



Kalfire W

Installation and user manual
CLOSED WOOD BURNING FIREPLACES

KALFIRE

FIREPLACES

Closed woodburning fireplaces Kalfire W

Product:	Kalfire
Productgroup:	Closed woodburning fireplaces with elevating door
Use:	Closed
Models	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
Norm	EN 16510-2-2:2022 (Type BE, Type BF)
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Note: always read and follow the instructions before use.



Use only the recommended fuels.

1. Introduction

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 with the appliance, 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.

1.1 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 in accordance with CE standard EN 16510-2-2:2022. Each unit is technically and functionally inspected before leaving the factory, in line with quality standards.

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 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 lies entirely with 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.



REMARK

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:

1. If the aforementioned points have not been complied with, in part or in full.
2. If alterations to the fireplace have been brought about without Kalfire's written permission to do so.
3. If the fireplace passes into new ownership.
4. If the fireplace has not been installed and/or utilised in accordance with the Installation and User Manual.
5. Should deviation from the Kalfire specifications have occurred in any way or form during installation of the Kalfire-specified concentric flue duct system.
6. Damage attributable to external influences (shocks, lightning, falling, flooding or overheating of the appliance) during transport, storage or installation.
7. Should the fireplace be impacted by neglect, improper use and/or gross negligence.
8. 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.
9. 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-assemble 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.

Register your fireplace for better service and support

We recommend registering your fireplace.

By registering, we have the correct information about your appliance. In case of a malfunction or maintenance, we can assist you faster and more efficiently – if your installer or dealer is unable to resolve the issue or is no longer reachable.

To register, you will need the serial number of your fireplace. You can find this on the type plate (sticker with the technical details of the fireplace), located on the inside of the appliance, on the separate registration card supplied, and/or in the manual.

Registration is quick and only takes a few minutes. This ensures you receive the best possible service – now and in the future.

Register here:



2. Safety

2.1 Installation safety



WARNING!

- All installation work may only be carried out by an installer authorised by Kalfire.
- Observe the installation and safety regulations applicable in your country (for example, the Occupational Health and Safety Act).
- Carry out the installation carefully to prevent damage and accidents.
- Always wear appropriate personal protective equipment (gloves, safety glasses, and work clothing) during installation and maintenance.
- The wood-burning fireplace weighs more than 25 kg and must be moved by two people or with suitable lifting or transport equipment.
- Check that the local conditions correspond to the information on the appliance's type plate. The type plate is located at the bottom of the convection casing, to the left or right of the handle used to open the door.
- Install the wood-burning fireplace only in a room with sufficient ventilation, in accordance with the applicable standard.
- Always perform a chimney calculation as described under *Chimney Calculation* (see paragraph 5.6).
- Use only a flue system that meets the approval requirements of the appliance.
- Take the necessary precautions: use non-combustible materials to prevent overheating of floors, shelves, or walls near the fireplace.
- Check the operation of the appliance immediately after installation.

2.2 Installation instructions



WARNING!

The following conditions must be observed during installation:

1. Comply with the applicable national and regional regulations concerning safe distances between wall penetrations and walls, roof overhangs, and adjacent windows.
2. Use only non-combustible materials for the installation of the fireplace.
3. Insulating materials must comply with national quality standards. They must be resistant to high temperatures (at least 700 °C) to prevent, for example, unpleasant odours during operation.
4. If necessary, use ceramic fibre boards or rigid mineral wool panels to prevent loose insulation parts from entering the convection system.

5. Ensure that the convection air openings are not covered by insulation material. Attach the insulation securely to prevent displacement.
6. Use mats, panels or strips made of silicate-containing insulating materials (stone, slag or ceramic fibres) of building material class A1 in accordance with DIN 4102-1, with a maximum operating temperature of at least 700 °C, tested according to DIN 52271, and a nominal bulk density of 80 kg/m³. These materials must have an insulation material registration number in accordance with AGI-Q 132, without the numerical combination "99."
7. If the insulation layer is not held in place on all sides by walls, cladding or adjoining panels, fixings must be installed every 33 cm.
8. Other insulating materials, such as exposed concrete or mineral materials, require general construction approval from the Deutsches Institut für Bautechnik (DIBt) in Berlin. For more details, refer to DIN 18895, DIN 13229 or DIN 18160.
9. Alternative insulating materials have different thermal properties depending on their thickness. Use the manufacturer's chart to determine the required thickness.
10. Some thermal insulation materials are suitable for both the front wall and the heat insulation. This can significantly reduce the installation depth. Finish the insulation with a wear-resistant layer of stone or slag fibres to prevent particles from being carried into the installation area by the airflow. Other insulation boards may already be supplied with a wear-resistant finish from the factory.



WARNING!

The floor on which the fireplace is installed must have sufficient load-bearing capacity (the weight of the fireplace can be found in paragraph 9.4).



DANGER!

The floor on which the fireplace is installed must be made of non-combustible material (a floor protection plate), as hot ash and sparks may fall onto the floor.

2.3 Distance to combustible building materials

Observe the required distance to combustible building materials during installation.



CAREFUL!

Fireplaces must be installed at a sufficient distance from building components made of combustible building materials, or must be shielded in such a way that these components do not reach temperatures higher than 85 °C when the fireplace operates at its

nominal heat output. This requirement is considered fulfilled when the clearances and insulation specified in Table 1 are observed. The insulation specified in Table 1 may be replaced or reduced by using alternative insulation materials, provided they have a valid building authority approval.

The clearances specified in Table 1 indicate where insulation (D) is required and in what thickness. These specifications are based on the test results of the fireplace, in which a mineral wool core insulation board RD-KD 035 (0.035 W/m·K) was used. In certain cases, an additional air gap is required; this is indicated in the table with (L).

Fireplace model													
Distance (mm)	W45/48F	W53/50R	W60/51F	W65/38C	W66/48S	W70/33F	W71/62F	W80/52T	W85/40F	W90/47C	W90/47S	W100/61F	W105/47F
Distance beneath the appliance (dB)	100	150	100	150	150	100	100	100	100	150	150	150	100
Distance to the floor at the front (dF)	500	500	500	500	500	750	500	500	500	500	500	500	500
Distance to the ceiling (dC)	500	500	500	500	500	500	500	500	500	500	500	500	500
Distance to the rear wall (dR)	100 (A) 100 (I)	200 (I)	100 (A) 200 (I)	100 (I)	200 (I)	200 (I)	100 (A) 200 (I)	200 (I)	100 (A) 200 (I)	100 (I)	100 (A) 100 (I)	100 (A) 100 (I)	100 (A) 100 (I)
Distance to the side wall (dS)	50 (A) 100 (I)	250 (I)	100 (A) 200 (I)	100 (I)	200 (I)	200 (I)	100 (A) 200 (I)	200 (I)	100 (A) 200 (I)	100 (I)	150 (A) 100 (I)	100 (A) 100 (I)	100 (A) 100 (I)
Distance to the side wall within the radiation area (dL)	1300	1600	1300	800	1400	1300	1500	1600	1300	800	1600	1500	1500
Minimum distance to adjacent combustible materials (e.g. furniture) (dP)	1300	1600	1300	1500	1400	1300	1500	1600	1300	1500	1600	1500	1500

Table 1: Required distance (air gap (A)+ insulation(I)) between the fireplace and combustible materials

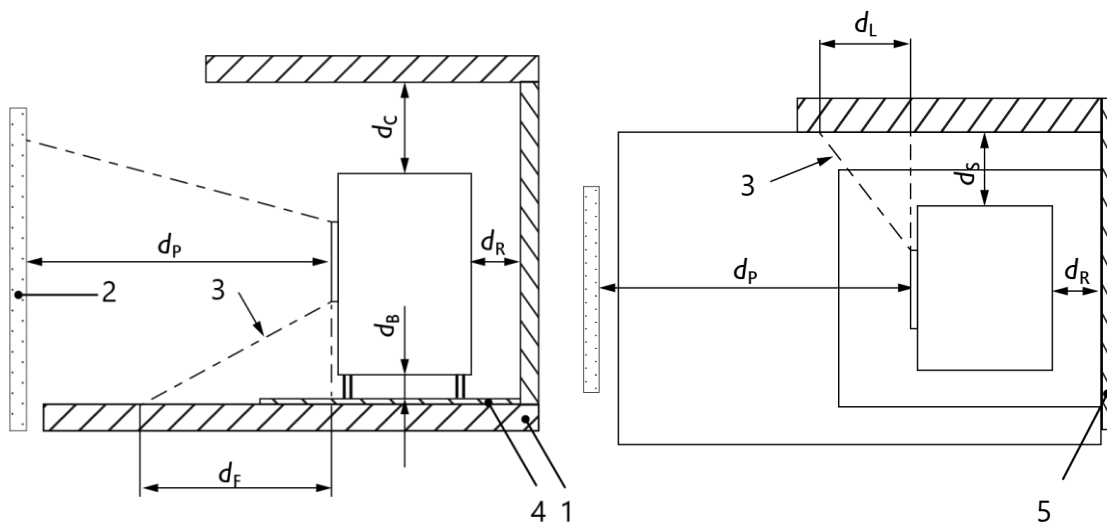


Figure 1: Side view and top view showing the positioning of a fireplace in relation to combustible materials

1. Floor made of combustible material
2. Adjacent combustible materials (e.g. furniture)
3. Radiation zone
4. Floor protection plate
5. Wall made of combustible material



DANGER!

In front of the door opening, the (combustible) floor must be protected: 50 cm forward from the glass side and 30 cm on the non-glass side.

2.4 Safe use

Using a wood-burning fireplace involves certain risks. The temperature within the radiation zone (active area) above and around the fire can become very high and may cause fire or burn hazards. Therefore, observe the following safety measures (see Figure 9).



WARNING!

Ensure that easily flammable materials such as curtains and furniture are kept at least the distance dP from the fireplace as specified in Table 1. If a radiation shield is installed, the minimum distance is 40 cm.

Risk of burns



DANGER!

Do not touch the fireplace! The fireplace becomes hot during operation and remains hot for some time after the fire has gone out. Take extra safety precautions if elderly people, persons with disabilities, or children are present near the fireplace.

Risk of discolouration



CAREFUL!

Dust particles or smoke from cigarettes, candles, or oil lamps may cause discolouration of walls and ceilings due to the heat radiation from the convection system. Ensure there is sufficient ventilation in the room where the fireplace is installed.



CAREFUL!

The metal inner wall of the fireplace expands when exposed to heat. This may cause damage or irregularities in the paint layer. Such imperfections can be repaired with a spray can (available from Kalfire).

2.5 Fireplace Fuel

Choice of Wood Types



CAREFUL!

The fireplace is designed for burning dry wood (maximum moisture content 15%). Damp wood will soil the ceramic glass and increase the risk of a chimney fire. In addition, it produces excessive smoke and odour, which is harmful to the environment and unpleasant for the surroundings.

Always use split, untreated wood. Do not burn chipboard, stained/painted wood, or combustible waste. This protects the environment and extends the lifespan of the fireplace. The most suitable wood types are beech, oak, and birch.



CAREFUL!

Use hardwood species such as oak, beech, and birch, as these contain little resin. Resinous woods such as pine, larch, and spruce produce many sparks and are therefore not recommended.

Kalfire advises against using only hardwood. It is better to combine different types of wood—for example, hardwood mixed with softwood. This provides an attractive flame pattern and extends the lifespan of the fireplace.

Log storage



REMARK!

