 34: Closed door

## 6.5 Igniting the wood-burning fireplace

**WARNING** Do not use white spirits, petrol, oil or other liquid fuels.

**CAREFUL!** Be aware that weather conditions (e.g. air pressure, temperature and wind) can influence combustion. By shifting the secondary air regulation (see Section 6.3.2), you can limit the influence of the weather conditions.

**WARNING**

- Never leave an open fire burn without supervision; any sparks could cause a fire.
- Open the damper (if present) completely.
- Only use the appliance as an open fireplace if there is enough draught in the flue.
- Preferably use the fireplace with a closed door as this is better for the environment and the heat output.
- Always use untreated, clean and dry wood.

### Light the fire using the 'Swiss method'.

- Place large logs onto the bottom and place a layer of logs crosswise on top of them.
- Distribute some firestarters over the top of this.
- Place one or more firestarters on top of this.
- Light the firestarters.



Figure 35: The Swiss method

### Tip

- Light the fire from above. This minimises the development of smoke.
- Leave the door a few minutes with a 1-2 cm gap until the wood is burning well, then close the door.
- Only replenish the wood once the logs have fully burned and there is a glowing bed. One layer of logs is adequate.
- Leave the secondary air supply partially or entirely open while burning.
- As soon as you are finished with the burning, allow the fireplace to cool down completely
- Use a sufficient amount of wood in the fireplace to create:

Model	Quantity of wood
W45/48F	Approx. 2 kg
W53/50R	Approx. 2.8 kg
W70/33F	Approx. 3 kg
W60/51F, W85/40F, W65/38C, W66/48S, W90/47C, W90/47S	Approx. 4 kg
W80/52T and W105/47T	Approx. 6 kg

Table 6: Quantity of wood

## 6.6 Optimal heat output

Once you have the fireplace lit and it is at a comfortable temperature, observe the following instructions for optimal heat output (this will achieve comparable performance and emission values as obtained during the inspections of the Kalfire W):

- Ensure a glowing bed is created (See Section 6.5).
- Use logs of wood of approximately the same size. The amount differs per fireplace model, see the table below.

Rule of thumb: 1 kg of wood provides about 4 kW of energy.

The fireplace is suitable for discontinuous use. This is achieved by burning according to Table 7.

Kalfire type	W45/48F	W53/50R	W60/51F	W70/33F	W71/62F	W85/40F	W100/61F
Weight* per log (g)	850	950	850	730	1000	850	1200
Number of logs	2	3	3	3	3	3	3
Max. weight of wood per hour (kg)	2.3	2.85	3.6	2.9	5	4	3.6
Air regulation open (%)	100	45	100	75	50	100	60

Kalfire type	W65/38C	W66/48S	W80/52T	W90/47C	W90/47S	W105/47F	W105/47T
Weight* per log (g)	950	975	850	850	1400	1300	1100
Number of logs	3	3	4	4	3	3	4
Max. weight of wood per hour (kg)	4	3.5	4.5	4	5.5	4.6	5
Air regulation open (%)	30	25	90	10	50	100	50

Table 7: Instructions for optimal burning per model

\*Weight for beechwood

### 6.6.1 Topping up with wood

As soon as the fireplace is at a comfortable temperature (see Section 6.5), you can replenish the wood in the fireplace.

To achieve optimal heat output:

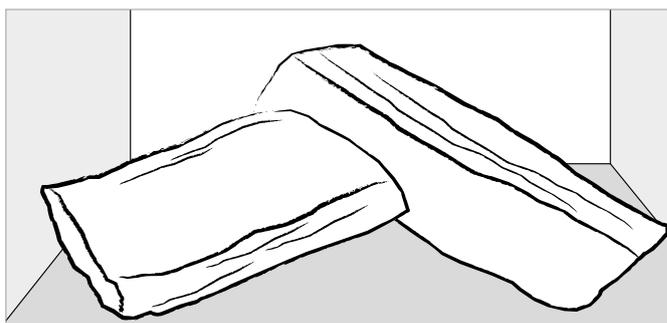
- top up the fire with new wood as soon as the flames have disappeared and the logs are beginning to glow (no smoke development).
- Open the door slowly to prevent smoke escaping into the room because of the sudden draught.
- Do not add more than 2 to 3 logs (for maximum weight, see Table 6).

Place the logs as follows:

#### Kalfire W45/48F

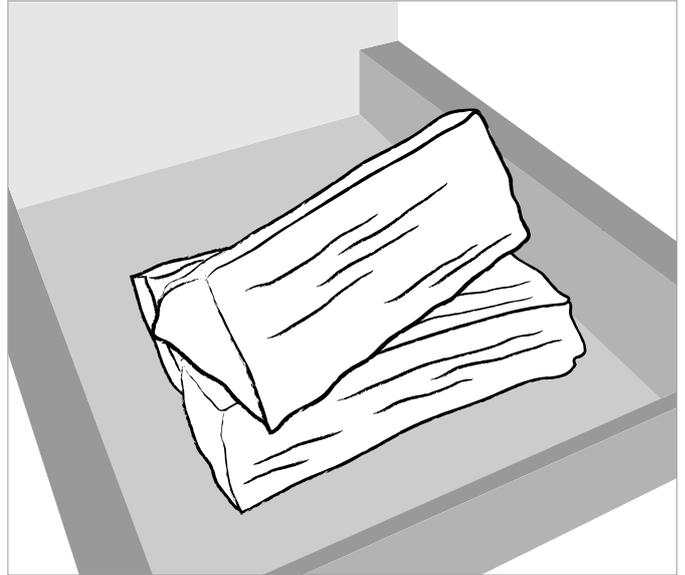
Place the two logs into a V-shape. The Kalfire W45/48F can be used both as an open or a closed fireplace.

Remove both baffle plates before using the fireplace with the door open, to enable correct exhaust of the flue gas.



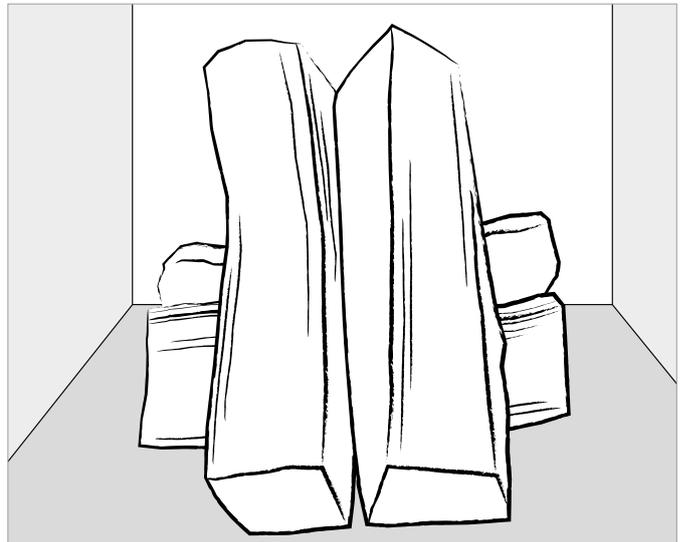
**Kalfire W53/50R**

Place 3 logs that are approx. 27 cm long in the centre of the fireplace, as shown in the illustration below.



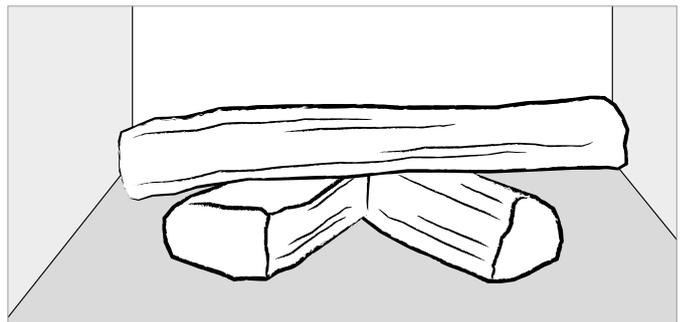
**Kalfire W60/51F**

The three logs are approximately 25 cm long.



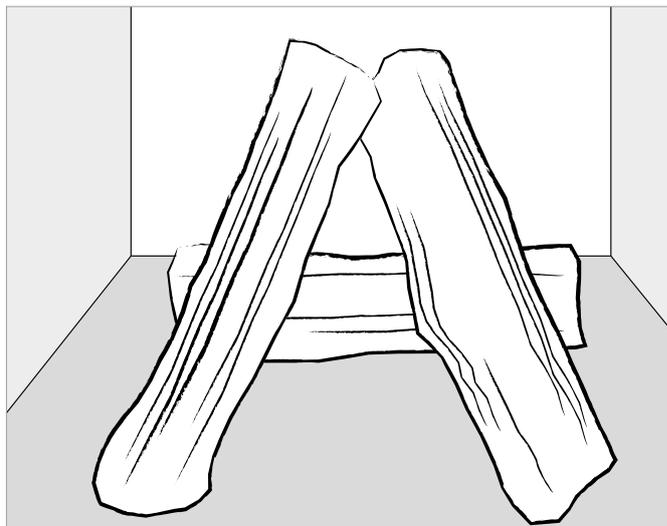
**Kalfire W70/33F**

Two logs are 15 - 16 cm long, the third is 33 cm.

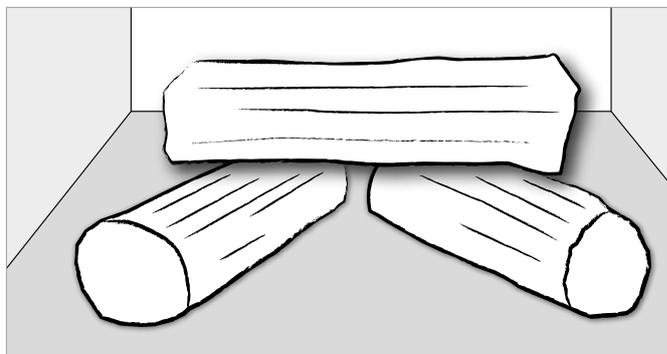


**Kalfire W71/62F**

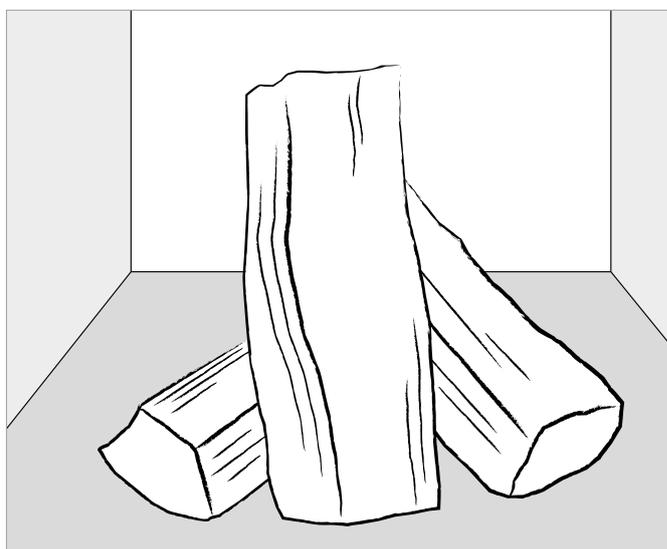
Position the logs in an A-shape, with the horizontal log at the base.

**Kalfire W100/61F**

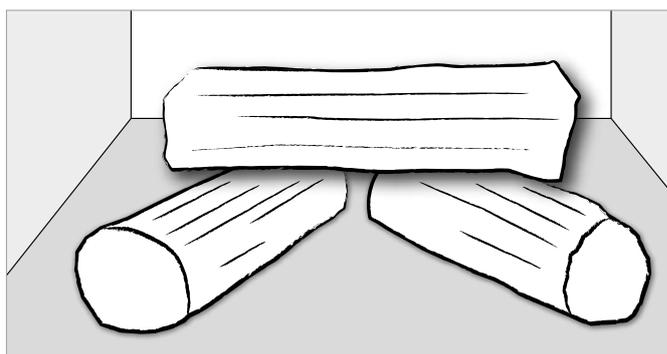
Position the logs in an A-shape. The horizontal log is on top of the two vertical logs. The three logs are approximately 29 cm long.

**Kalfire W85/40F and W105/47F**

The three logs are approximately 25 cm long (Kalfire 85).  
The three logs are approximately 32 cm long (Kalfire 105).

**Kalfire W66/48S**

Position the logs in an A-shape, with the horizontal log on top of the two vertical logs.



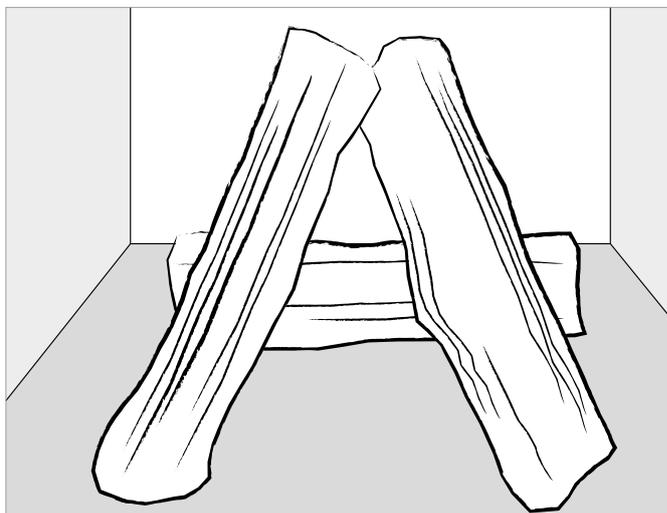
**Kalfire W90/47C**

Position four logs that are approximately 25 cm long in a cross shape to the left or right side of the fireplace.



**Kalfire W65/38C and W90/47S**

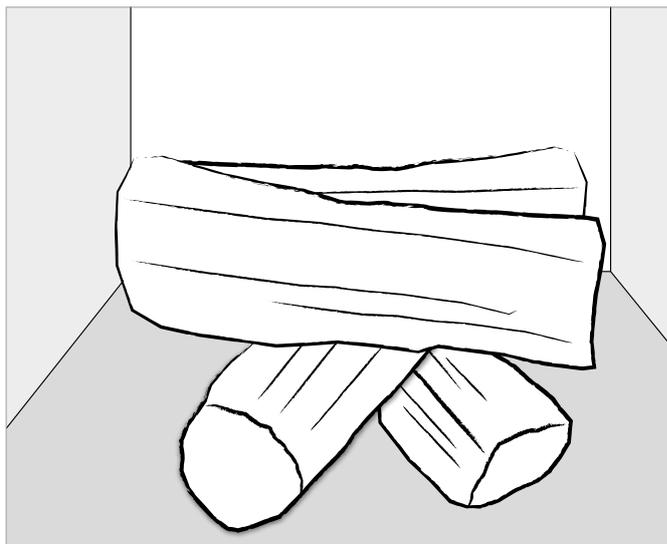
Position the logs in an A-shape, with the horizontal log at the base.



**Kalfire W80/52T and W105/47T**

Position four logs that are approximately 30 cm long in a cross shape in the centre of the fireplace.

Once the logs have burned, position new logs on the glowing bed in the same way as explained above. Take the amount of wood indicated per hour into account (see Section 6.5).



### 6.6.2 Recommendations for open use:

Kalfire advises you to keep the door of the fireplace closed until there is a glowing bed and the fireplace is well heated. This will take approximately 45 minutes. The fireplace is at operating temperature and the flue gas is exhausted correctly.

If the fireplace is immediately used with the door open, there is only a minimum of pull in the flue. There is a substantial risk that the flue gasses will not be exhausted correctly, but will flow back into the room.

 **WARNING** If the flue duct is reduced, the fireplace is no longer suitable for open use. Only open the door if strictly necessary (e.g. to top up the logs)

 **WARNING** The 3-sided and corner models and the room divider are less suitable for use as an open fire than the front-opening models. If the Kalfire W53/50R, W65/38C, W66/48S, W90/47C or W90/47S S models are used with the door open, smoke may be blown into the room. Even if both baffle plates have been removed. The degree to which you can successfully use the fireplaces open greatly depends on the flue duct and the draught it exerts.

### 6.7 Operating the damper (optional)

Depending on the situation, an external damper can be connected by a Kalfire-approved installer to the fireplace (see Section 3.6).

 **CAREFUL!** It is not necessary to install a damper in all situations! After the Kalfire-approved installer has installed the damper, you can operate it using the knob on the side of the surround.

When using an original Kalfire damper, the letters 'Auf or +' on the knob show the open position and 'Zu or -' is the closed position. Set the desired position by turning the damper, depending on the draught in the flue and the way the appliance is being used:

**When lighting the fire** Damper fully open.

**When burning with closed door** The damper can be closed to 20-50%, which will calm the flames.  
If you want to top up the wood, open the damper completely before opening the door. Once the wood is burning well, you can partly close the damper again.

**When burning with closed door** Damper permanently and fully open.

## 7 Maintenance

### 7.1 General instructions

- Do not use steel brushes to clean a stainless steel flue duct. Remove the baffle plate before sweeping to remove the soot and to ensure that the plate is not obstructing the passage during sweeping.
- Clean the space under the fireplace via the convection grates at the base. A lot of dust can easily collect here, conveyed by the convection current.
- Make sure the cord in the lower frame is free of ash and soiling.
- If the cords no longer seal properly, they can be replaced. Contact your Kalfire dealer for assistance.
- Treat the chain in the lifting door system each year, by spraying it with Kalfire lubrication.
- The panel is made from special ceramic glass. This should not be placed in the bottle bank. Ceramic glass does not melt in the glass oven, so it will cause problems in the glass oven. Your ceramic glass should be returned to your council waste tip so it can be recycled appropriately.
- Only use Kalfire spare parts as replacement parts (if necessary). These parts can be obtained from your Kalfire dealer.



### 7.2 Maintenance frequency

The wood burning fireplace should be inspected annually for optimal, sustainable and safe use. Malfunctions to the wood burning fireplace must be fixed instantly. Inform your client about the possibilities of a maintenance contract.

### 7.3 Before and during the heating season

As time passes, tarnish can form on the inside of the glass. This can be removed by using a moist cloth or non-scratching cleaning detergent (ceramic glass cleaner). Do not use corrosive or abrasive substances for cleaning the fireplace. Damage to enamel is not included in the warranty. Small damaged can be removed by using heat-resistant enamel. This enamel is available at Kalfire.

### 7.4 Keeping clean glass panes

- In the case of an interior with steel slats or a design, the risk of soiling the glass pane is greater than with the standard (skamol) plates.
- The Kalfire W80/52T, W105/47T and W53/50R models, as a result of the relatively small surface skamol plates (which provide the reflection), have a greater chance of dirtying their glass pane.
- Only burn dry wood.
- Open the secondary air regulation completely.
- Open the damper (if present) completely open.
- Ensure the flue has a minimum draught of 12 Pa.

### 7.4.1 Cleaning ceramic panels

The first time it is used, afterwards as well, the glass of a wood-burning fireplace can become dirty. Potential causes can be: smoking materials in the fireplace (especially in the beginning), air contamination, quality of the wood, etc.

- Filth or stains on the glass must be removed immediately.
- Never use the fireplace if the glass is filthy or stained. This can lead to permanent and non-removable contamination.
- Clean the glass after the burning a fire for the first time and preferably after each use of the fireplace.
- Use scratch-free cleaning substances only.

## 7.5 Opening the glass pane (window)

### 7.5.1 Kalfire front and tunnel fireplaces

In the middle, directly above the glass pane, the fireplace is equipped with a handle that can be used to tilt the lifting door. You can then clean the glass pane (Section 7.6.1)

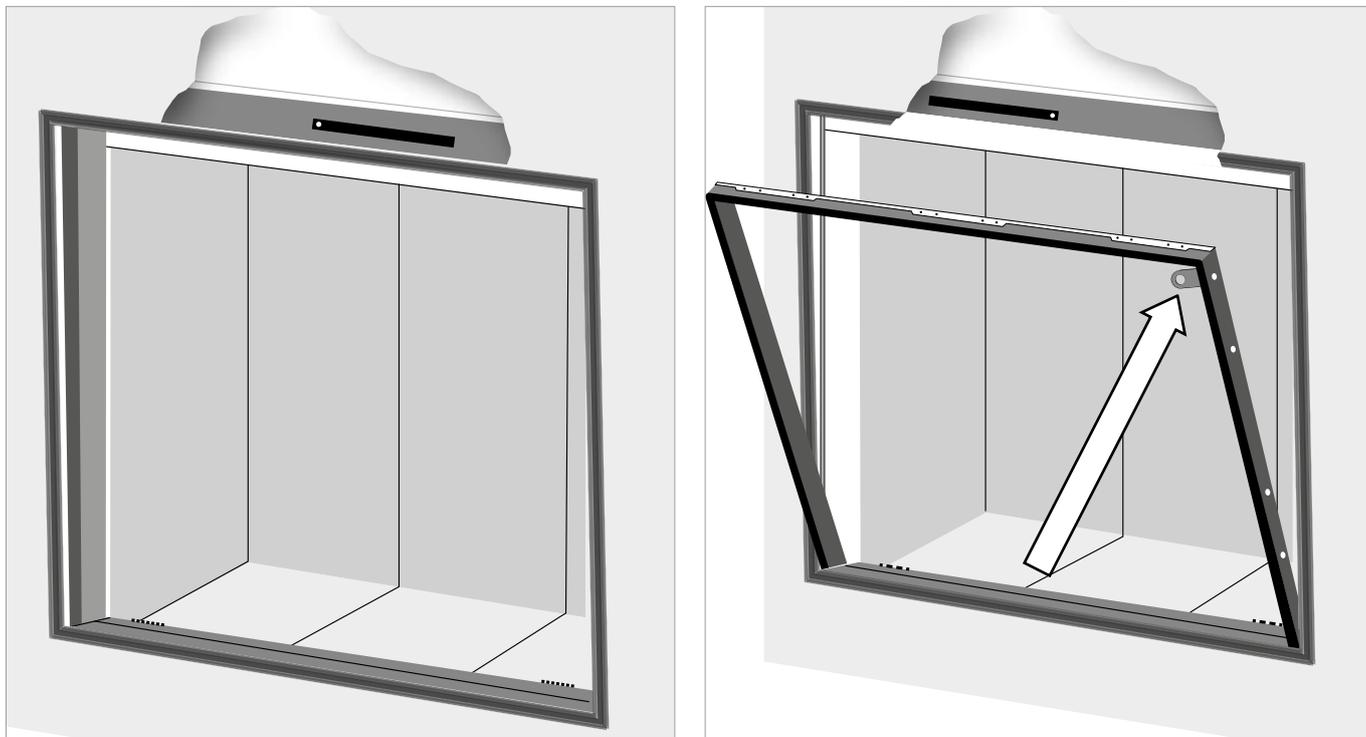


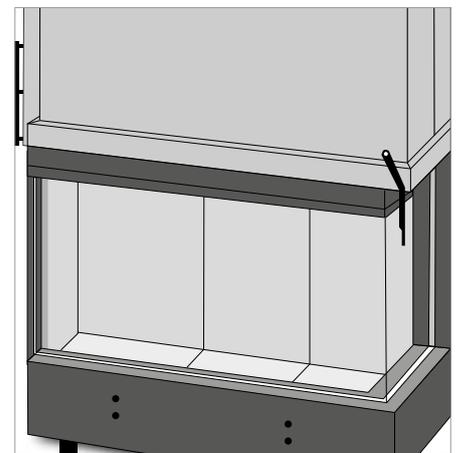
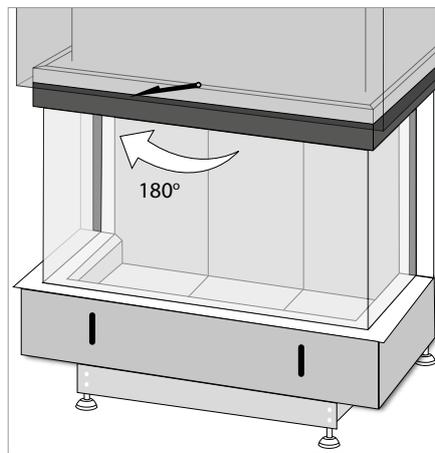
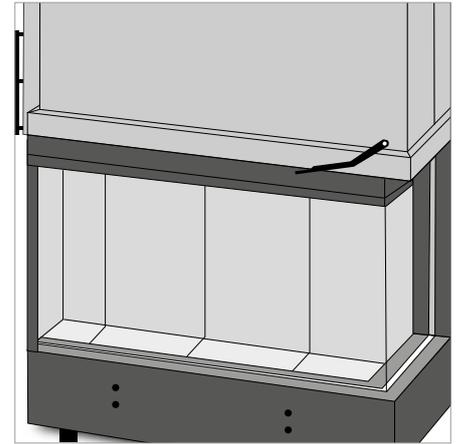
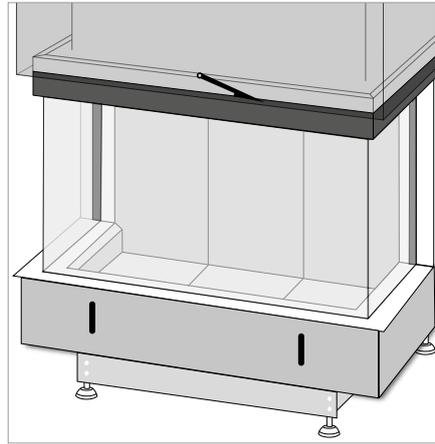
Figure 36: Kalfire front and tunnel fireplaces