Always ensure that dry wood is stored in a suitable location. To achieve the ideal moisture content, all types of wood should be stored for approximately 2 to 3 years in a dry, sheltered, and well-ventilated area — for example, under a canopy attached to the house. A cellar or garage without adequate ventilation is not suitable for wood storage.

Split the wood before storing it, as the bark can slow down the drying process. Since wood often contains insects, it is not advisable to store it indoors in the living area for long periods.

2.6 Behaviour in the event of a chimney fire

Sparks entering the flue from outside, extremely hot flue gases, or the use of damp or varnished wood can cause soot deposits to ignite, leading to a fireplace or chimney fire.

In the event of a chimney fire, the occupant must never attempt to extinguish the fire themselves. Water is absolutely unsuitable for this purpose — it evaporates instantly due to the extreme heat, which can cause cracks or even an explosion in the fireplace.

1. Always alert the fire brigade first.
2. Then close all windows and roof windows to prevent sparks from entering the building.
3. Remove all combustible objects and furniture from the vicinity of the heated fireplace walls as much as possible.
4. Leave the building and wait outside for the emergency services to arrive.

3. Description

3.1 General description

Closed wood-burning fireplaces are available in five versions:

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



CAREFUL!

Kalfire closed wood-burning fireplaces are tested and approved for use with the firebox door closed. Use with the door open is not covered by the certification. The rear wall is available in the following versions:

- Skamol (standard)
- Lamella
- Design

Front, tunnel, and room divider models are supplied as standard with a built-in frame measuring 2.5 cm deep and 4 mm thick. Specific variants are available for each fireplace model.

- Available accessories for the fireplace include:
 - Installation support kit
- Sealing kit
- Flue gas damper set
- Fresh air connection adapter
- Iron mantel support
- Hearth support bracket

For the connection to the flue, both single-walled and double-walled Kalfire flue systems are available.

3.2 Operation

The Kalfire W models are designed for burning dry wood. Fresh air for combustion is supplied in two ways:

- Via a primary air control, which operates automatically through a built-in thermostat.
- Via a secondary air control, which can be manually adjusted using the special key supplied with the fireplace.

When the fireplace is opened to add wood, the (patented) fresh air valve is activated. This ensures that the air does not flow directly into the combustion chamber, but is redirected to the space surrounding the fireplace.

The fireplace is equipped with a sliding lift door, which can be opened using the special key provided.

The lift door can be positioned at any desired height and has no frame, ensuring an unobstructed view of the flames. For easy cleaning, the door can be tilted or slid forward.

The fireplace is also fitted with service hatches, providing access to all moving parts for maintenance and servicing.

4. Preparation

4.1 Inspection of the wood-burning fireplace

Before installation, check whether the floor has sufficient load-bearing capacity to support the weight of the fireplace (see paragraph 9.4) and the intended cladding or enclosure construction over time. If not, take appropriate measures — for example, by distributing the load using a rigid, fire-resistant plate.

4.1.1 Pre-installation Check – Incoming Inspection

Upon delivery, check that all products are complete and undamaged. Report any defects immediately to Kalfire and/or the carrier. See paragraph 1.4 for further details.

Remove the transport locks:

- Front and tunnel models: Remove the corner pins with the yellow sticker on the front of the convection casing.
- Three-sided models and room dividers: see paragraph 9.1
- Corner model Kalfire W65/38C: see paragraph 9.2
- Corner model Kalfire W90/47C: see paragraph 9.3

Check the following components for correct operation:

- Lift door – up and down movement
- Cleaning door – tilting or sliding forward
- Secondary air control
- Adjustable feet
- Flue damper with control knob (if supplied as an accessory)
- Ventilation flaps (if supplied as an accessory)
- Hand over the installation and user manual personally to the end user of the fireplace.

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 hood and the outlet openings.



WARNING!

The surface on which the appliance is installed must have sufficient load-bearing capacity. If the existing structure does not meet this requirement, appropriate measures must be taken (for example, installing a plate to distribute the load).

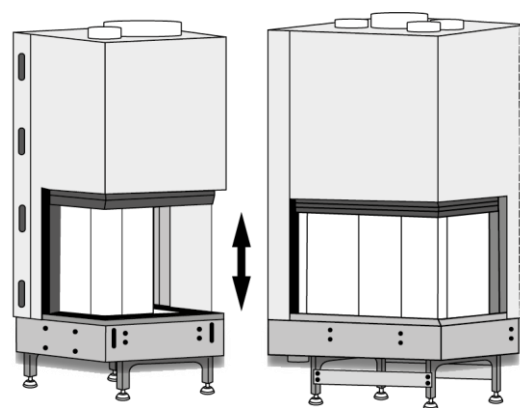


Figure 2: Kalfire W corner models and three-sided models – checking the lift door.

4.1.2 Checking the flue

To ensure proper operation, we recommend testing or firing the fireplace as early as possible — before the final installation (see Chapter 5). This allows you to determine whether an external flue damper is required.

The paint coating of the fireplace can also harden before the installation is fully completed, which prevents inconvenience for the user. This way, you can confirm in time that both the fireplace and the flue are functioning correctly.

Inspection points during the (test) firing:

- Check whether the flue is functioning properly. The minimum required draught is 12 Pa.
- Test the operation of the secondary air control. It becomes active after approximately 50 minutes of firing (see paragraph 5.2.2).

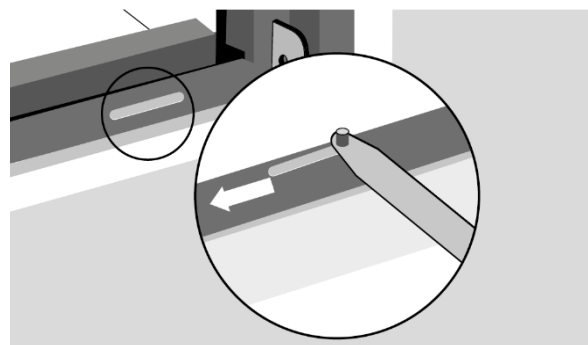


Figure 3: Checking the secondary air control

- Position fully to the right = maximum combustion air supply
 - Position fully to the left = air supply closed; the fire will gradually extinguish.
3. If the fire does not respond, or responds insufficiently, to adjustments of the secondary air control, you may consider installing an external flue damper.

4. After approximately 50 minutes of firing, close all windows and doors. Also switch off any air-moving devices such as extractor hoods, fans, etc.
5. Then open the lift door to check whether any smoke enters the room (see also the installation conditions in paragraph 5.2). If smoke does escape into the room, you may consider adjusting the deflectors (see paragraph 5.9).

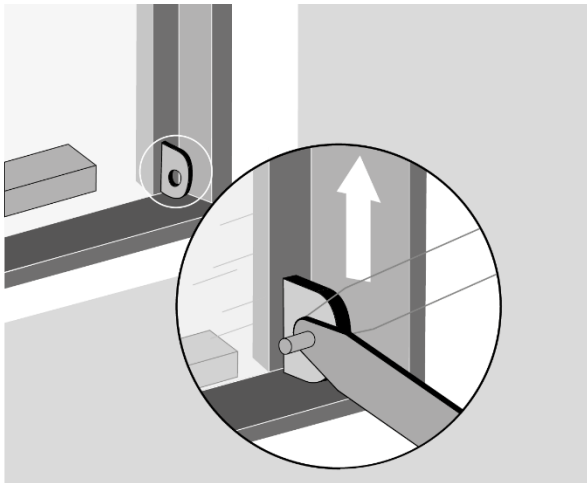


Figure 4: Opening the door to check for smoke leakage

6. Check, using a small amount of smoke, whether the convection air is being correctly supplied and discharged.

5. Installation



WARNING!

Always use appropriate personal protective equipment (gloves, safety glasses, and work clothing) during the installation of the fireplace.

5.1 Adjusting the Adjustable Feet

The fireplace is installed on adjustable feet.

Adjusting the Feet: Kalfire Front and Tunnel Fireplaces

Rough adjustment

Loosen the two screws and adjust the height roughly. Adjustment range: 38 cm. Do not forget to retighten the screws securely afterwards.

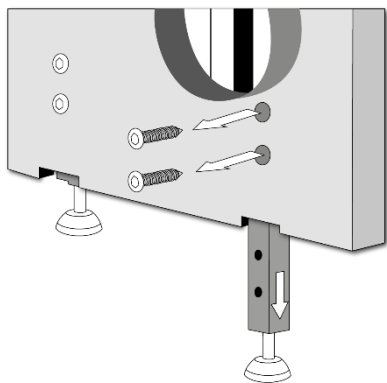


Figure 5: Rough adjustment of the adjustable feet

Fine adjustment

Loosen the screw on the adjustable foot and set the desired height. Adjustment range: 3 cm. This allows you to level the fireplace precisely.

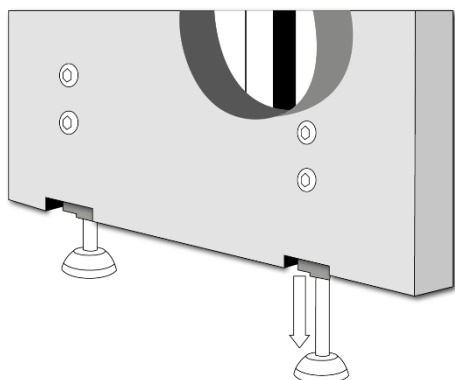


Figure 6: Fine adjustment of the adjustable feet

Adjusting the feet: Kalfire corner model, three-sided model, and room divider

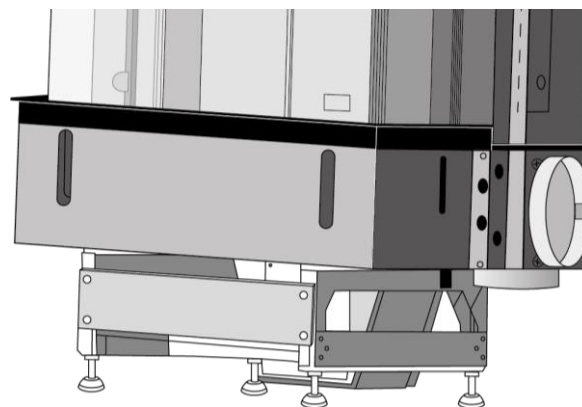


Figure 7: Adjustable feet – three-sided model

Fine adjustment

Loosen the screw on the adjustable foot and set the correct height. Adjustment range: 3 cm. This allows you to level the fireplace accurately.

5.2 Installation requirements and combustion air supply

When the wood-burning fireplace is used simultaneously with ventilation systems and/or extractor hoods, negative pressure may occur in the room in which the fireplace is installed. This can cause various problems, such as smoke being drawn back from the appliance. The negative pressure in the installation room must not exceed 4 Pa.



WARNING!

- Ensure sufficient ventilation in the room where the fireplace is installed.
- If additional air supply openings are required for combustion air, these must not be closed.
- If in doubt, consult your authorised chimney sweep.

Installation is not permitted in the following situations:

- In stairwells, except in buildings with a maximum of two dwellings.
- In entrance areas accessible to the general public.
- In rooms where easily flammable or explosive substances or mixtures are processed, stored or produced.
- In rooms or dwellings ventilated by air conditioning or warm air heating systems with fans, except in the cases below where safe operation of the Kalfire fireplace is guaranteed.

- The system circulates only the air within the room.
- The system is equipped with reliable safety devices that automatically create overpressure in the room in which the fireplace is installed.
- The combustion air flow of the fireplace and the air volume flows of the ventilation systems in the room itself and in rooms connected via air ducts must result in a negative pressure of less than 0.04 mbar. This must also remain guaranteed when easily accessible control devices of the ventilation system are adjusted or removed.
- For the operation of the exhaust system (e.g. via an open window or an air supply opening), fresh air must be supplied via the air supply system.

5.2.1 Requirements for the combustion air supply

Extraction systems used together with fireplaces in the same room, or in interconnected rooms, may cause problems. The requirements for the combustion air supply when used simultaneously with other appliances, and for the use of ventilation systems, are included in paragraph 9.4: Technical data Kalfire W.

5.2.2 Operation of the combustion air flow

With the ceramic glass closed, the fireplace draws combustion air directly through the fresh air inlet at the rear (A) or underside (A'). This air is directed via the air control (B) and the primary thermostat (C) into the combustion chamber, where it is used as primary or secondary combustion air.

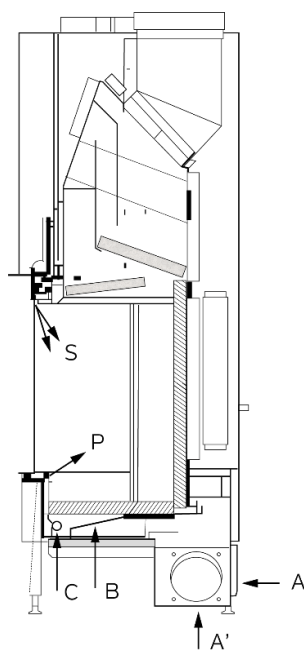


Figure 8: Cross-section Kalfire W – Combustion air

Primary combustion air (P)

The thermostat regulates this airflow automatically. When the fireplace is cold, the thermostat ensures that the air enters the combustion chamber through the lower primary air duct. As the fireplace heats up, this airflow gradually decreases. After approximately 50 minutes, the appliance reaches operating temperature and no primary air is required. The regulation of the primary air is fully automatic and cannot be adjusted.

Secondary combustion air (S)

This airflow is adjusted manually by sliding the secondary air control. Through air channels on the left and right sides of the combustion chamber, the air is preheated and then directed into the combustion chamber via the upper secondary air inlet.

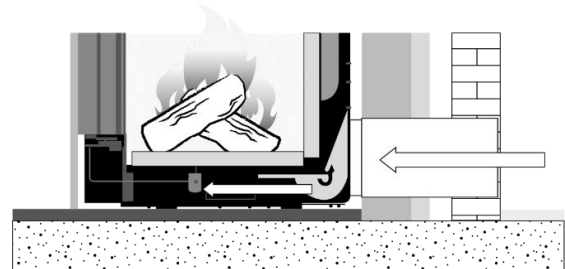


Figure 9: Detailed view – valve open

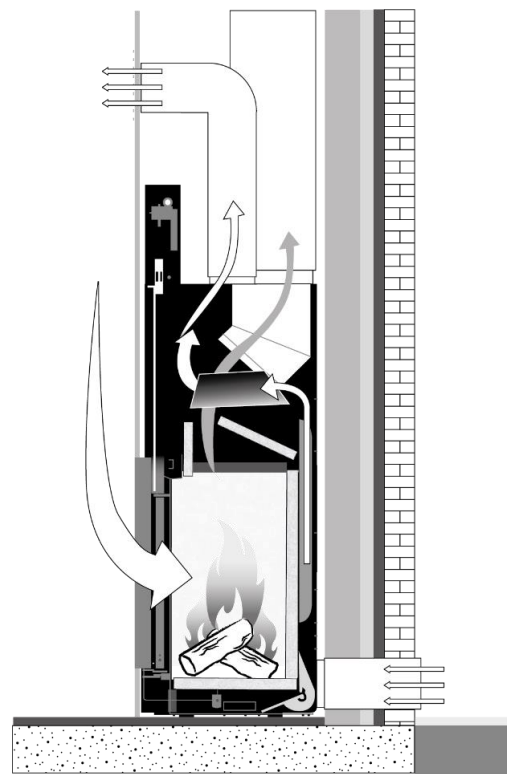


Figure 10: Airflow Kalfire W with the door open

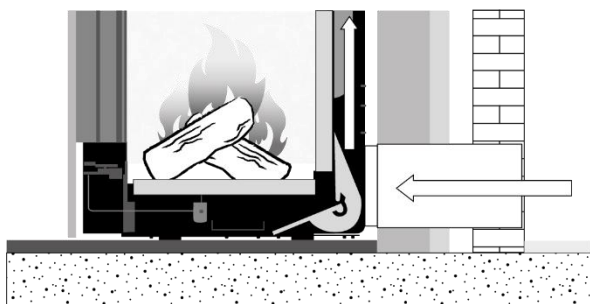


Figure 11: Detailed view – valve closed



CAREFUL!

Never close the secondary air control completely. Without airflow through the secondary air control, the fire may go out. This can cause the ceramic glass to become soiled more quickly.

When the door is open, the air demand of the fireplace changes. Due to the large opening at the front, a significant amount of air is drawn in. This air is taken from the room in which the fireplace is installed.

With the door open, the built-in fresh-air valve ensures that the air supply to the combustion chamber via the rear or bottom connection is closed off (see Figures 10–11). Instead, the air is redirected into the convection casing, from where it flows into the room as warmed air.

5.3 Provisions for combustion air



WARNING!

- The installation must have sufficient outside air to allow proper combustion. If calculations show that the required amount of combustion air is not met, installation is carried out at the risk of the installer authorised by Kalfire.
- If the length of the fresh air supply duct exceeds 2 metres, there is a risk that the fireplace will not receive enough fresh air for proper combustion.
- The use of flexible hoses for connecting the fresh air supply is permitted up to a maximum length of 1 metre.

The fireplace is equipped with a built-in fresh-air valve; in normal situations no additional air valve is required. In locations exposed to strong side winds or where large pressure differences between inside and outside occur, it is advisable to install an additional air valve. In that case, the valve must be clearly marked

for the open and closed position. Inform the user about the function and operation of this (these) 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

5.3.1 Fresh-air connection(s) at the bottom or rear

In corner fireplaces, the fresh-air connection is located on the side or at the bottom. The fresh-air connection cannot be converted to the rear.

Front and tunnel fireplaces, three-sided fireplaces and the room divider are supplied with the fresh-air connection at the rear as standard; this connection can, if required, be converted to the bottom:

1. Remove the connection collar at the rear of the fireplace.
2. Remove the closing plate at the bottom of the fireplace and install it at the rear in the position of the connection collar.
3. Install the connection collar at the bottom of the fireplace in the position of the closing plate.

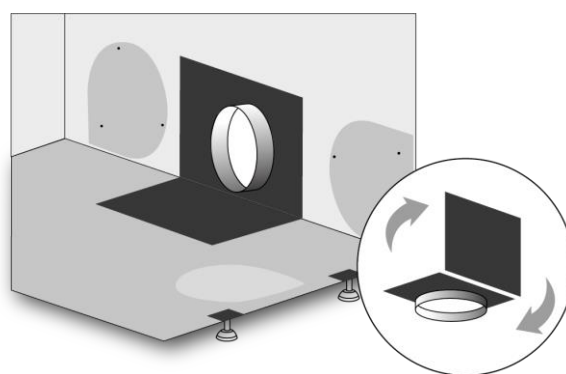


Figure 12: Relocating the fresh-air connection

5.3.2 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.

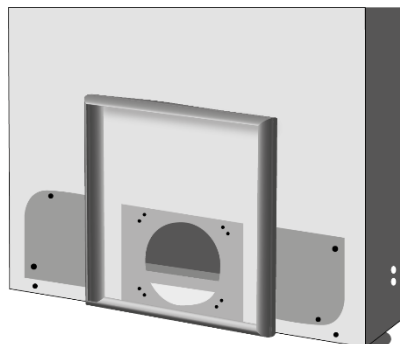


Figure 13: Fresh air connection without connecting collar

5.3.3 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.



CAREFUL!

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.

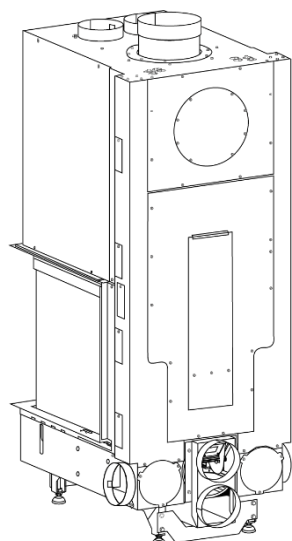


Figure 14: Kalfire W53/50R with Airbox 2 x Ø150 mm

5.4 Convection air provision

A convection hood surrounds the fireplace, providing the room with continuous, pleasant and efficient heating.

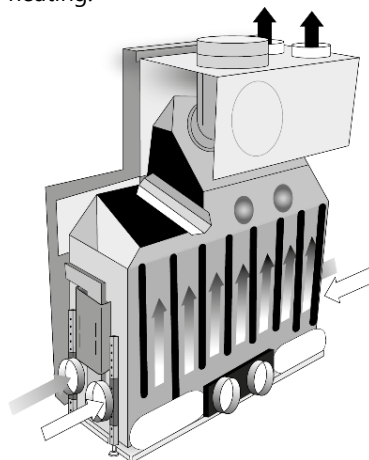


Figure 15: Convection hood operation

For optimal operation, you need a convection set. This (optional) convection set consists of:

Kalfire W45/48F en W60/51F

- 4 aluminium hoses Ø150 mm, 1.25 m: two hoses of 2.5 m that must be cut in half to create four hoses.
- 8 hose clamps.
- 4 convection vents: external size 20 cm x 20 cm, opening size 16.5 cm x 16.5 cm, with Ø150 mm connection collar.
- Iron mantel support; this must be cut to size.
- Small roll of felt for creating an expansion joint between the iron mantel support and the surround.

Kalfire W53/50R en W66/48S

- 4 aluminium hoses Ø150 mm, 1.25 m: two hoses of 2.5 m that must be cut in half to create four hoses.
- 8 hose clamps.
- 4 convection vents: external size 20 cm x 20 cm, opening size 16.5 cm x 16.5 cm, with Ø150 mm connection collar.



CAREFUL!

The iron mantel support (including accessories) for the Kalfire W53/50R and W66/48S must be ordered separately.

Kalfire W65/38C

- 2 aluminium hoses Ø150 mm, 1.25 m: one hose of 2.5 m that must be cut in half to create two hoses.
- 4 hose clamps.

- 2 convection vents: external size 20 cm × 20 cm, opening size 16.5 cm × 16.5 cm, with Ø150 mm connection collar.



CAREFUL!

The iron mantel support (including accessories) for the corner model Kalfire W65, both right- and left-sided versions, must be ordered separately.

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

- 8 aluminium hoses Ø150 mm: 4 × 1.25 m and 4 × 0.62 m (2 hoses of 2.5 m that must be cut in half to create 4 hoses, and 1 hose of 2.5 m that must be cut into four equal sections).
- 16 hose clamps.
- 4 convection vents: external size 35 cm × 20 cm, opening size 33 cm × 16.5 cm, with two Ø150 mm connection collars.
- Iron mantel support; this must be cut to size.
- Small roll of felt for creating an expansion joint between the iron mantel support and the surround.

Kalfire W80/52T

- 4 aluminium hoses Ø150 mm, 1.25 m: two hoses of 2.5 m that must be cut in half to create four hoses.
- 8 hose clamps.
- 4 convection vents: external size 20 cm × 20 cm, opening size 16.5 cm × 16.5 cm, with Ø150 mm connection collar.
- Iron mantel support; this must be cut to size.
- Small roll of felt for creating an expansion joint between the iron mantel support and the surround.