1. In one smooth movement, turn the handle completely from right to left (180 degrees). The glass pane is now unlocked.
2. Carefully tilt the glass pane forwards, using the small hole in the top right-hand corner of the glass pane. The glass pane will remain open at an angle of about 45 degrees.
3. To close the door again, tilt it back and turn the key to the right. The fireplace will be hermetically sealed again by the 3-point closure.

### 7.5.2 Kalfire 3-sided models, corner models and roomdivider

#### Kalfire W65/38C and W90/47C

1. Press the entire lifting door down firmly.
2. Turn the lever (top right of the glass in the convection casing) down in one smooth movement until you feel resistance and the lever is in a vertical position. The door is now released and can be moved forward.
3. Take hold of the door by the glass or by the small holes on the left and/or bottom right and carefully pull it forward.
4. To close the fireplace, carefully push the glass backwards and return the lever to its original, horizontal position.
5. Close the elongated flap to the right or rear of the fireplace near the short glass side.



#### Kalfire W66/48S, W90/47S and W53/50R

1. Press the entire lifting door down firmly.
2. In one smooth movement, turn the lever (upper centre of the glass in the convection casing) 180 degrees to the left until the lever is in the horizontal position again.
3. The door is now released and can be moved forward. Take hold of the door by the glass or the steel edge at the top and carefully pull it forward.
4. To close the fireplace again, carefully push the glass backwards and return the lever to its original, horizontal position (180 degrees to the right).
5. Close the elongated flap on the right and left of the fireplace near the short glass side.

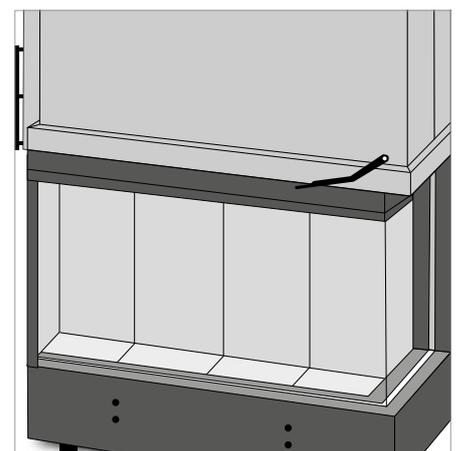
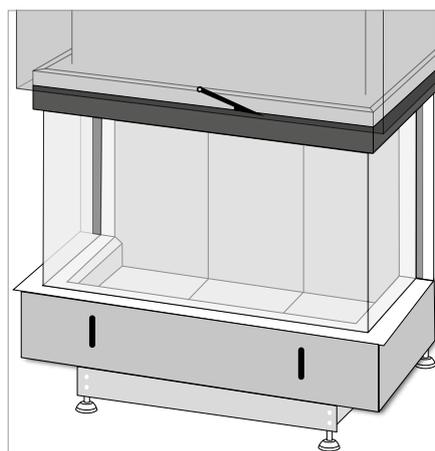
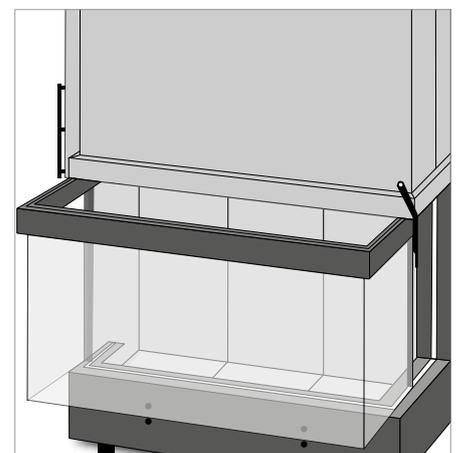
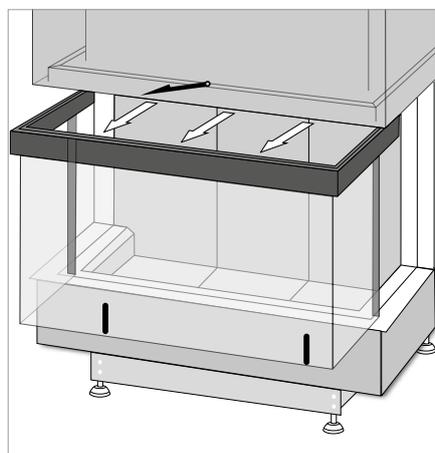


Figure 37: Opening the door of Kalfire W 3-sided models and room divider

Figure 38: Opening the door of Kalfire W corner models.

## 7.6 Cleaning the lifting door and the firebox

### 7.6.1 Cleaning the lifting door

**!** **CAREFUL!** Before cleaning the glass, this must be completely cooled down to prevent any damage.

1. Open the door of the fireplace (See Section 7.5).
2. Gently wipe the worst soiling from the glass pane with a moist cloth.
3. Spray the cleaning agent onto a soft cloth.

**!** **CAREFUL!** Never spray the cleaning agent directly onto the glass.

4. Wipe the glass pane with a damp cloth to remove the cleaning agent
5. Wipe the glass pane with a damp cloth to remove any cleaning agent that may have been left behind.
6. Close the door of the fireplace (See Section 7.5).

**!** **WARNING** No detergent fluids may come into contact with the sealing cords. This will damage the cord!

- Remove persistent soiling by dipping a damp cloth into the ash.
- Do not use detergents that contain ammonia. Ammonia will damage the sealing cords.
- Ensure that no glowing particles come into contact with the sealing cord. This will damage the cord.

### 7.6.2 Cleaning the firebox

Your fireplace is suitable for burning dry wood, which burns best in its own ashes. This combustion leaves very little residual ash (approx. 3 g per kg of wood).

Make sure that the level of ash does not rise above the air gauge. The air gauge is situated in the frame and ensures correct ignition of the wood. The opening of the air gauge must never be obstructed or blocked. The lower sealing cord must be free of ash, so the glass is able to lay against the sealing cord.

**Tip:** Ash consists largely of minerals, which can be used as a fertiliser in the garden.

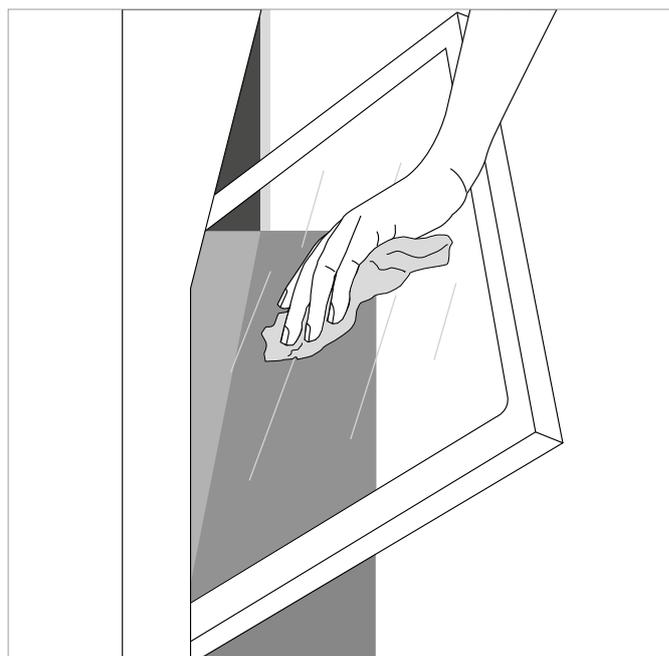


Figure 39: Cleaning the glass pane

## 7.7 Malfunctions

Malfunction	Cause	Action
 <b>DANGER!</b> Roaring sound in the flue duct	Chimney fire	 <b>WARNING Never extinguish the fire with water!</b> This will cause enormous clouds of steam. As this happens so quickly, the flue duct may crack due to the pressure. <ul style="list-style-type: none"> <li>• Use sand or salt to extinguish the fire in the fireplace.</li> <li>• Close the fireplace and leave the flames to die naturally. If necessary, contact the fire brigade.</li> <li>• Let the chimney burn out in a controlled manner under constant supervision.</li> </ul>  <b>DANGER!</b> <ul style="list-style-type: none"> <li>• Have the flue/chimney inspected by an authorised specialist.</li> </ul>
<b>Smoke returning to room</b>	<ul style="list-style-type: none"> <li>• The chimney is blocked;</li> <li>• The wood used is not sufficiently dry;</li> <li>• The baffle plates are blocking the passage of the flue gases;</li> <li>• Not enough fresh air is being supplied.</li> </ul>	<ul style="list-style-type: none"> <li>• Check if the flue/ chimney is blocked.</li> <li>• Ensure that the flue duct is sufficiently warmed up before opening the lifting door.</li> <li>• Only burn dry wood.</li> <li>• Reduce or remove the baffle plate.</li> <li>• Check that enough fresh air is being supplied..</li> </ul>
<b>Damper is sticking</b>	<ul style="list-style-type: none"> <li>• The damper is blocked;</li> <li>• The flue/chimney is blocked.</li> </ul>	<ul style="list-style-type: none"> <li>• Check if something blocking the damper and remove this, if necessary.</li> <li>• Check if the flue/chimney is blocked.</li> </ul>
<b>Odour nuisance</b>	<ul style="list-style-type: none"> <li>• The curing of the enamel;</li> <li>• The flue/chimney is blocked;</li> <li>• Method of burning;</li> <li>• Ventilation/insufficient supply of fresh air.</li> </ul>	<ul style="list-style-type: none"> <li>• When the fireplace is used for the first time, a chemical odour is released due to the enamel being cured.</li> <li>• Check if the flue/chimney is blocked.</li> <li>• Ensure that the flue duct is sufficiently warmed up before opening the lifting door.</li> <li>• Check that enough fresh air is being supplied.</li> <li>• Only burn dry wood.</li> <li>• Check if the odour is not caused by the chimney breast or accessories in the vicinity of the fireplace.</li> </ul>
<b>Dirty glass pane</b>	<ul style="list-style-type: none"> <li>• Connection of the door to the sealing cord;</li> <li>• Wear/damage to the glass;</li> <li>• Method of burning;</li> <li>• Wear of the corner rubbers</li> <li>• Locking of the tipping mechanism;</li> <li>• Secondary air regulation.</li> </ul>	<ul style="list-style-type: none"> <li>• Press the door fully downwards, so it is closing properly against the lower sealing cord.</li> <li>• Check the sealing cord in the door and at the base of the glass pane for damage/wear.</li> <li>• Check the moisture content of the wood.</li> <li>• Check that the air vents in the spoilers above and below the pane are blocked.</li> <li>• Burn wood according to the instructions (see Chapter 6).</li> <li>• Check the corner rubbers for wear.</li> <li>• Check if the tilting mechanism is correctly locked.</li> <li>• Check that the secondary air regulation is in the maximum position to the right.</li> </ul>