Kalfire W90/47C

- 4 aluminium slangen Ø150 mm 1,25 m: twee slangen van 2,5 m die u moet delen, zodat u vier slangen krijgt.
- 8 klembanden.
- 4 roosters: uitwendige maat 20 cm × 20 cm, sparingsmaat 16.5 cm × 16.5 cm, met aansluitkraag Ø150 mm.



CAREFUL!

The iron mantel support (including accessories) for the corner model Kalfire W90/47C, both right- and left-sided versions, must be ordered separately.

Kalfire W90/47S

- 2 aluminium hoses Ø150 mm, 1.25 m: one hose of 2.5 m that must be cut in half to create two hoses.
- 4 hose clamps.
- 2 convection vents: external size 20 cm × 20 cm, opening size 16.5 cm × 16.5 cm, with Ø150 mm connection collar.
- 2 convection vents: external size 35 cm × 20 cm, opening size 33 cm × 16.5 cm, with one Ø150 mm connection collar.



CAREFUL!

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

The convection set must be ordered separately for the Kalfire fireplace. Instead of a convection vent, you may also use open openings (for example recessed skirting boards). However, the cross-section of the convection openings must not be reduced.

5.6 Use of vents and openings

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

Procedure when using vents

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

Kalfire-model	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
Inlet of convection air	2 × Ø 150 mm 355 cm ²	4 × Ø 150 mm 705 cm ²
Outlet of convection air	2 × Ø 150 mm 355 cm ²	4 × Ø 150 mm 705 cm ²

Table 2: Convection openings

Use of openings

If you do not wish to use convection vents, you may use openings at the top and bottom of the surround (mantel). For the required opening sizes, see Table 2.

These openings serve the same function as the vents and are used for the supply and discharge of convection air. We recommend installing pipes or hoses on the outlet openings. This slightly increases the effectiveness of the convection system and helps the warm air reach the openings more easily.



WARNING!

If the prescribed convection kit is not used, the Kalfire may become damaged due to overheating, and significant discolouration in the room may occur. The risk of discolouration is always present, but it can be greatly reduced by ensuring good ventilation in the installation room.



DANGER!

Install the vents at least 30 cm away from the ceiling or wall. In an area extending 30 cm to the sides and 50 cm above the vent outlets, no combustible materials may be present.

5.7 Flue connection



CAREFUL!

The appliance must be connected to a suitable flue system that:

- complies with the installation requirements of EN 15287-2:2008 (e.g. height, distance to combustible building elements, configuration of the air/flue gas system),
- is demonstrably suitable in terms of flow and thermal performance according to EN 13384-1:2015+A1:2019, based on the flue gas values specified in this manual.

The flue system must comply at least with class T400 according to EN 1443, unless a higher temperature class is required in the technical documentation of the appliance.

The technical data required for the calculation according to EN 13384, such as flue gas temperature (T_{snom}), flue gas mass flow ($\phi_{\text{f,g nom}}$) and minimum draught (p_{nom}), are listed in the technical tables of this appliance (see paragraph 9.4, Technical Data Table).

Depending on the specific installation situation, an additional calculation according to EN 13384-2:2015+A1:2019 may be required (e.g. in special building conditions or unusual chimney configurations).

Calculate the flue system based on the values from the flue calculation. This calculation applies to wall and roof penetrations and is suitable for the Kalfire W. Kalfire does not guarantee correct operation and does

not provide warranty on the fireplace if your configuration does not correspond to the flue calculation.

Connect the fireplace to the existing flue system. The effective chimney height must be at least 4.5 metres (draught 12 Pa), measured from the point where the flue system is connected to the fireplace.



CAREFUL!

Many elbows and/or horizontal sections in the flue gas duct create high resistance in the system.



CAREFUL!

Kalfire closed wood-burning fireplaces are not suitable as standard for multiple connections to a single flue gas system.



WARNING!

Take local regulations and environmental conditions into account.

Kalfire-Model	Firebox opening (mm) Width/height	Firebox opening (cm ²)	Minimum fresh-air supply	Flue diameter Ø (mm)
W45/48F	415/454	1884	1 × Ø 150 mm	150
W53/50R	480/340 530/340 (2x)	4556	1 × Ø 180 mm	200
W60/51F	545/470	2560	1 × Ø 150 mm	180
W65/38C	610/374 333/374	3527	2 × Ø 150 mm	180/200
W66/48S	620/475 355/475 (2x)	4631	2 × Ø 150 mm	200
W70/33F	305/665	2028	2 × Ø 150 mm	180
W71/62F	655/580	3800	2 × Ø 150 mm	250
W80/52T	747/485 (2x)	3625 (2x)	2 × Ø 150 mm	200
W85/40F	795/360	2860	2 × Ø 150 mm	200
W90/47C	870/460 390/460	5796	2 × Ø 150 mm	250
W90/47S	870/460 390/460 (2x)	7590	2 × Ø 150 mm	250/300
W100/61F	570/926	5278	2 × Ø 150 mm	250
W105/47F	995/440	4380	2 × Ø 150 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 ²
	Fso	Surface of firebox in cm ²
	Hsch	Height of flue in metres measured from the upper side of the appliance. 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!

A reduction in diameter is only permitted directly after the flue damper or the flue spigot, not at any other point in the flue system.

- Ensure that the flue system is easily accessible for cleaning the appliance, the connector and the flue itself.
- Avoid horizontal flue gas sections. Only a displaced connection with an adjustable elbow and a maximum change of direction of 45° is permitted. Install this directly on the appliance.
- Kalfire recommends insulating the flue system. This reduces the risk of flue gas condensation and improves draught. For this, use the Kalfire double-walled stainless steel flue system.
- Kalfire advises against using a flue diameter larger than the standard diameter provided on the appliance. An oversized diameter may lead to the following problems:
 - excessively fast and uncontrolled combustion

- unstable flame pattern
- reduced efficiency

- If the chimney draught is (too) strong, use a draught stabiliser. Excessive draught can lead to rapid, uncontrolled combustion and an unstable fire.
- Choosing a different flue diameter is at the installer's own risk. When the door is opened, smoke may enter the room, or starting the appliance may become more difficult.
- Take environmental factors into account that may increase draught, such as heavy wind loads. In such cases, a flue gas control damper must be installed.
- Ensure that the connector of the flue system can also be cleaned.

5.7.1 Achteraansluiting Kalfire W53/50R

De Kalfire W53/50R wordt standaard geleverd met een rookgasafvoer aan de bovenzijde. U kunt deze ombouwen naar een aansluiting aan de achterzijde: zie paragraaf 9.5.

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

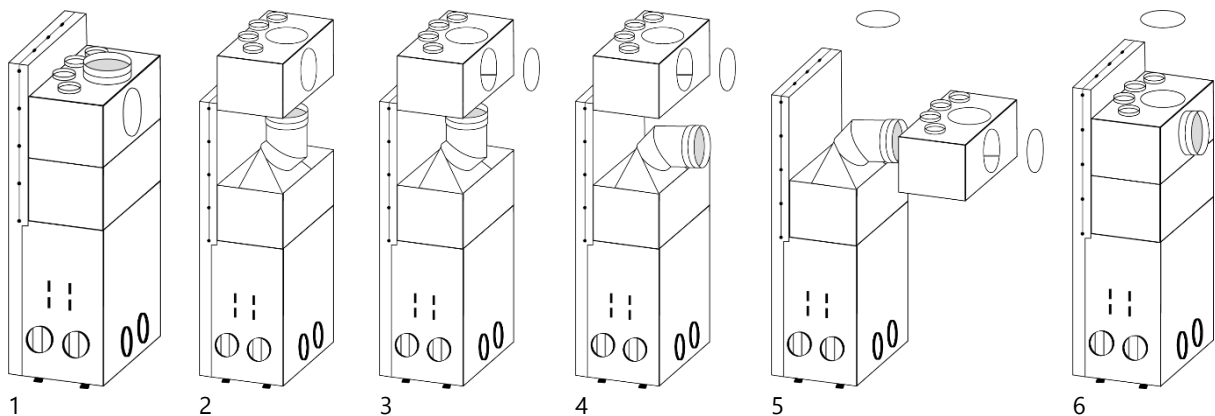


Figure 16: Converting a top flue connection into a rear flue connection (6 steps)

Kalfire W front fireplaces are supplied as standard with the chimney connection at the top. This can be converted to a rear connection.

1. Remove the upper section of the convection hood.
2. You now have direct access to the flue spigot and can loosen the four bolts.
3. Rotate the flue spigot 180°.
4. Press out the pre-cut cover plate from the convection hood; this cover plate is used to close the top connection.
5. Reinstall the upper section onto the appliance.
6. Place the cover plate onto the opening at the top.

7. Continue with connecting the appliance.

Points of attention:

- Ensure that the horizontal section of the rear connection can be cleaned.
- The horizontal section may be a maximum of 50 cm.

Reducer ring

The fireplace is supplied with a reducer ring as standard (with the exception of the Kalfire W53/50R). This ring can be used to connect different flue systems to the appliance.

Kalfire type	Reducer ring (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	Ø248 ±2	Ø256 ±1	Ø236 ±1	Ø248 ±1

Table 4: Diameter of chimney reducer ring

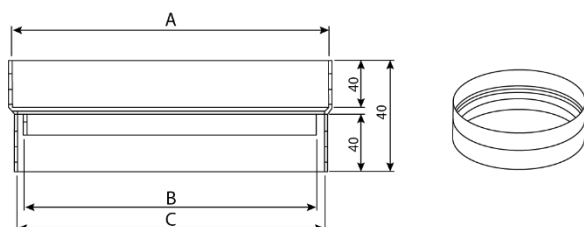


Figure 17: Reducer ring

For the Kalfire W65/38C and W90/47S an adapter ring is supplied; this ring is fitted over the flue reducer ring.

The adapter ring for the Kalfire W65/38C is Ø180/Ø200, and the flue reducer ring for the Kalfire W90/47S is Ø250/Ø300.

When selecting the flue system, take the following into account:

Kalfire W65/38C

Connection to a Ø200 flue system is only possible with a chimney height of at least 4.5 metres and a maximum of 6 metres.

Kalfire W90/47S

Connection to a Ø300 flue system is only possible with a chimney height of at least 4.5 metres and a maximum of 6 metres.

5.8 Installing the flue damper (optional)

The fireplace is supplied without a flue damper as standard. With an external flue damper you can influence the chimney draught. For chimneys with excessive draught, we recommend using a flue damper.

Whether a flue damper is necessary can be checked during testing of the appliance. Pay extra attention to this with chimneys longer than 7 metres. Under

normal circumstances, the appliance can be regulated adequately with the secondary air control.

Points of attention:

- Ensure that the position of the flue damper is visible to the end user. Most control knobs are provided with an indication (open = auf or +, closed = zu or -).
- Check the operation of the flue damper before finishing the fireplace.
- Ensure that the end user is familiar with the operation of the flue damper.

5.9 Practical connection examples: combustion air and convection

Situation 1 - Recommended situation

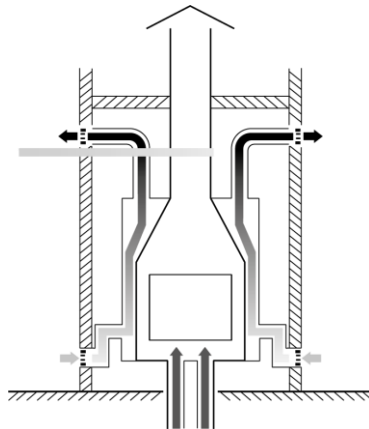


Figure 18: Situation 1 (recommended situation)

The combustion air is connected directly from outside to the appliance. The outside air does not come into contact with the installation room or the surround. The convection system is also connected directly to the appliance. There are no open connections

between the inside of the surround and the installation room.

Situation 2

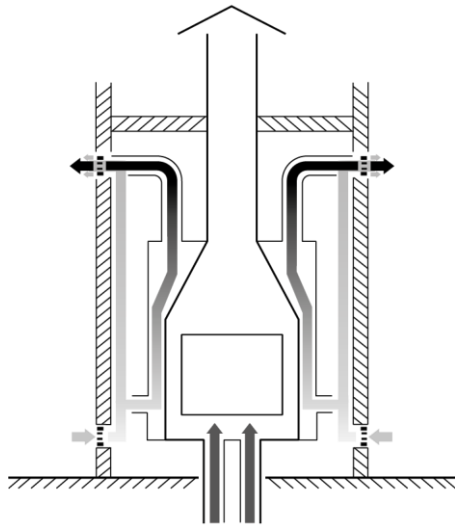


Figure 19: Situation 2

The combustion air is connected directly from outside to the appliance. The outside air does not come into contact with the installation room or the surround. The convection system is connected only to the installation room.

Situation 3

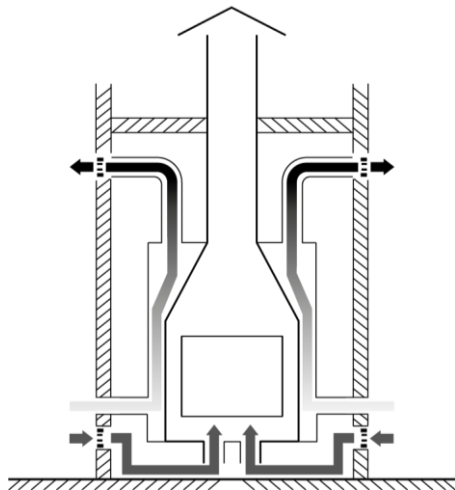


Figure 20: Situation 3

It is not possible to connect the combustion air directly to the appliance; it must be taken from the installation room. This mainly occurs in existing situations where the combustion air can only be drawn from the installation room.

In this case, the convection system must be physically separated from the combustion air supply; the lower and upper convection vents must be connected directly to the appliance.

Through additional openings in the surround, the combustion air reaches the appliance. For the

required opening sizes, see Technical Data (see Table 4).

The convection connections at the top must always be connected.

5.10 Baffle plates

The fireplaces are equipped with one or more removable baffle plates, which allow the flue gases to be discharged in a controlled manner. These plates are located at the top of the smoke chamber, just below the heat exchanger. In the larger models, the baffle plate consists of several sections. The baffle plate ensures optimal combustion.

It may be necessary to reduce the size of the baffle plates when:

- there is smoke spillage
- there is poor evacuation of flue gases
- condensation occurs in the flue system

Whether the baffle plates should be removed completely depends on the specific situation.



WARNING!

Always use appropriate personal protective equipment (gloves, safety glasses and work clothing) during installation of the appliance.



CAREFUL!

When reducing the size of a baffle plate, do not cut off 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.

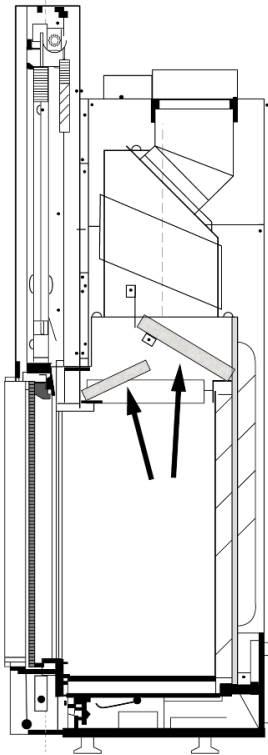


Figure 21: Baffle plates in the W45/48F

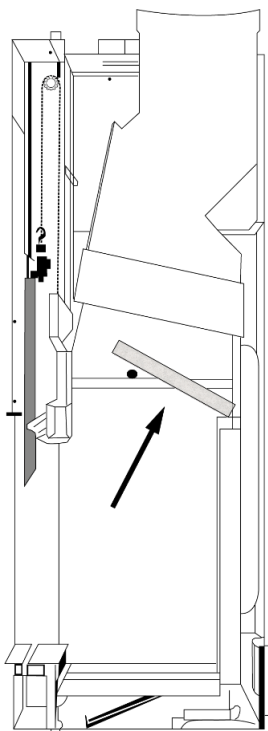


Figure 22: Baffle plate in the W70/33F

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

1. Remove the lower baffle plate and check whether the problem has been resolved. If the problem returns, also remove the upper baffle plate. If the problem still persists, the cause lies elsewhere. If the problem is solved, proceed with the next step.
2. Using a wood saw, cut a 3 cm wide strip from the front and rear edges of the baffle plate. If necessary, do this on both baffle plates.

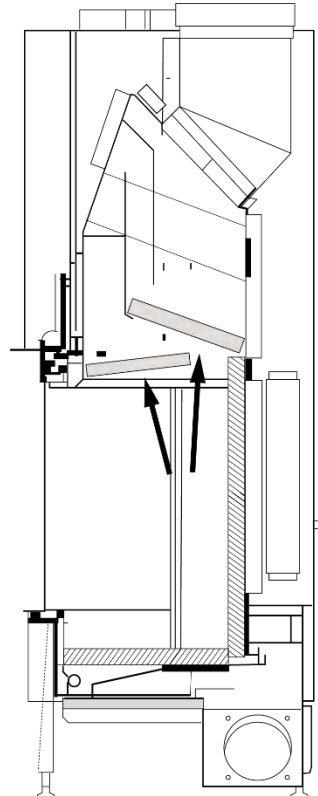


Figure 23: Baffle plates in the W53/50R, W65/38C, W90/47C, W66/48S and W90/47S

Kalfire W60/51F, W71/62F und W85/40F

1. Remove the baffle plate and check whether the problem has been resolved. If the problem returns, the cause lies elsewhere. If the problem is solved, proceed with the next step.
2. Using a knife or wood saw, cut a 1 cm wide strip from the front edge of the baffle plate.



CAREFUL!

You may cut off a maximum of 6 cm from the baffle plate.

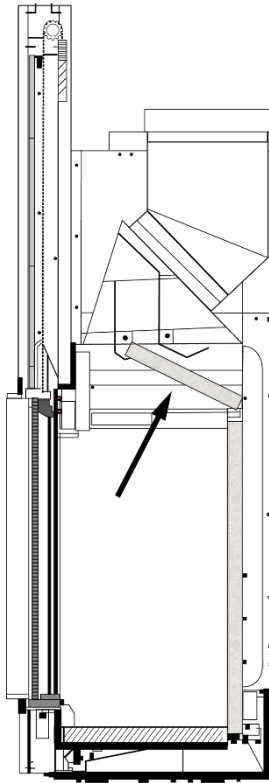


Figure 24: Baffle plate W60/51F, W71/62F en W85/40F

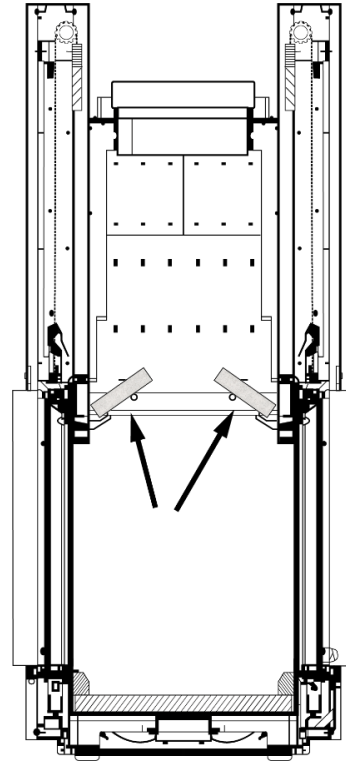


Figure 25: Baffle plates W80/52T

Kalfire W80/52T

1. First remove all baffle plates (6 pieces). If this resolves the problem, it is useful to adjust the baffle plates. Continue with step 2 and/or 3. If the situation does not change, the appliance is not the cause of the problem and there is no reason to adjust the baffle plates; reinstall them in the fireplace.
2. To begin, use a wood saw to cut a strip of approximately 1 cm from the front edge of the baffle plate and check whether this provides sufficient improvement. If not, you may cut off another strip and repeat this process until the desired result is achieved.



CAREFUL!

Make sure that the plates can still rest on the support points.

3. In some situations it may be necessary to leave the baffle plate out completely.

Kalfire W100/61F

1. Remove the baffle plate and check whether the problem has been resolved. If the problem returns, the cause lies elsewhere. If the problem is solved, proceed with the next step.
2. Using a knife or wood saw, cut a 1 cm wide strip from the front edge of the baffle plate.



CAREFUL!

You may cut off a maximum of 6 cm from the baffle plate.

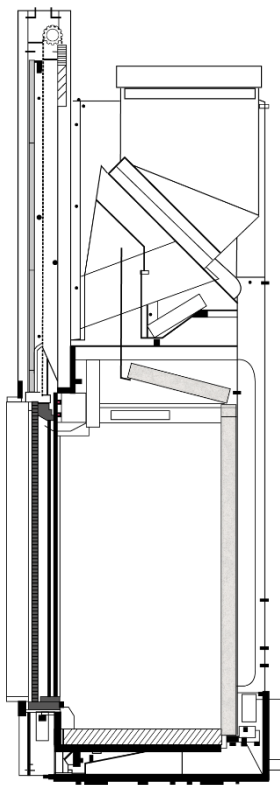


Figure 26: Baffle plate W100/61F



CAREFUL!

Use with the door open

We advise against using the fireplace with the door open. Kalfire W fireplaces are not tested or intended for open use. Open the door only when necessary — for example, when adding wood.

Use as an open fireplace can lead to smoke spillage, even when the baffle plates have been removed.

Possible causes include:

- insufficient chimney draught
- air currents in the installation room
- a combustion temperature that is too low

5.11 Testing the appliance

Test the appliance by firing it (see Chapter 6: Firing the appliance) and check the operation of the chimney before finishing the surround.



CAREFUL!

When a newly installed appliance is fired for the first time, the paint may give off an odour. This odour will disappear automatically after a few hours, once the paint has fully cured.

5.12 Installing and finishing the surround

For constructing the surround of the appliance, you may use materials with the following properties:

- resistant to high temperatures, at least 700 °C
- free of substances that may evaporate and cause odour nuisance
- dimensionally stable, even under prolonged exposure to heat

Take the following into account:

1. The surround must not be directly connected to the appliance; it must be self-supporting.
2. Seal the joints between the appliance and the surround with heat-resistant glass fibre cord or ceramic cord.
3. Use an iron mantel support for an easy and stable installation of the span above the appliance door.

Side finishing



WARNING!

Never attach the iron mantel support to the appliance; fix it to the side of the surround or use tension rods to secure it to the ceiling or wall.

4. Ensure that the thickness of the surround above the appliance door does not exceed 11 cm. Otherwise, the appliance will be positioned too far back, making it difficult to operate or clean the door.
5. Finish the surround with materials that do not contain plastic components. Plastics may discolour when exposed to high temperatures.
6. Before closing the surround completely, ensure that the inside is clean and free of dust. It is best to remove dust with a vacuum cleaner. If this is not done, dust particles carried by the convection airflow may cause problems.
7. The appliance is equipped with metal strips around the sides to facilitate the transition between the surround and the appliance. These metal strips may be concealed at the front, allowing the lines of the surround to flow into the strips. The side strips can be removed inward to provide access to the guides for maintenance.