Malfunction	Cause	Action
<b>Lifting door moves with difficulty</b>	<ul style="list-style-type: none"><li>• Guide</li></ul>	<ul style="list-style-type: none"><li>• Clean the guide.</li><li>• Check if the door cord is sticking against the surround.</li></ul>
<b>Draught</b>	<ul style="list-style-type: none"><li>• Extreme winds and temperature differences</li></ul>	<ul style="list-style-type: none"><li>• Check the play in the air supply and/or exhaust valve of the fireplace.</li></ul>
<b>Skamol bricks/plates broken</b>		<ul style="list-style-type: none"><li>• No action necessary: Cracks in the inner housing do not influence the operation of the fireplace.</li></ul>

## 8 Appendices

### APPENDIX A: Certificate of compliance

**Kalfire BV**  
**Geloërveldweg 21**  
**NL – 5951 DH, Belfeld**

hereby declares that appliances of the brand Kalfire with the following models are in compliance with the appliances as described in the 'EG-type-test certificates'

n° P8-2018-0071 (Kalfire W45/48F)

n° PB-020-2018 (Kalfire W53/50R)

n° P8-003-2015 (Kalfire W60/51F)

n° P8-020-2014 (Kalfire W65/38C)

n° P8-054-2015 (Kalfire W66/48s)

n° P8-017-2015 (Kalfire W70/33F)

n° P8-025-2011 (Kalfire W71/620F)

n° P8-070-2015 (Kalfire W80/52T)

n° P8-001-2015 (Kalfire W85/40F)

n° P8-048-2010 (Kalfire W90/47C)

n° P8-004-2013 (Kalfire W90/47S)

n° P8-066-2010 (Kalfire W100/61F)

n° P8-019-2015 (Kalfire W105/47T)

n° P8-007-2010 (Kalfire W105/47T)

and are in accordance with the applicable fundamental provisions of regulation 13229-a2.

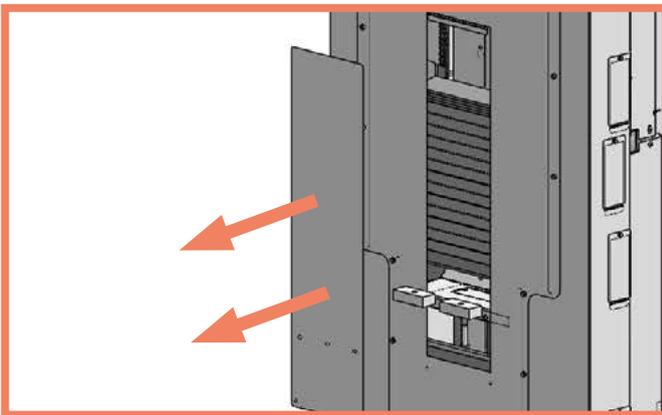
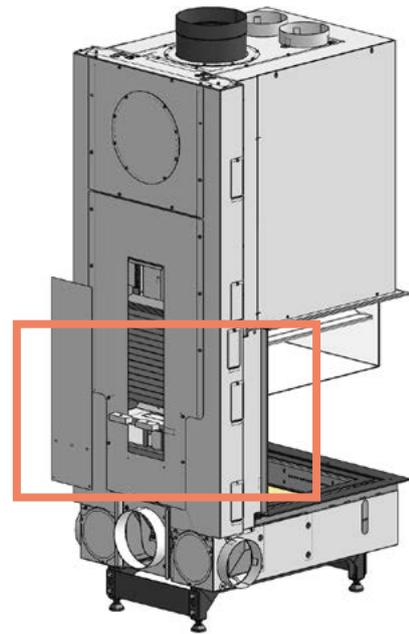


November 2018

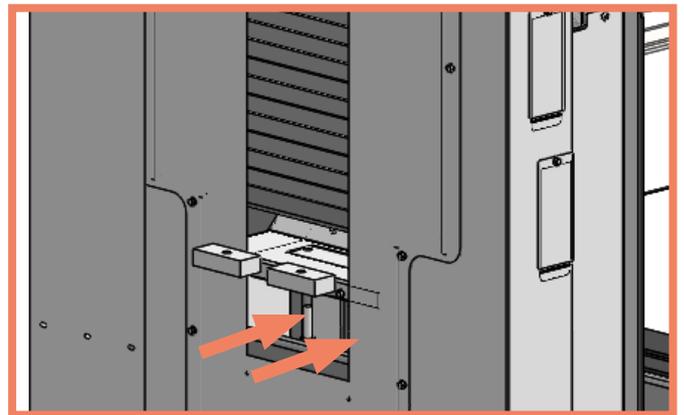
Beijko van Melick, Ing, MSc  
Managing Director  
Kalfire

## APPENDIX B: Transport security of 3-sided fireplaces and room divider

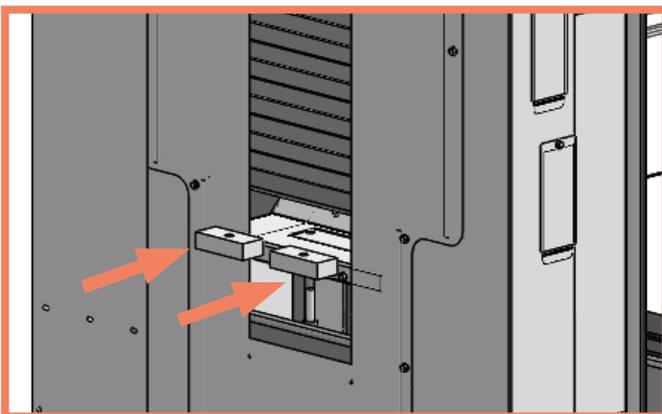
Removing the transport security - Kalfire W - 3-sided fireplaces and room divider



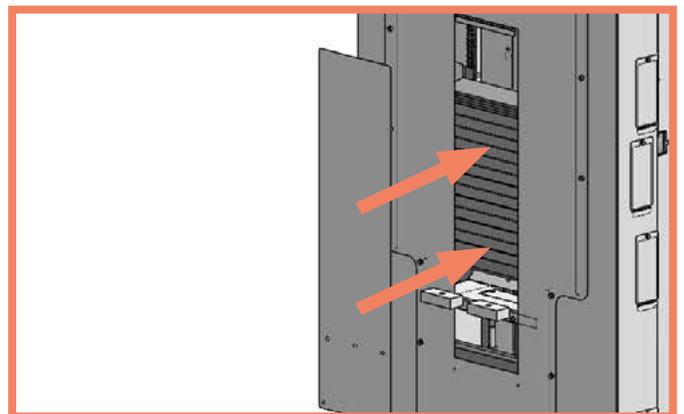
1. Remove the cover panel from the rear panel of the fireplace.



2. Remove the 2 M8 bolts.

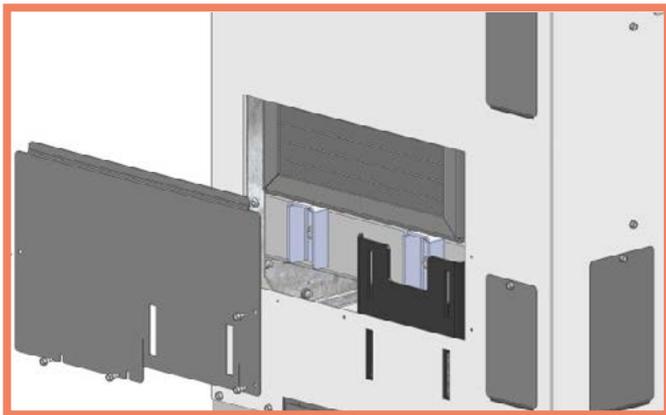
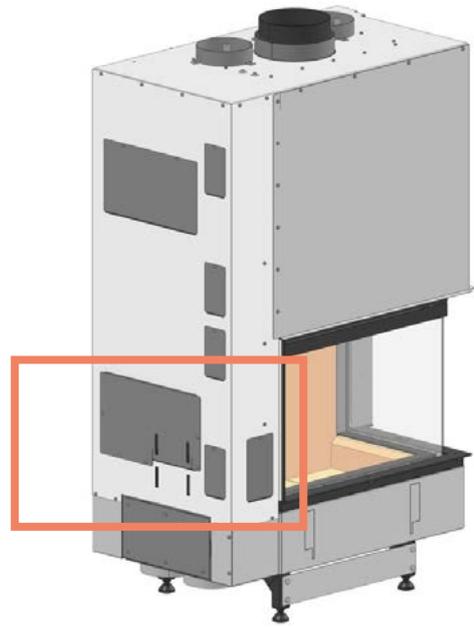


3. Remove the 2 logs.

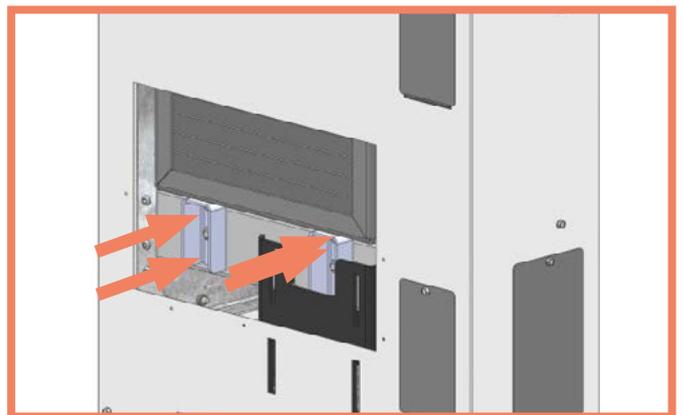


4. Replace the cover panel.

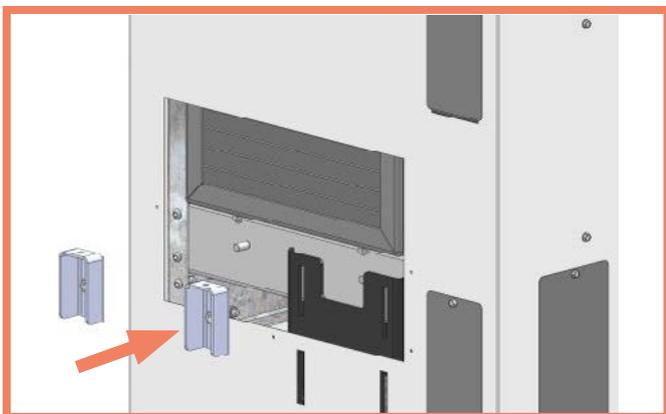
**APPENDIX C: REMOVE transport security of Kalfire W65/38C**



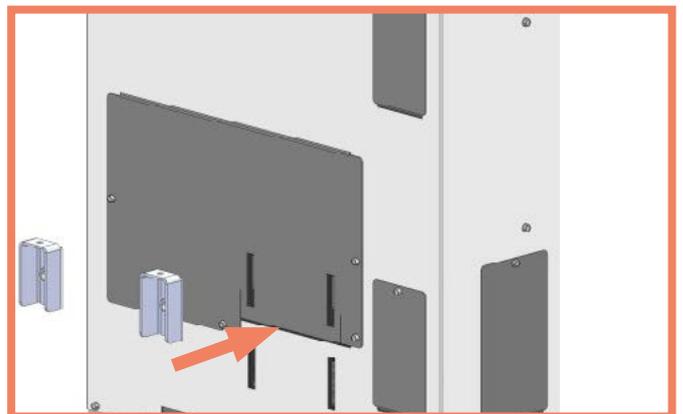
1. Remove the 4 screws. Take off the plate.