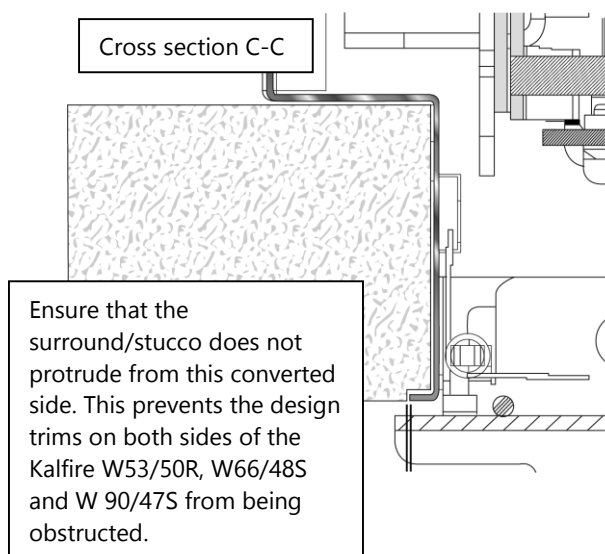
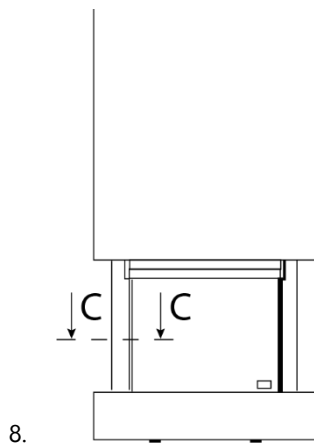


Figure 27: Side panel finish

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

De ombouw van de haard moet 2 mm vrij liggen ten opzichte van het inbouwkader rondom en de afwerklíst (bij hoek- en 3-zijdige haarden) die zich boven de deur bevindt.



CAREFUL!

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

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

When installing a corner fireplace, three-sided fireplace or room divider with a 7 cm (8 mm) frame, the surround must not be built directly against the frame. The frame must always be placed on (bottom side/plateau) or in front of (the vertical section/sections of the frame) the surround.

There must always be a minimum gap of 2 mm between the frame and the surround to allow for thermal expansion of the appliance. For service access, the vertical section/sections of the frame next to the access flap must be able to slide sideways.

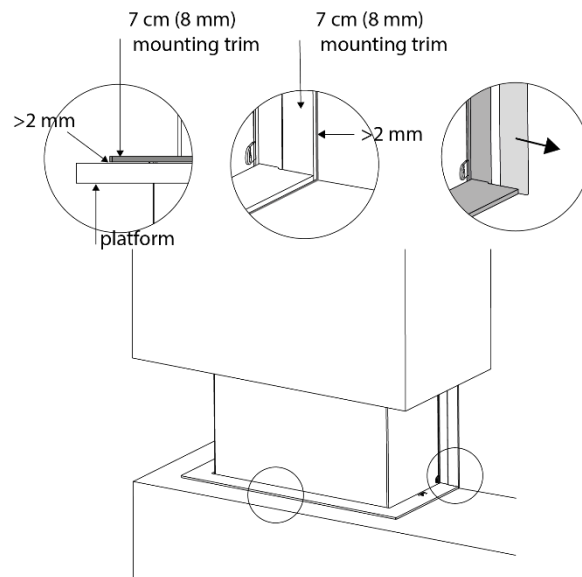


Figure 28: Side finish



CAREFUL!

Kalfire closed wood-burning fireplaces are CE-marked in accordance with EN 16510-2-2:2022 and Regulation (EU) No. 305/2011. The CE marking contains important information required for installation and for safe operation.

This information can be found in the table in paragraphs 8.6 and 8.7. Take this information into account before carrying out the installation.

6. Firing the appliance

6.1 First firing



CAREFUL!

During the first firing, the paint on the appliance will burn in and begin to cure. This may cause odour and some smoke. With a louvred rear wall, the appliance must be fired for the first time using a very small amount of wood (maximum 2 kg per hour). Using too much wood may cause the paint on the louvred rear wall to burn or peel.

Ensure sufficient ventilation in the room where the appliance is installed. It is best to light the appliance during the day and open windows and doors to minimise inconvenience. Good ventilation also reduces the risk of discolouration. A few tips from the Dutch heating guild (see www.sfeerverwarmingsgilde.nl/faq):

- Limit the use of candles and oil lamps and keep the wick as short as possible. Candles and oil lamps produce significant amounts of polluting and unhealthy soot particles in your home.
- After a newly built chimney or renovation work, wait at least 6 weeks before firing the appliance. All construction moisture must have completely disappeared from walls, floor and ceiling.
- Ensure extra ventilation during renovation or new construction to remove volatile solvents from the home.
- Avoid smoking. Smoking is not only harmful to your health, but cigarette and cigar smoke contains tar substances that deposit on cooler, humid walls when heated.



WARNING!

Curing paint is extra sensitive.

Avoid touching painted parts of the appliance. Leave the door open approximately 5 cm during the first firing and close it once the appliance has cooled down. When heated, the paint becomes soft and can stick more easily. If the door does stick to the appliance, you can open the lift door (see paragraph 6.2).

6.2 Opening the lift door

1. Insert the key supplied with the appliance, using the short end, into the eyelet at the lower right of the door.

2. Move the key upwards. The first 3 cm may feel heavy, as you are pulling the door out of its locking position. After that, it will move easily.
3. You can leave the door in any desired position.
4. To close the door, insert the key into the eyelet at the upper right of the door and move the key downwards.

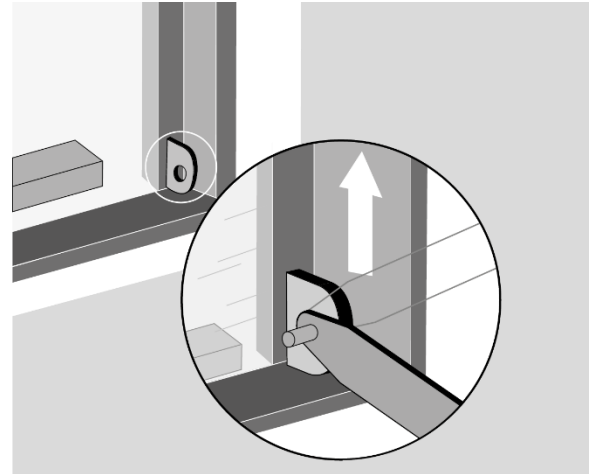


Figure 29: Testing the lift door

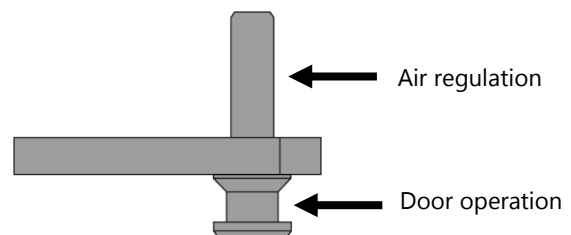


Figure 30: End of the operating key (detail)

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 ensures 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).

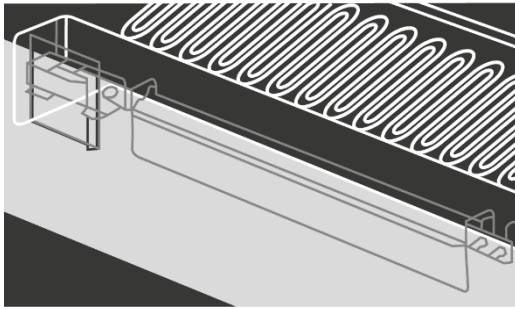


Figure 31: Primary air control

6.3.2 Secondary air

You can regulate the fire using the secondary air control, which is located on the right side of the appliance.

1. Insert the side of the key into the slider of the secondary air control. Use the straight side of the key.
2. Move the key to the left: less air enters the fire. The fire will burn more calmly (provided the primary air valve has closed automatically).
3. Move the key to the right: more air enters the fire, resulting in a more vigorous flame.



CAREFUL!

Never close the secondary air control completely. If the fire suffocates, the glass may become soiled.

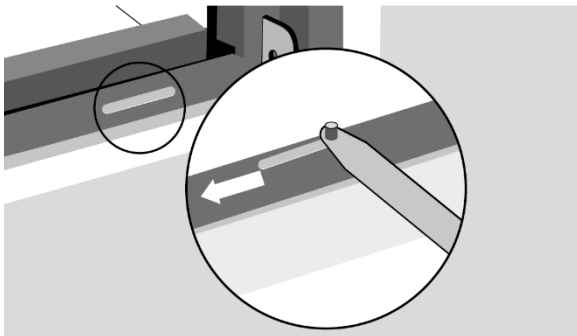


Figure 32: Secondary air control

6.4 Firing with the door closed or open

The door of the appliance may only be opened when lighting the fire or adding wood. During normal operation, the door must always remain closed.

The main difference between firing with the door closed or open is the amount of air required. To ensure optimal air supply even when the door is used in the open position, the appliance is equipped at the rear with a (patented) fresh-air valve. When the door is open, this valve ensures that the air needed for a

stable airflow is used efficiently. The valve directs the fresh air to the installation space of the appliance, so that it can be used optimally for combustion.

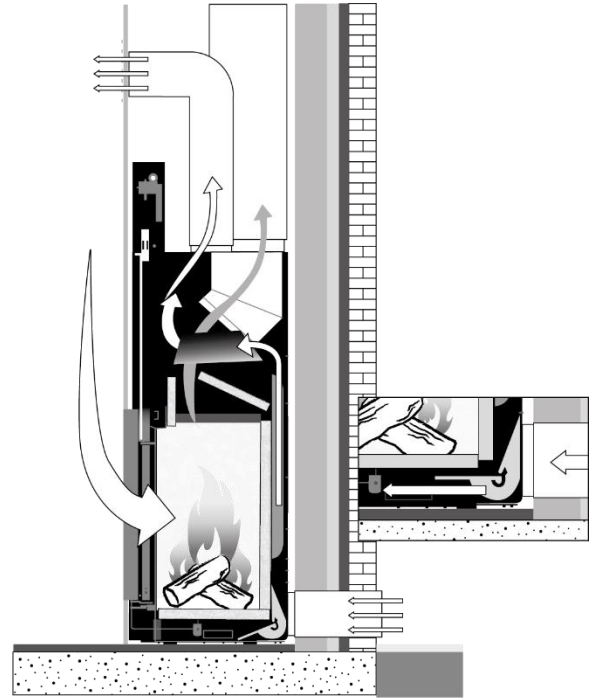


Figure 33: Door open

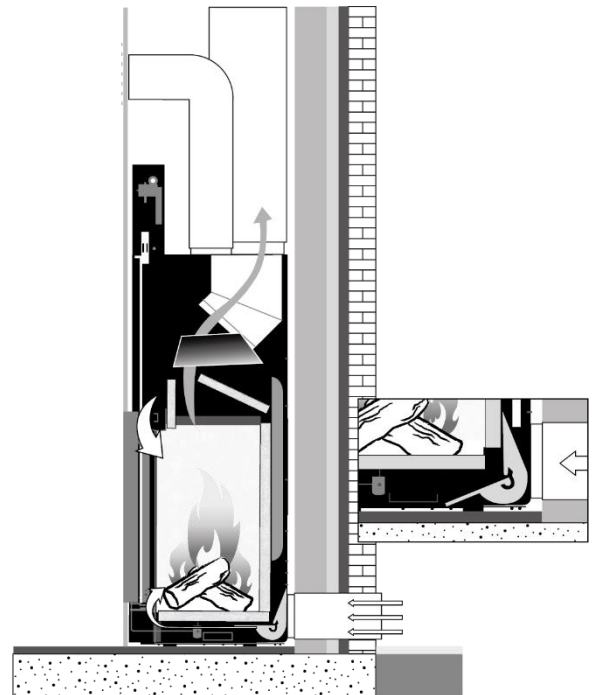


Figure 34: Door closed

6.5 Lighting the fire



DANGER!

Do not use methylated spirits, petrol, oil or any other liquid fuels.



CAREFUL!

Be aware that weather conditions (air pressure, temperature, wind) can influence combustion. By adjusting the secondary air control (see paragraph 6.3.2), you can reduce the influence of weather conditions.



DANGER!

- Never leave an open fire unattended; sparks jumping from the appliance can cause a fire.
- Fully open the flue damper (if present).
- Only operate the appliance with the door open if the chimney draught is sufficient.
- Preferably operate the appliance with the door closed, for reasons of efficiency and environmental impact.
- Always use untreated, clean and dry wood.
- The combustion chamber must always remain closed, except when lighting the fire, adding fuel or removing combustion residues, to prevent flue gases from escaping.

Light the fire using the "Swiss method":

- Place large logs at the bottom and lay another layer of logs crosswise on top.
- Distribute several kindling sticks over this.
- Place one or more firelighters on top.
- Light the firelighters.



Figure 35: Lighting the fire using the "Swiss method"

Light the fire from the top. This produces minimal smoke.

- Leave the door slightly ajar (1–2 cm) for a few minutes until the wood is burning well, then close the door.
- Add wood only when the logs have fully burned down and a bed of embers has formed. One layer of logs is sufficient.
- Keep the secondary air supply partially or fully open while firing.
- Once you have finished firing, allow the appliance to cool down completely with the door closed.
- Use a sufficient amount of wood to light the fire:

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, W100/61F, W105,47F	approx. 4 kg
W80/52T	approx. 6 kg

Tabel 5: Quantity of wood per model

6.6 Optimal firing efficiency

Once you have lit the fire and the appliance has reached operating temperature, follow the instructions below for optimal firing efficiency (this will give you performance and emission values comparable to those measured during the certification tests of the Kalfire W):

- First create a bed of embers (see paragraph 6.5).
- Always use wood logs of approximately the same size. The required quantity differs per appliance model; see the table below.



CAREFUL!

1 kg of wood provides approximately 4 kW of energy. The appliance is suitable for intermittent use. This is achieved by firing according to Table 7.

Kalfire-Model:	W45/48F	W53/50R	W60/51F	W65/38C	W66/48S	W70/33F	W71/62F
Weight* per log (g)	850	950	950	950	975	730	1000
Number of logs	2	3	3	3	3	3	3
Max. weight of wood per hour (kg)	2,3	2,85	4	4	3,5	2,9	5
Air regulation open (%)	100	45	30	30	25	75	50

Kalfire-Model:	W80/52T	W85/40F	W90/47C	W90/47S	W100/61F	W105/47F
Weight* per log (g)	850	850	850	1400	1200	1300
Number of logs	4	3	4	3	3	3
Max. weight of wood per hour (kg)	4,5	4	4	5,5	3,6	4,6
Air regulation open (%)	90	100	10	50	60	100

Table 6: Guidelines for optimal firing per model

* Weight based on beech wood

6.7 Adding wood

Once the appliance has reached operating temperature (see paragraph 6.5), you can add wood.

For optimal efficiency:

- Add new wood when the flames have disappeared and the wood has entered the glowing phase (with no smoke production).
- Open the door slowly to prevent smoke from entering the room due to a sudden change in draught.
- Use no more than 2 to 3 logs (see maximum weight in Table 6).

Place the logs as follows:

Kalfire W45/48F

Place the two logs in a V-shape.



Figure 36: Position of the logs in the Kalfire W45/48F

Kalfire W53/50R

Place 3 logs of approximately 27 cm in length in the centre of the appliance, as shown in the figure below.

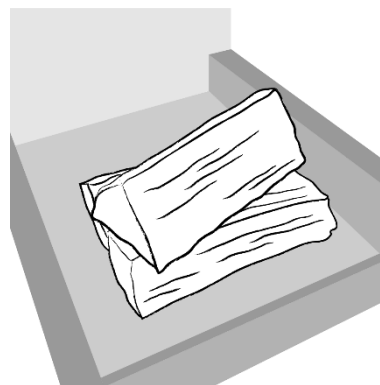


Figure 37: Position of the logs in the Kalfire W53/50R

Kalfire W60/51F

The three logs are approximately 25 cm in length.

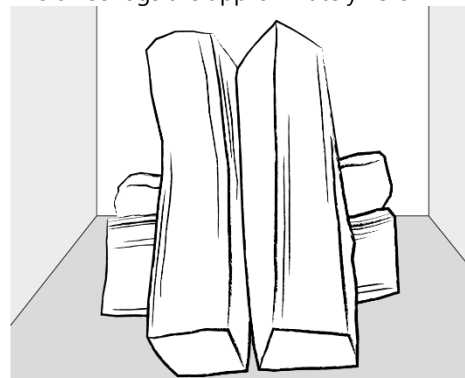


Figure 38: Position of the logs in the Kalfire W60/51F

Kalfire W65/38C, W71/62F and W90/47S

Place the logs in an A-shape, with the horizontal log at the bottom.

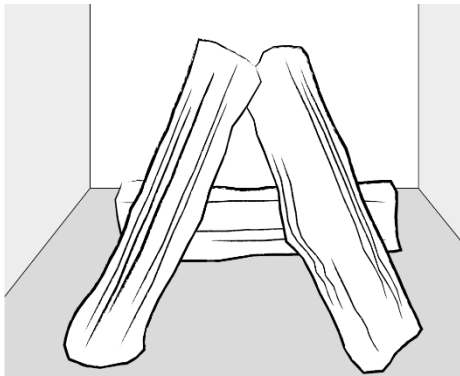


Figure 39: Position of the logs in the Kalfire W65/38C, W71/62F and W90/47S

Kalfire W66/48S

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

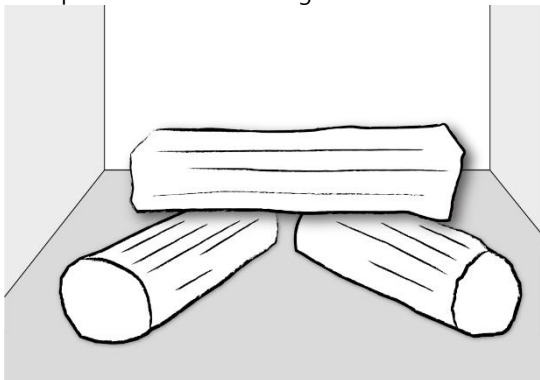


Figure 40: Position of the logs in the Kalfire W66/48S

Kalfire W70/33F

Two of the logs are 15 to 16 cm long, and the third log is 33 cm.

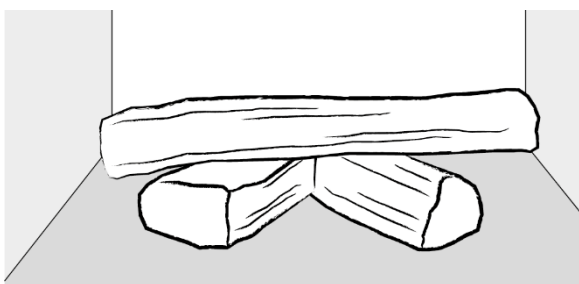


Figure 41: Position of the logs in the W70/33F

Kalfire W80/52T

Place 4 logs of approximately 30 cm in length in a cross shape in the centre of the appliance.

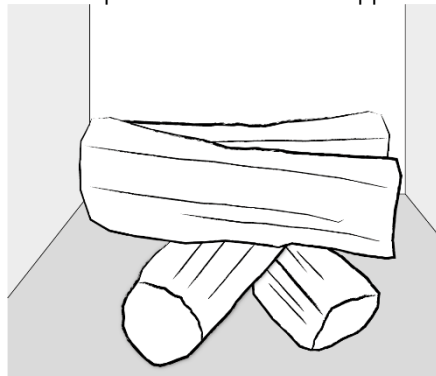


Figure 42: Position of the logs in the Kalfire W80/52T

Kalfire W85/40F en W105/47F

Kalfire W85/40F: use logs of approximately 25 cm in length. Kalfire W105/47F: use logs of approximately 32 cm in length.

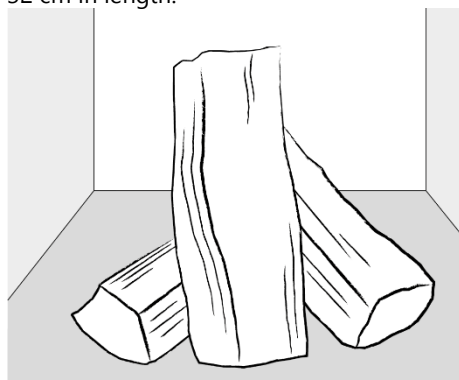


Figure 43: Position of the logs in the Kalfire W85/40F and W105/47F

Kalfire W90/47C

Place 4 logs of approximately 25 cm in length in a cross shape on the left or right side of the appliance.

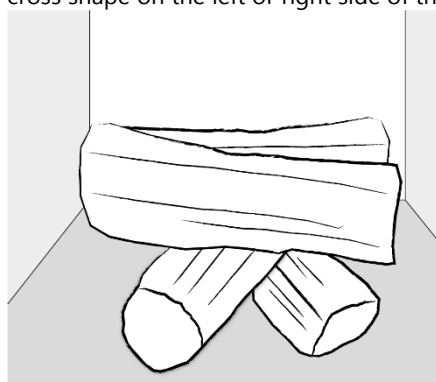


Figure 44: Position of the logs in the Kalfire W90/47C

Kalfire W100/61F

Place the logs in an A-shape, with the horizontal log on top of the two vertical logs. The three logs are approximately 29 cm in length.

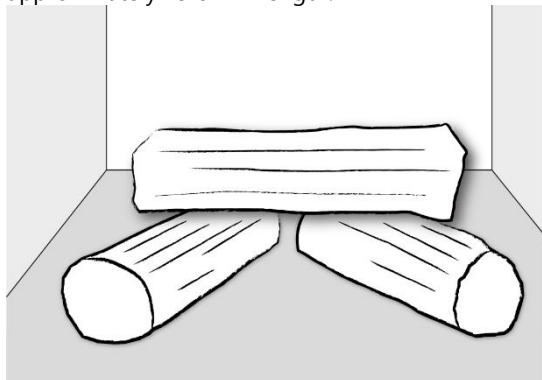


Figure 54: Position of the logs in the Kalfire W100/61F

**CAREFUL!**

When the logs have burned down, you can place new logs on the ember bed in the same manner. Respect the permitted amount of wood per hour (see Table 6).

Operating the flue damper (optional)

Depending on the situation, the installer authorised by Kalfire may connect an external flue damper to the appliance (see paragraph 5.7).

**CAREFUL!**

It is not necessary to install a flue damper in all situations. Once the installer authorised by Kalfire has installed the flue damper, you can operate it using the control knob on the side of the surround.

With original Kalfire flue dampers, the letters “auf or +” indicate the open position, and “zu or –” indicate the closed position. By turning the knob, you set the desired position, depending on the chimney draught and your chosen mode of use:

When lighting the fire

Damper fully open.