2. Remove the 2 M6 nuts and the 2 M8 nuts.

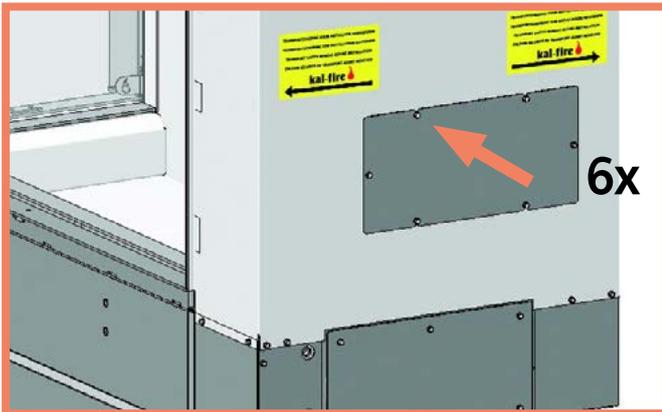
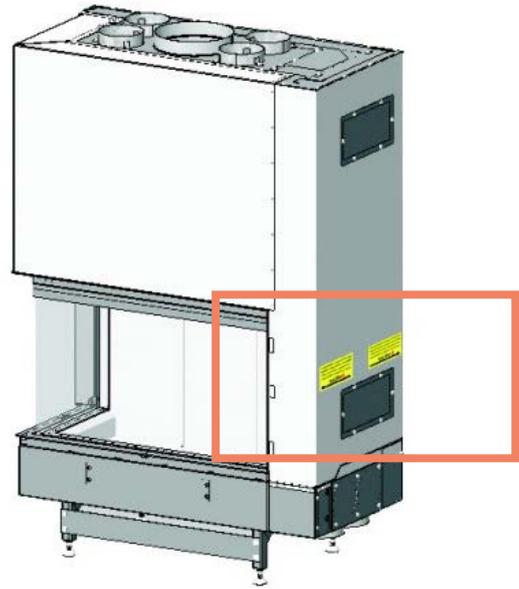


3. Remove the security supports.

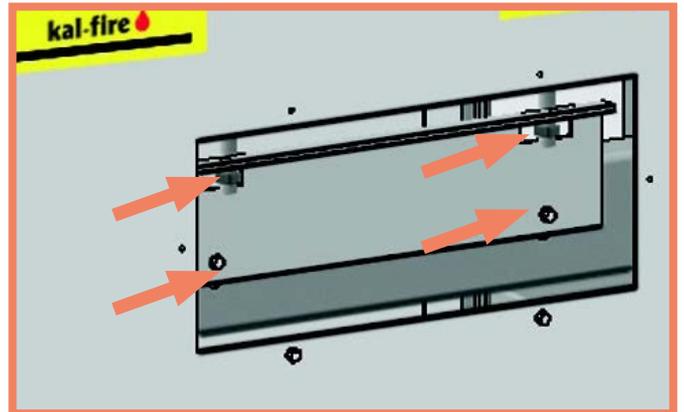


4. Reattach the plate with 4 screws.

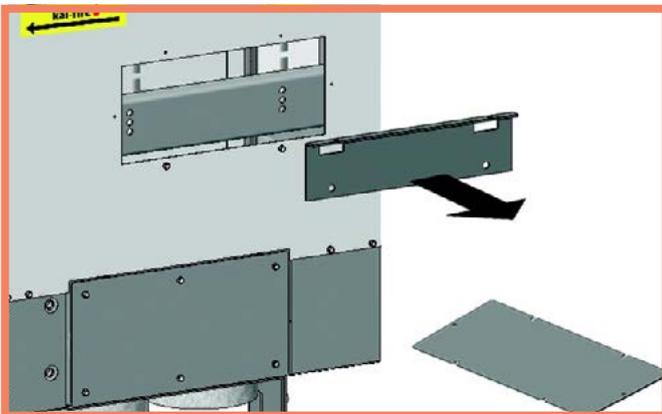
APPENDIX D: Removing the transport security - Kalfire W90/47C



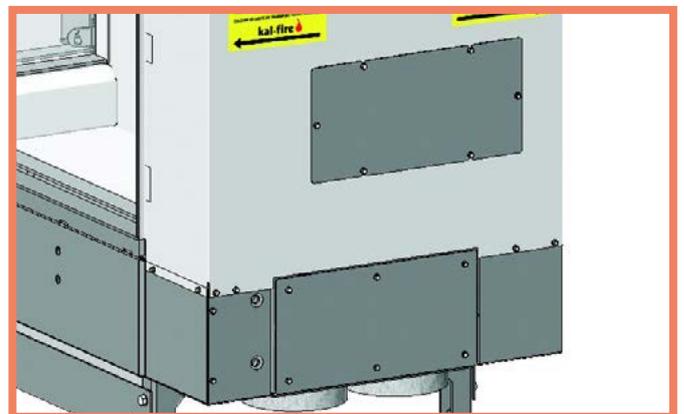
1. Unscrew the 6 screws from the cover plate and remove it.



2. Remove the 2 M6 and the 2 M8 bolts.



3. Remove the security plate.

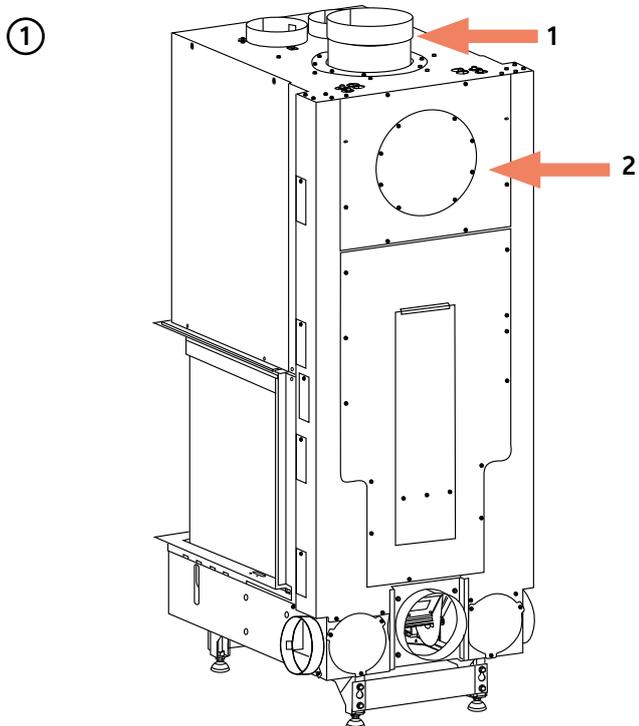


4. Close the cover plate with 6 screws.

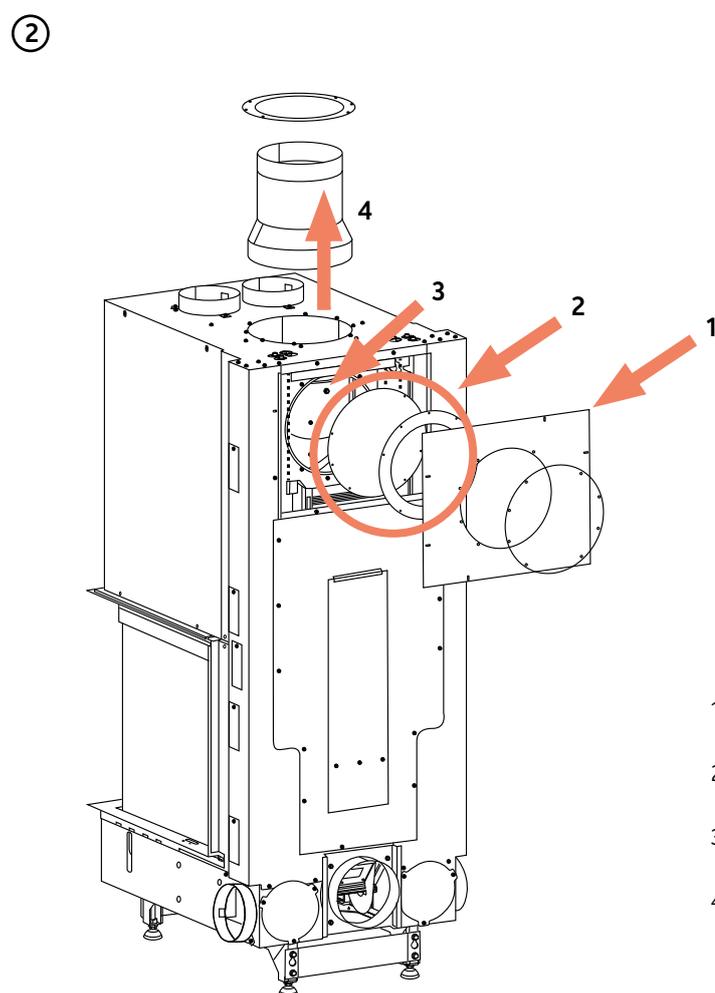
## APPENDIX E: Product card

Model	Energy efficiency class	Direct heat output	Indirect heat output	Energy efficiency index (EEI)	Useful return at nominal heat output	Useful return at minimum heat output
W45/48F	A+	9.3 kW	N/A	115%	86%	83%
W53/50R	A+	13.0 kW	N/A	107%	80%	80%
W60/51F	A+	13.2 kW	N/A	107%	81%	81%
W65/38C	A+	13.0 kW	N/A	109%	82%	78%
W66/48S	A	13.3 kW	N/A	106%	80%	80%
W70/33F	A	12.0 kW	N/A	106%	80%	80%
W71/62F	A+	16.0 kW	N/A	110%	83%	79%
W80/52T	A	16.8 kW	N/A	106%	80%	80%
W85/40F	A+	14.8 kW	N/A	107%	81%	79%
W90/47C	A	14.9 kW	N/A	106%	80%	78%
W90/47S	A+	18.0 kW	N/A	109%	82%	80%
W100/61F	A	17.6 kW	N/A	106%	80%	78%
W105/47F	A+	17.6 kW	N/A	107%	81%	81%
W105/47T	A	17.6 kW	N/A	103%	78%	78%

## APPENDIX F: Rear connection (Kalfire W53/50R)

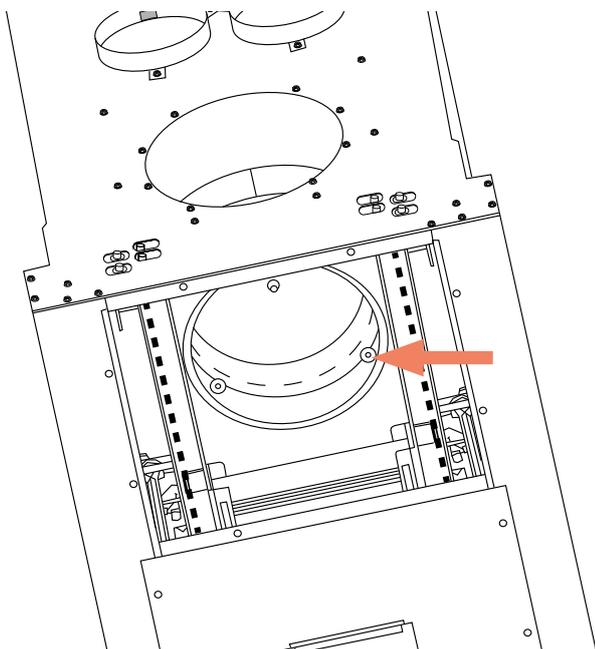


1. Remove the screws from the cover ring around the flue outlet and then remove it.
2. Remove the screws from the back cover and take it off.



1. Remove the screws from the square cover plate and take this off.
2. Remove the screws from the cover ring, then remove the ring and the round cover plate.
3. Unscrew the nut (No. 13) on the flue gas connection (but do not remove).
4. Remove the connection piece.

3

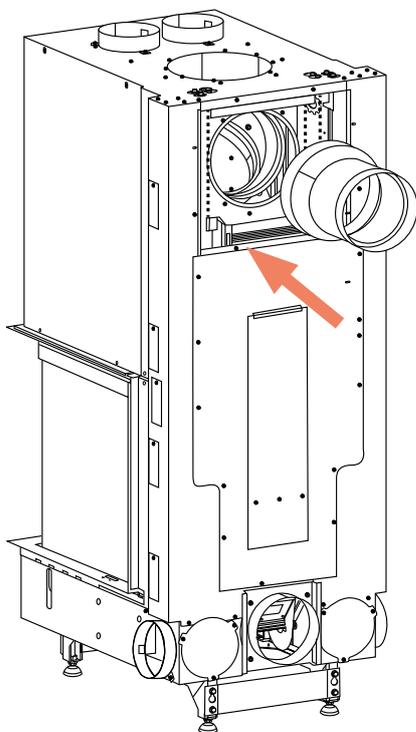


Tighten the 4 screws around the pivoting head of the flue gas outlet with an Allen key (do not remove).

4

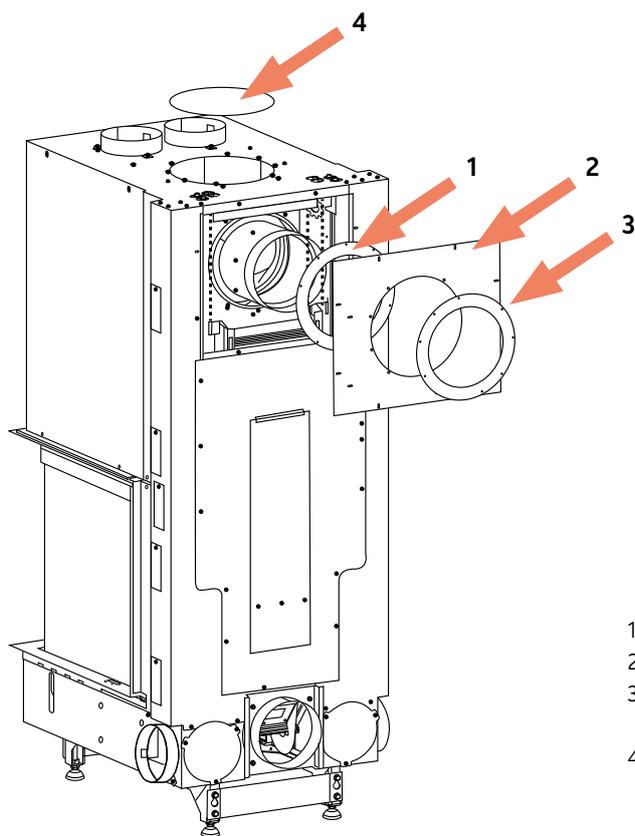
Turn the flue gas flue backwards.

5



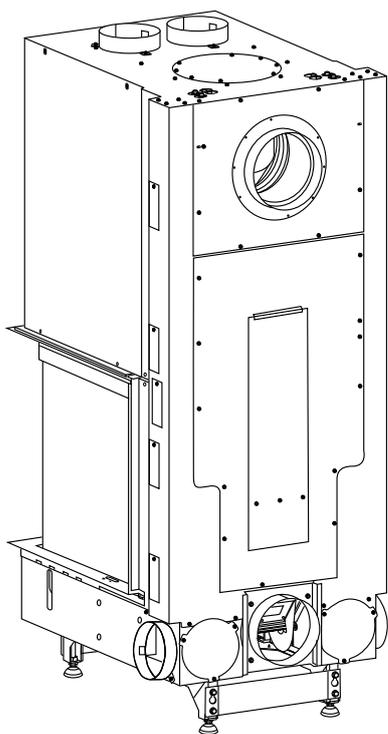
Slide the connection piece into the pivoting head of the flue gas outlet.

⑥



1. Slide the cover ring over the connection piece and secure it.
2. Mount the square cover plate.
3. Slide the second cover ring over the connection piece and secure this.
4. Mount the round cover plate onto the top of the appliance.

⑦



#### Points for attention

- Make sure that you can clean the horizontal portion of the rear connection.
- The horizontal portion may not exceed 50 cm.

## APPENDIX G: Declarations of performance

**Declaration of performance according to Regulation (EU) 305/2011**

No. W45/48F

1.	<b>Unique identification code of the product-type</b>	Kalfire W45/48F	
2.	<b>Intended use</b>	Fireplace inserts for solid fuels	
3.	<b>Trade mark</b>	Kal-fire B.V. Geloërveldweg 21 5951 DH Belfeld Nederland <span style="float: right;">www.kalfire.com</span>	
4.	<b>System or systems of assessment and verification of constancy of performance of the construction product as set out in Annex V: System 3</b>		
5.	<b>The notified laboratory performed of the product type on the basis of type testing under system 3</b>		
	Notified body	Fraunhofer Institut, Nobelstraße 12, D-70569 Stuttgart, Deutschland	
	Notified body no.	1004	
	Test report no.	P8-064-2009	
6.	<b>Harmonized technical specification</b>	EN 13229:2001/A2:2004/AC:2007	
	<b>Essential characteristics</b>	<b>Performance</b>	
	<b>Fire safety</b>	pass	
	<b>Flue gas temperature at nominal heat output</b>	197°C	
	<b>Safety distance to combustible material</b>	<b>Minimum distances in mm</b>	
		rear =	150 mm
		side =	150 mm
		front =	-
		floor =	0 mm
	<b>Risk of burning fuel falling out</b>	pass	
	<b>cleanability</b>	pass	
	<b>Emission of combustion products</b>	≤ 0,1%	
	<b>Surface temperature</b>	pass	
	<b>Electrical safety</b>	pass	
	<b>Release of dangerous substance</b>	no value determined	
	<b>Max. operation pressure</b>	not applicable	
	<b>Mechanical resistance (to carry a chimney/flue)</b>	pass	
	<b>Thermal output</b>		
	Nominal heat output	9,3 kW	
	Room heating output	not applicable	
Water heating output	not applicable		
Efficiency	≥80%		
7.	The performance of the product identified in points 1 and 2 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 4.		

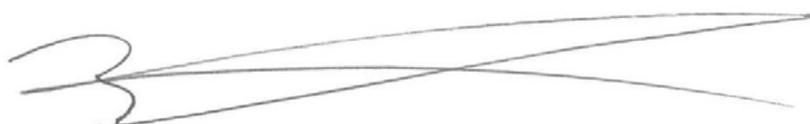
**Signed on behalf of the manufacturer**

Drs Ing Beijko van Melick Msc, Managing Director - Kal-fire B.V.

**name and function**

Belfeld, 01-05-2022

**place and date of issue**



**signature**

**Declaration of performance according to Regulation (EU) 305/2011**

No. W53/50R

1.	<b>Unique identification code of the product-type</b>	Kalfire W53/50R	
2.	<b>Intended use</b>	Fireplace inserts for solid fuels	
3.	<b>Trade mark</b>	Kal-fire B.V. Geloërveldweg 21 5951 DH Belfeld Nederland <span style="float: right;">www.kalfire.com</span>	
4.	<b>System or systems of assessment and verification of constancy of performance of the construction product as set out in Annex V: System 3</b>		
5.	<b>The notified laboratory performed of the product type on the basis of type testing under system 3</b>		
	Notified body	Fraunhofer Institut, Nobelstraße 12, D-70569 Stuttgart, Deutschland	
	Notified body no.	1004	
	Test report no.	P8-020-2018	
6.	<b>Harmonized technical specification</b>	EN 13229:2001/A2:2004/AC:2007	
	<b>Essential characteristics</b>	<b>Performance</b>	
	<b>Fire safety</b>	pass	
	<b>Flue gas temperature at nominal heat output</b>	230°C	
	<b>Safety distance to combustible material</b>	<b>Minimum distances in mm</b>	
		rear =	100 mm
		side =	50 mm
		front =	-
		floor =	0 mm
	<b>Risk of burning fuel falling out</b>	pass	
	<b>cleanability</b>	pass	
	<b>Emission of combustion products</b>	≤ 0,1%	
	<b>Surface temperature</b>	pass	
	<b>Electrical safety</b>	pass	
	<b>Release of dangerous substance</b>	no value determined	
	<b>Max. operation pressure</b>	not applicable	
	<b>Mechanical resistance (to carry a chimney/flue)</b>	pass	
	<b>Thermal output</b>		
	Nominal heat output	13,0 kW	
	Room heating output	not applicable	
Water heating output	not applicable		
Efficiency	≥80%		
7.	The performance of the product identified in points 1 and 2 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 4.		

**Signed on behalf of the manufacturer**

Drs Ing Beijko van Melick Msc, Managing Director - Kal-fire B.V.

**name and function**

Belfeld, 01-05-2022

**place and date of issue**



**signature**

**Declaration of performance according to Regulation (EU) 305/2011**

No. W60/51F

1.	<b>Unique identification code of the product-type</b>	Kalfire W60/51F	
2.	<b>Intended use</b>	Fireplace inserts for solid fuels	
3.	<b>Trade mark</b>	Kal-fire B.V. Geloërveldweg 21 5951 DH Belfeld Nederland <span style="float: right;">www.kalfire.com</span>	
4.	<b>System or systems of assessment and verification of constancy of performance of the construction product as set out in Annex V: System 3</b>		
5.	<b>The notified laboratory performed of the product type on the basis of type testing under system 3</b>		
	Notified body	Fraunhofer Institut, Nobelstraße 12, D-70569 Stuttgart, Deutschland	
	Notified body no.	1004	
	Test report no.	P8-003-2015	
6.	<b>Harmonized technical specification</b>	EN 13229:2001/A2:2004/AC:2007	
	<b>Essential characteristics</b>	<b>Performance</b>	
	<b>Fire safety</b>	pass	
	<b>Flue gas temperature at nominal heat output</b>	260°C	
	<b>Safety distance to combustible material</b>	<b>Minimum distances in mm</b>	
		rear =	200 mm
		side =	200 mm
		front =	-
		floor =	0 mm
	<b>Risk of burning fuel falling out</b>	pass	
	<b>cleanability</b>	pass	
	<b>Emission of combustion products</b>	≤ 0,1%	
	<b>Surface temperature</b>	pass	
	<b>Electrical safety</b>	pass	
	<b>Release of dangerous substance</b>	no value determined	
	<b>Max. operation pressure</b>	not applicable	
	<b>Mechanical resistance (to carry a chimney/flue)</b>	pass	
	<b>Thermal output</b>		
	Nominal heat output	13,2 kW	
	Room heating output	not applicable	
Water heating output	not applicable		
Efficiency	≥80%		
7.	The performance of the product identified in points 1 and 2 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 4.		

**Signed on behalf of the manufacturer**

Drs Ing Beijko van Melick Msc, Managing Director - Kal-fire B.V.

**name and function**

Belfeld, 01-05-2022

**place and date of issue**



**signature**

**Declaration of performance according to Regulation (EU) 305/2011**

No. W65/38C

1.	<b>Unique identification code of the product-type</b>	Kalfire W65/38C	
2.	<b>Intended use</b>	Fireplace inserts for solid fuels	
3.	<b>Trade mark</b>	Kal-fire B.V. Geloërveldweg 21 5951 DH Belfeld Nederland <span style="float: right;">www.kalfire.com</span>	
4.	<b>System or systems of assessment and verification of constancy of performance of the construction product as set out in Annex V: System 3</b>		
5.	<b>The notified laboratory performed of the product type on the basis of type testing under system 3</b>		
	Notified body	Fraunhofer Institut, Nobelstraße 12, D-70569 Stuttgart, Deutschland	
	Notified body no.	1004	
	Test report no.	P8-020-2014	
6.	<b>Harmonized technical specification</b>	EN 13229:2001/A2:2004/AC:2007	
	<b>Essential characteristics</b>	<b>Performance</b>	
	<b>Fire safety</b>	pass	
	<b>Flue gas temperature at nominal heat output</b>	257°C	
	<b>Safety distance to combustible material</b>	<b>Minimum distances in mm</b>	
		rear =	150 mm
		side =	50 mm
		front =	-
		floor =	0 mm
	<b>Risk of burning fuel falling out</b>	pass	
	<b>cleanability</b>	pass	
	<b>Emission of combustion products</b>	≤ 0,1%	
	<b>Surface temperature</b>	pass	
	<b>Electrical safety</b>	pass	
	<b>Release of dangerous substance</b>	no value determined	
	<b>Max. operation pressure</b>	not applicable	
	<b>Mechanical resistance (to carry a chimney/flue)</b>	pass	
	<b>Thermal output</b>		
	Nominal heat output	13,0 kW	
Room heating output	not applicable		
Water heating output	not applicable		
Efficiency	≥80%		
7.	The performance of the product identified in points 1 and 2 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 4.		

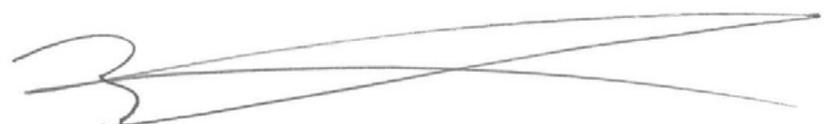
**Signed on behalf of the manufacturer**

Drs Ing Beijko van Melick Msc, Managing Director - Kal-fire B.V.

**name and function**

Belfeld, 01-05-2022

**place and date of issue**



**signature**

**Declaration of performance according to Regulation (EU) 305/2011**

No. W66/48S

1.	<b>Unique identification code of the product-type</b>	Kalfire W66/48S	
2.	<b>Intended use</b>	Fireplace inserts for solid fuels	
3.	<b>Trade mark</b>	Kal-fire B.V. Geloërveldweg 21 5951 DH Belfeld Nederland <span style="float: right;">www.kalfire.com</span>	
4.	<b>System or systems of assessment and verification of constancy of performance of the construction product as set out in Annex V: System 3</b>		
5.	<b>The notified laboratory performed of the product type on the basis of type testing under system 3</b>		
	Notified body	Fraunhofer Institut, Nobelstraße 12, D-70569 Stuttgart, Deutschland	
	Notified body no.	1004	
	Test report no.	P8-054-2015	
6.	<b>Harmonized technical specification</b>	EN 13229:2001/A2:2004/AC:2007	
	<b>Essential characteristics</b>	<b>Performance</b>	
	<b>Fire safety</b>	pass	
	<b>Flue gas temperature at nominal heat output</b>	247°C	
	<b>Safety distance to combustible material</b>	<b>Minimum distances in mm</b>	
		rear =	150 mm
		side =	50 mm
		front =	-
		floor =	0 mm
	<b>Risk of burning fuel falling out</b>	pass	
	<b>cleanability</b>	pass	
	<b>Emission of combustion products</b>	≤ 0,1%	
	<b>Surface temperature</b>	pass	
	<b>Electrical safety</b>	pass	
	<b>Release of dangerous substance</b>	no value determined	
	<b>Max. operation pressure</b>	not applicable	
	<b>Mechanical resistance (to carry a chimney/flue)</b>	pass	
	<b>Thermal output</b>		
	Nominal heat output	13,3 kW	
	Room heating output	not applicable	
Water heating output	not applicable		
Efficiency	≥80%		
7.	The performance of the product identified in points 1 and 2 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 4.		

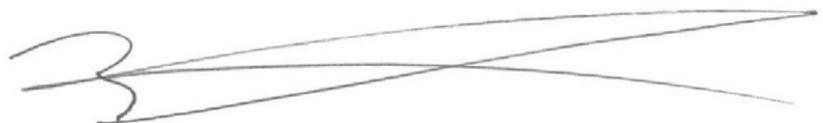
**Signed on behalf of the manufacturer**

Drs Ing Beijko van Melick Msc, Managing Director - Kal-fire B.V.

**name and function**

Belfeld, 01-05-2022

**place and date of issue**



**signature**

**Declaration of performance according to Regulation (EU) 305/2011**

No. W70/33F

1.	<b>Unique identification code of the product-type</b>	Kalfire W70/33F	
2.	<b>Intended use</b>	Fireplace inserts for solid fuels	
3.	<b>Trade mark</b>	Kal-fire B.V. Geloërveldweg 21 5951 DH Belfeld Nederland <span style="float: right;">www.kalfire.com</span>	
4.	<b>System or systems of assessment and verification of constancy of performance of the construction product as set out in Annex V: System 3</b>		
5.	<b>The notified laboratory performed of the product type on the basis of type testing under system 3</b>		
	Notified body	Fraunhofer Institut, Nobelstraße 12, D-70569 Stuttgart, Deutschland	
	Notified body no.	1004	
	Test report no.	P8-017-2015	
6.	<b>Harmonized technical specification</b>	EN 13229:2001/A2:2004/AC:2007	
	<b>Essential characteristics</b>	<b>Performance</b>	
	<b>Fire safety</b>	pass	
	<b>Flue gas temperature at nominal heat output</b>	282°C	
	<b>Safety distance to combustible material</b>	<b>Minimum distances in mm</b>	
		rear =	200 mm
		side =	200 mm
		front =	-
		floor =	0 mm
	<b>Risk of burning fuel falling out</b>	pass	
	<b>cleanability</b>	pass	
	<b>Emission of combustion products</b>	≤ 0,1%	
	<b>Surface temperature</b>	pass	
	<b>Electrical safety</b>	pass	
	<b>Release of dangerous substance</b>	no value determined	
	<b>Max. operation pressure</b>	not applicable	
	<b>Mechanical resistance (to carry a chimney/flue)</b>	pass	
	<b>Thermal output</b>		
	Nominal heat output	12,1 kW	
Room heating output	not applicable		
Water heating output	not applicable		
Efficiency	≥80%		
7.	The performance of the product identified in points 1 and 2 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 4.		

**Signed on behalf of the manufacturer**

Drs Ing Beijko van Melick Msc, Managing Director - Kal-fire B.V.

**name and function**

Belfeld, 01-05-2022

**place and date of issue**



**signature**

**Declaration of performance according to Regulation (EU) 305/2011**

No. W71/62F

1.	<b>Unique identification code of the product-type</b>	Kalfire W71/62F	
2.	<b>Intended use</b>	Fireplace inserts for solid fuels	
3.	<b>Trade mark</b>	Kal-fire B.V. Geloërveldweg 21 5951 DH Belfeld Nederland <span style="float: right;">www.kalfire.com</span>	
4.	<b>System or systems of assessment and verification of constancy of performance of the construction product as set out in Annex V: System 3</b>		
5.	<b>The notified laboratory performed of the product type on the basis of type testing under system 3</b>		
	Notified body	Fraunhofer Institut, Nobelstraße 12, D-70569 Stuttgart, Deutschland	
	Notified body no.	1004	
	Test report no.	P8-025-2011	
6.	<b>Harmonized technical specification</b>	EN 13229:2001/A2:2004/AC:2007	
	<b>Essential characteristics</b>	<b>Performance</b>	
	<b>Fire safety</b>	pass	
	<b>Flue gas temperature at nominal heat output</b>	302°C	
	<b>Safety distance to combustible material</b>	<b>Minimum distances in mm</b>	
		rear =	200 mm
		side =	200 mm
		front =	-
		floor =	0 mm
	<b>Risk of burning fuel falling out</b>	pass	
	<b>cleanability</b>	pass	
	<b>Emission of combustion products</b>	≤ 0,1%	
	<b>Surface temperature</b>	pass	
	<b>Electrical safety</b>	pass	
	<b>Release of dangerous substance</b>	no value determined	
	<b>Max. operation pressure</b>	not applicable	
	<b>Mechanical resistance (to carry a chimney/flue)</b>	pass	
	<b>Thermal output</b>		
	Nominal heat output	16,0 kW	
	Room heating output	not applicable	
Water heating output	not applicable		
Efficiency	≥80%		
7.	The performance of the product identified in points 1 and 2 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 4.		

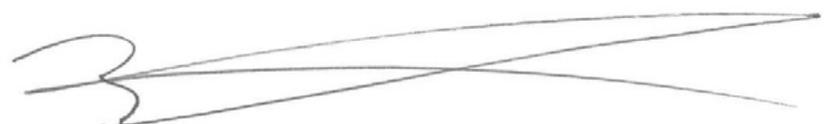
**Signed on behalf of the manufacturer**

Drs Ing Beijko van Melick Msc, Managing Director - Kal-fire B.V.

**name and function**

Belfeld, 01-05-2022

**place and date of issue**



**signature**

**Declaration of performance according to Regulation (EU) 305/2011**

No. W80/52T

1.	<b>Unique identification code of the product-type</b>	Kalfire W80/52T	
2.	<b>Intended use</b>	Fireplace inserts for solid fuels	
3.	<b>Trade mark</b>	Kal-fire B.V. Geloërveldweg 21 5951 DH Belfeld Nederland <span style="float: right;">www.kalfire.com</span>	
4.	<b>System or systems of assessment and verification of constancy of performance of the construction product as set out in Annex V: System 3</b>		
5.	<b>The notified laboratory performed of the product type on the basis of type testing under system 3</b>		
	Notified body	Fraunhofer Institut, Nobelstraße 12, D-70569 Stuttgart, Deutschland	
	Notified body no.	1004	
	Test report no.	P8-070-2015	
6.	<b>Harmonized technical specification</b>	EN 13229:2001/A2:2004/AC:2007	
	<b>Essential characteristics</b>	<b>Performance</b>	
	<b>Fire safety</b>	pass	
	<b>Flue gas temperature at nominal heat output</b>	262°C	
	<b>Safety distance to combustible material</b>	<b>Minimum distances in mm</b>	
		rear =	400 mm
		side =	-
		front =	-
		floor =	0 mm
	<b>Risk of burning fuel falling out</b>	pass	
	<b>cleanability</b>	pass	
	<b>Emission of combustion products</b>	≤ 0,1%	
	<b>Surface temperature</b>	pass	
	<b>Electrical safety</b>	pass	
	<b>Release of dangerous substance</b>	no value determined	
	<b>Max. operation pressure</b>	not applicable	
	<b>Mechanical resistance (to carry a chimney/flue)</b>	pass	
<b>Thermal output</b>			
Nominal heat output	16,8 kW		
Room heating output	not applicable		
Water heating output	not applicable		
Efficiency	≥80%		
7.	The performance of the product identified in points 1 and 2 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 4.		

**Signed on behalf of the manufacturer**

Drs Ing Beijko van Melick Msc, Managing Director - Kal-fire B.V.

**name and function**

Belfeld, 01-05-2022

**place and date of issue**



**signature**

**Declaration of performance according to Regulation (EU) 305/2011**

No. W85/40F

1.	<b>Unique identification code of the product-type</b>	Kalfire W85/40F	
2.	<b>Intended use</b>	Fireplace inserts for solid fuels	
3.	<b>Trade mark</b>	Kal-fire B.V. Geloërveldweg 21 5951 DH Belfeld Nederland <span style="float: right;">www.kalfire.com</span>	
4.	<b>System or systems of assessment and verification of constancy of performance of the construction product as set out in Annex V: System 3</b>		
5.	<b>The notified laboratory performed of the product type on the basis of type testing under system 3</b>		
	Notified body	Fraunhofer Institut, Nobelstraße 12, D-70569 Stuttgart, Deutschland	
	Notified body no.	1004	
	Test report no.	P8-001-2015	
6.	<b>Harmonized technical specification</b>	EN 13229:2001/A2:2004/AC:2007	
	<b>Essential characteristics</b>	<b>Performance</b>	
	<b>Fire safety</b>	pass	
	<b>Flue gas temperature at nominal heat output</b>	257°C	
	<b>Safety distance to combustible material</b>	<b>Minimum distances in mm</b>	
		rear =	150 mm
		side =	150 mm
		front =	-
		floor =	0 mm
	<b>Risk of burning fuel falling out</b>	pass	
	<b>cleanability</b>	pass	
	<b>Emission of combustion products</b>	≤ 0,1%	
	<b>Surface temperature</b>	pass	
	<b>Electrical safety</b>	pass	
	<b>Release of dangerous substance</b>	no value determined	
	<b>Max. operation pressure</b>	not applicable	
	<b>Mechanical resistance (to carry a chimney/flue)</b>	pass	
	<b>Thermal output</b>		
	Nominal heat output	14,8 kW	
Room heating output	not applicable		
Water heating output	not applicable		
Efficiency	≥80%		
7.	The performance of the product identified in points 1 and 2 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 4.		

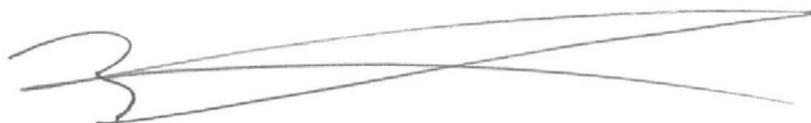
**Signed on behalf of the manufacturer**

Drs Ing Beijko van Melick Msc, Managing Director - Kal-fire B.V.

**name and function**

Belfeld, 01-05-2022

**place and date of issue**



**signature**

**Declaration of performance according to Regulation (EU) 305/2011**

No. W90/47C

1.	<b>Unique identification code of the product-type</b>	Kalfire W90/47C	
2.	<b>Intended use</b>	Fireplace inserts for solid fuels	
3.	<b>Trade mark</b>	Kal-fire B.V. Geloërveldweg 21 5951 DH Belfeld Nederland <span style="float: right;">www.kalfire.com</span>	
4.	<b>System or systems of assessment and verification of constancy of performance of the construction product as set out in Annex V: System 3</b>		
5.	<b>The notified laboratory performed of the product type on the basis of type testing under system 3</b>		
	Notified body	Fraunhofer Institut, Nobelstraße 12, D-70569 Stuttgart, Deutschland	
	Notified body no.	1004	
	Test report no.	P8-048-2010	
6.	<b>Harmonized technical specification</b>	EN 13229:2001/A2:2004/AC:2007	
	<b>Essential characteristics</b>	<b>Performance</b>	
	<b>Fire safety</b>	pass	
	<b>Flue gas temperature at nominal heat output</b>	241°C	
	<b>Safety distance to combustible material</b>	<b>Minimum distances in mm</b>	
		rear =	100 mm
		side =	100 mm
		front =	-
		floor =	0 mm
	<b>Risk of burning fuel falling out</b>	pass	
	<b>cleanability</b>	pass	
	<b>Emission of combustion products</b>	≤ 0,1%	
	<b>Surface temperature</b>	pass	
	<b>Electrical safety</b>	pass	
	<b>Release of dangerous substance</b>	no value determined	
	<b>Max. operation pressure</b>	not applicable	
	<b>Mechanical resistance (to carry a chimney/flue)</b>	pass	
	<b>Thermal output</b>		
	Nominal heat output	14,9 kW	
Room heating output	not applicable		
Water heating output	not applicable		
Efficiency	≥80%		
7.	The performance of the product identified in points 1 and 2 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 4.		

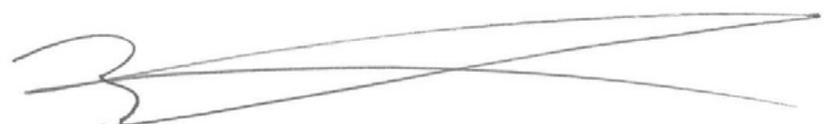
**Signed on behalf of the manufacturer**

Drs Ing Beijko van Melick Msc, Managing Director - Kal-fire B.V.

**name and function**

Belfeld, 01-05-2022

**place and date of issue**



**signature**

**Declaration of performance according to Regulation (EU) 305/2011**

No. W90/47S

1.	<b>Unique identification code of the product-type</b>	Kalfire W90/47S	
2.	<b>Intended use</b>	Fireplace inserts for solid fuels	
3.	<b>Trade mark</b>	Kal-fire B.V. Geloërveldweg 21 5951 DH Belfeld Nederland <span style="float: right;">www.kalfire.com</span>	
4.	<b>System or systems of assessment and verification of constancy of performance of the construction product as set out in Annex V: System 3</b>		
5.	<b>The notified laboratory performed of the product type on the basis of type testing under system 3</b>		
	Notified body	Fraunhofer Institut, Nobelstraße 12, D-70569 Stuttgart, Deutschland	
	Notified body no.	1004	
	Test report no.	P8-004-2013	
6.	<b>Harmonized technical specification</b>	EN 13229:2001/A2:2004/AC:2007	
	<b>Essential characteristics</b>	<b>Performance</b>	
	<b>Fire safety</b>	pass	
	<b>Flue gas temperature at nominal heat output</b>	248°C	
	<b>Safety distance to combustible material</b>	<b>Minimum distances in mm</b>	
		rear =	200 mm
		side =	50 mm
		front =	-
		floor =	0 mm
	<b>Risk of burning fuel falling out</b>	pass	
	<b>cleanability</b>	pass	
	<b>Emission of combustion products</b>	≤ 0,1%	
	<b>Surface temperature</b>	pass	
	<b>Electrical safety</b>	pass	
	<b>Release of dangerous substance</b>	no value determined	
	<b>Max. operation pressure</b>	not applicable	
	<b>Mechanical resistance (to carry a chimney/flue)</b>	pass	
<b>Thermal output</b>			
Nominal heat output	18 kW		
Room heating output	not applicable		
Water heating output	not applicable		
Efficiency	≥80%		
7.	The performance of the product identified in points 1 and 2 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 4.		

**Signed on behalf of the manufacturer**

Drs Ing Beijko van Melick Msc, Managing Director - Kal-fire B.V.

**name and function**

Belfeld, 01-05-2022

**place and date of issue**



**signature**

**Declaration of performance according to Regulation (EU) 305/2011**

No. W100/61F

1.	<b>Unique identification code of the product-type</b>	Kalfire W100/61F	
2.	<b>Intended use</b>	Fireplace inserts for solid fuels	
3.	<b>Trade mark</b>	Kal-fire B.V. Geloërveldweg 21 5951 DH Belfeld Nederland <span style="float: right;">www.kalfire.com</span>	
4.	<b>System or systems of assessment and verification of constancy of performance of the construction product as set out in Annex V: System 3</b>		
5.	<b>The notified laboratory performed of the product type on the basis of type testing under system 3</b>		
	Notified body	Fraunhofer Institut, Nobelstraße 12, D-70569 Stuttgart, Deutschland	
	Notified body no.	1004	
	Test report no.	P8-066-2010	
6.	<b>Harmonized technical specification</b>	EN 13229:2001/A2:2004/AC:2007	
	<b>Essential characteristics</b>	<b>Performance</b>	
	<b>Fire safety</b>	pass	
	<b>Flue gas temperature at nominal heat output</b>	255°C	
	<b>Safety distance to combustible material</b>	<b>Minimum distances in mm</b>	
		rear =	200 mm
		side =	200 mm
		front =	-
		floor =	0 mm
	<b>Risk of burning fuel falling out</b>	pass	
	<b>cleanability</b>	pass	
	<b>Emission of combustion products</b>	≤ 0,1%	
	<b>Surface temperature</b>	pass	
	<b>Electrical safety</b>	pass	
	<b>Release of dangerous substance</b>	no value determined	
	<b>Max. operation pressure</b>	not applicable	
	<b>Mechanical resistance (to carry a chimney/flue)</b>	pass	
	<b>Thermal output</b>		
	Nominal heat output	17,5 kW	
	Room heating output	not applicable	
Water heating output	not applicable		
Efficiency	≥80%		
7.	The performance of the product identified in points 1 and 2 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 4.		

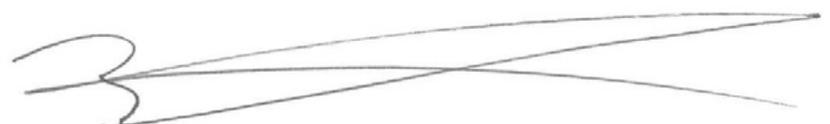
**Signed on behalf of the manufacturer**

Drs Ing Beijko van Melick Msc, Managing Director - Kal-fire B.V.

**name and function**

Belfeld, 01-05-2022

**place and date of issue**



**signature**

**Declaration of performance according to Regulation (EU) 305/2011**

No. W105/47F

1.	<b>Unique identification code of the product-type</b>	Kalfire W105/47F	
2.	<b>Intended use</b>	Fireplace inserts for solid fuels	
3.	<b>Trade mark</b>	Kal-fire B.V. Geloërveldweg 21 5951 DH Belfeld Nederland <span style="float: right;">www.kalfire.com</span>	
4.	<b>System or systems of assessment and verification of constancy of performance of the construction product as set out in Annex V: System 3</b>		
5.	<b>The notified laboratory performed of the product type on the basis of type testing under system 3</b>		
	Notified body	Fraunhofer Institut, Nobelstraße 12, D-70569 Stuttgart, Deutschland	
	Notified body no.	1004	
	Test report no.	P8-019-2015	
6.	<b>Harmonized technical specification</b>	EN 13229:2001/A2:2004/AC:2007	
	<b>Essential characteristics</b>	<b>Performance</b>	
	<b>Fire safety</b>	pass	
	<b>Flue gas temperature at nominal heat output</b>	245°C	
	<b>Safety distance to combustible material</b>	<b>Minimum distances in mm</b>	
		rear =	150 mm
		side =	150 mm
		front =	-
		floor =	0 mm
	<b>Risk of burning fuel falling out</b>	pass	
	<b>cleanability</b>	pass	
	<b>Emission of combustion products</b>	≤ 0,1%	
	<b>Surface temperature</b>	pass	
	<b>Electrical safety</b>	pass	
	<b>Release of dangerous substance</b>	no value determined	
	<b>Max. operation pressure</b>	not applicable	
	<b>Mechanical resistance (to carry a chimney/flue)</b>	pass	
	<b>Thermal output</b>		
	Nominal heat output	17,6 kW	
	Room heating output	not applicable	
Water heating output	not applicable		
Efficiency	≥80%		
7.	The performance of the product identified in points 1 and 2 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 4.		

**Signed on behalf of the manufacturer**

Drs Ing Beijko van Melick Msc, Managing Director - Kal-fire B.V.

**name and function**

Belfeld, 01-05-2022

**place and date of issue**



**signature**

**Declaration of performance according to Regulation (EU) 305/2011**

No. W105/47T

1.	<b>Unique identification code of the product-type</b>	Kalfire W105/47T	
2.	<b>Intended use</b>	Fireplace inserts for solid fuels	
3.	<b>Trade mark</b>	Kal-fire B.V. Geloërveldweg 21 5951 DH Belfeld Nederland <span style="float: right;">www.kalfire.com</span>	
4.	<b>System or systems of assessment and verification of constancy of performance of the construction product as set out in Annex V: System 3</b>		
5.	<b>The notified laboratory performed of the product type on the basis of type testing under system 3</b>		
	Notified body	Fraunhofer Institut, Nobelstraße 12, D-70569 Stuttgart, Deutschland	
	Notified body no.	1004	
	Test report no.	P8-007-2010	
6.	<b>Harmonized technical specification</b>	EN 13229:2001/A2:2004/AC:2007	
	<b>Essential characteristics</b>	<b>Performance</b>	
	<b>Fire safety</b>	pass	
	<b>Flue gas temperature at nominal heat output</b>	277°C	
	<b>Safety distance to combustible material</b>	<b>Minimum distances in mm</b>	
		rear =	400 mm
		side =	-
		front =	-
		floor =	0 mm
	<b>Risk of burning fuel falling out</b>	pass	
	<b>cleanability</b>	pass	
	<b>Emission of combustion products</b>	≤ 0,1%	
	<b>Surface temperature</b>	pass	
	<b>Electrical safety</b>	pass	
	<b>Release of dangerous substance</b>	no value determined	
	<b>Max. operation pressure</b>	not applicable	
	<b>Mechanical resistance (to carry a chimney/flue)</b>	pass	
	<b>Thermal output</b>		
	Nominal heat output	17,7 kW	
	Room heating output	not applicable	
Water heating output	not applicable		
Efficiency	≥78%		
7.	The performance of the product identified in points 1 and 2 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 4.		

**Signed on behalf of the manufacturer**

Drs Ing Beijko van Melick Msc, Managing Director - Kal-fire B.V.

**name and function**

Belfeld, 01-05-2022

**place and date of issue**



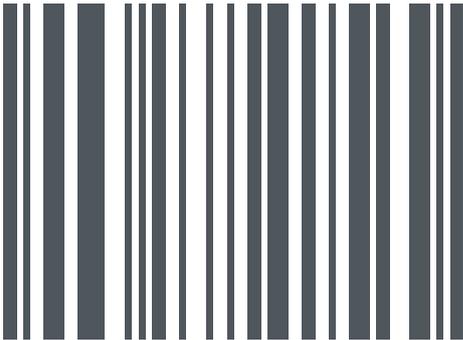
**signature**



**KALFIRE**  
FIREPLACES

Geloërveldweg 21  
5951 DH Belfeld  
info@kalfire.com  
www.kalfire.com

DON'T COMPROMISE.



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