During firing

The flue damper can be closed 20–50%; the fire will burn more calmly.

When adding wood, first open the damper fully before opening the door.

Once the wood is burning well, you may partially close the damper again.

During firing

Flue damper permanently and fully open.

7. Maintenance

7.1 General instructions

- Do not use a steel brush to clean the stainless-steel flue system. Remove the baffle plate before sweeping to remove soot and to prevent it from obstructing the passage during cleaning.
- Clean the space beneath the appliance via the convection vents at the bottom. A lot of dust collects here, which can be carried along by the convection airflow.
- Keep the cord in the bottom threshold free from ash and dirt.
- Have any cords that do not seal properly replaced. Your Kalfire dealer can assist you with this.
- The chain of the lift door system must be sprayed annually with Kalfire lubricants.
- The glass pane is made of special ceramic glass. This must not be disposed of in regular glass recycling. Ceramic glass does not melt in a glass furnace and can cause serious problems in the glass recycling process. You can hand in your ceramic glass at your municipal waste facility for proper recycling.
- If replacement is necessary, use only genuine Kalfire parts. These are available from your Kalfire dealer.

7.2 Maintenance frequency

The appliance, the connector and the chimney draught must be inspected once a year by a certified professional company to ensure optimal, durable and safe operation. Any defects in the appliance must be remedied immediately. We recommend taking out a maintenance contract for this.

After a longer period of disuse, the flue system must be checked for possible blockages.

7.3 Before and during the heating season

Over time, deposits may form on the inside of the glass. These can be removed with a damp cloth or a non-abrasive cleaner (ceramic glass cleaner). Do not use caustic or abrasive products to clean the appliance. Paint damage is not covered by the warranty. Minor damage can be repaired with heat-resistant paint. This paint is available from Kalfire.

7.4 Keeping the glass clean

- With an interior consisting of steel louvres or a design back panel, the risk of glass

contamination is higher than with the standard Skamol panels.

- The Kalfire W80/52T, W105/47T and W53/50R have a higher risk of glass contamination due to the relatively small surface area of the Skamol panels (which provide reflection).
- Fire only with dry wood.
- Fully open the secondary air control.
- Fully open the flue damper (if present).
- Ensure a minimum chimney draught of 12 Pa.

7.4.1 Cleaning ceramic glass

During the first use, but also afterwards, the glass of a wood-burning appliance may become dirty. Possible causes include: evaporating materials inside the appliance (especially in the initial period), airborne contamination, wood quality, etc.

- Remove dirt and stains from the glass immediately.
- Never operate the appliance while there is dirt or staining on the glass. This may lead to permanent contamination that cannot be removed.
- Clean the glass after the first firing, and preferably after every use of the appliance.
- Use only non-abrasive cleaning products.

7.5 Opening the glass door

7.5.1 Kalfire front and tunnel fireplaces

The appliance is equipped with a handle in the centre, directly above the glass, which allows the lift door to be tilted. You can then clean the glass door.

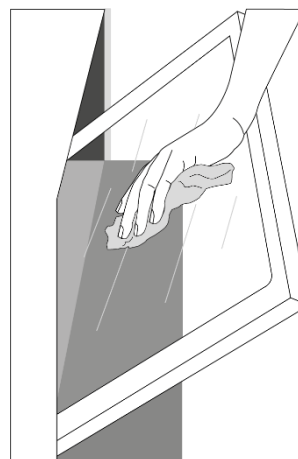


Figure 46 : Cleaning the glass door on front and tunnel fireplaces

1. Turn the handle in one smooth movement all the way from right to left (180 degrees). The glass door is now unlocked.

2. Using the eyelet at the upper right corner of the glass door, carefully tilt the door forward. The door will remain open at an angle of approximately 45 degrees.
3. When you want to close the door again, tilt it back and turn the lock to the right. The three-point locking system will seal the appliance hermetically once more.

7.5.2 Kalfire corner models

Push the entire door firmly downward.

Turn the handle (located above the glass on the right side, in the convection hood) in one smooth movement downwards until you feel resistance and the handle is in a vertical position. The door is now unlocked and can be slid forward.

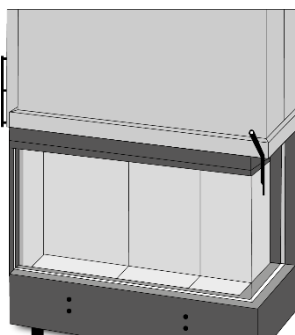


Figure 47a : Opening the door of corner models - 1

1. Hold the door by the glass or by the openings at the lower left and/or right side, and carefully pull it forward.

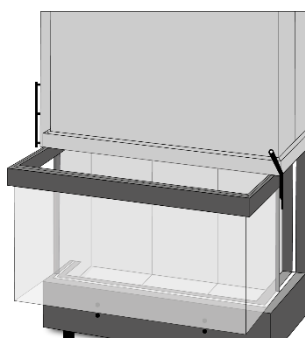


Figure 47b : Opening the door of corner models - 2

2. To close the appliance again, gently push the glass door back and return the handle to its original horizontal position.

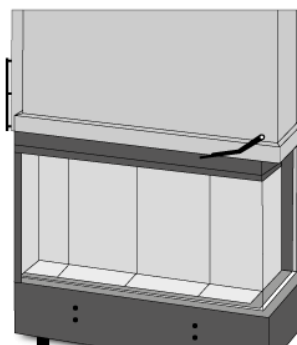


Figure 47c : Opening the door of corner models – 3

3. Connect the elongated design flap at the rear, on either the right or left side of the appliance, at the short glass side.

7.5.3 Kalfire 3-sided models and roomdividers Kalfire W66/48S, W90/47S und W53/50R

1. Push the entire door firmly downward.
2. Turn the handle (located in the centre above the glass, in the convection hood) 180 degrees to the left until the handle is once again in a horizontal position.

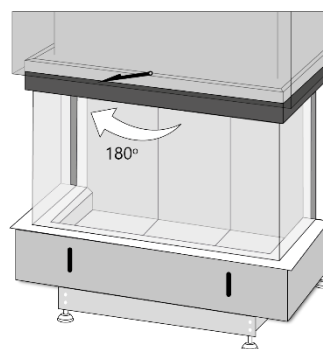


Figure 48a : Opening the door of three-sided and room divider models – 1

3. The door is now unlocked and can be slid forward.

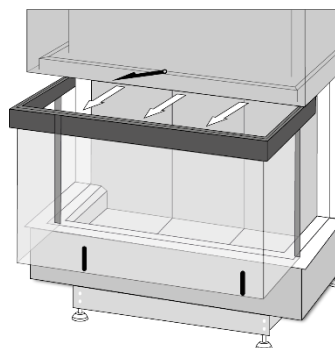


Figure 48b : Opening the door of three-sided and room divider models - 2

- The door is now unlocked and can be slid forward.

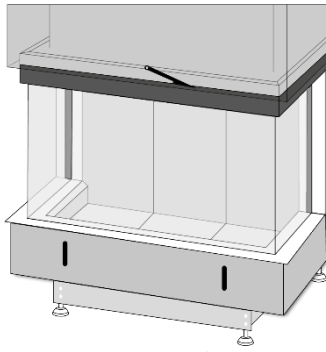


Figure 48c : Opening the door of three-sided and room divider models - 3

- Close the elongated design flap at the rear on both the right and left sides of the appliance, at the short glass side.

7.6 Cleaning the lift door and firebox

7.6.1 Cleaning the lift door



CAREFUL!

Before cleaning the glass, ensure that it has completely cooled down to prevent damage.

- Open the door of the appliance (see paragraph 7.5). Gently wipe the heaviest dirt from the glass door with a damp cloth.
- Spray the glass cleaner onto a soft cloth.



CAREFUL!

Never spray the glass cleaner directly onto the glass.

- Wipe the glass door clean with the cloth.
- Wipe the glass door again with a damp cloth to remove any remaining cleaner.

- Close the door of the appliance (see paragraph 7.5).



WARNING!

The cleaning fluid must not come into contact with the sealing cord. This will damage the cord.



CAREFUL!

- Stubborn deposits** can best be removed by briefly dipping a damp cloth into the ash and using it to wipe away the contamination.
- Do not use cleaning products that contain ammonia. Ammonia will damage the sealing cord.
- Glowing combustion particles must not come into contact with the sealing cord. This will damage the cord.
- Er mogen geen gloeiende verbrandingsdeeltjes op het afdichtingskoord komen. Dit tast het koord aan.

7.6.2 Cleaning the firebox

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

Make sure that the ash level does not rise above the air inlet rail. The air inlet rail is located in the threshold and ensures proper ignition of the wood. The opening of this air inlet rail must not become blocked.

The lower sealing cord must remain free of ash so that the glass door can seal properly against the cord.

****Tip:****

Ash consists largely of minerals and is ideal for use as garden fertiliser.

7.7 Troubleshooting

Malfunction	Cause	Action
 DANGER! Roaring sound in the flue duct	Chimney fire	 WARNING! Never extinguish the fire with water! This will cause enormous clouds of steam. As this happens so quickly, the flue duct may crack due to the pressure. • Use sand or salt to extinguish the fire in the fireplace. • Close the fireplace and leave the flames to die naturally. If necessary, contact the fire brigade. • Let the chimney burn out in a controlled manner under constant supervision.  DANGER! Have the flue system inspected by your chimney sweep (in Germany: *Schornsteinfegermeister*) or, in other countries, by a certified specialist.
Smoke returning to room	• The chimney is blocked; • The wood used is not sufficiently dry; • The baffle plates are blocking the passage of the flue gases; • Not enough fresh air is being supplied.	• Check if the flue/ chimney is blocked. • Ensure that the flue duct is sufficiently warmed up before opening the lifting door. • Only burn dry wood. • Reduce or remove the baffle plate. • Check that enough fresh air is being supplied.
Damper is sticking	• The damper is blocked; • The flue/chimney is blocked.	• Check if something blocking the damper and remove this, if necessary. • Check if the flue/chimney is blocked.
Odour nuisance	• The curing of the enamel; • The flue/chimney is blocked; • Method of burning; • Ventilation/insufficient supply of fresh air.	• When the fireplace is used for the first time, a chemical odour is released due to the enamel being cured. • Check if the flue/chimney is blocked. • Ensure that the flue duct is sufficiently warmed up before opening the lifting door. • Check that enough fresh air is being supplied. • Only burn dry wood. • Check if the odour is not caused by the chimney breast or accessories in the vicinity of the fireplace.

Dirty glass pane	• Connection of the door to the sealing cord; • Wear/damage to the glass; • Method of burning; • Wear of the corner rubbers • Locking of the tipping mechanism; • Secondary air regulation..	• Press the door fully downwards, so it is closing properly against the lower sealing cord. • Check the sealing cord in the door and at the base of the glass pane for damage/wear. • Check the moisture content of the wood. • Check that the air vents in the spoilers above and below the pane are blocked. • Burn wood according to the instructions (see Chapter 6). • Check the corner rubbers for wear. • Check if the tilting mechanism is correctly locked. • Check that the secondary air regulation is in the maximum position to the right.
Lifting door moves with difficulty	Guide	• Clean the guide. • Check if the door cord is sticking against the surround.
Draught	Extreme winds and temperature differences	• Check the clearance in the air inlet and/or exhaust flap of the appliance.
Skamol interior broken		• No action necessary: Cracks in the inner housing do not influence the operation of the fireplace.

8. Disposal at the end of service life

Old appliances contain valuable materials that must be recycled. When disposing of the appliance, observe the applicable national laws and regulations.

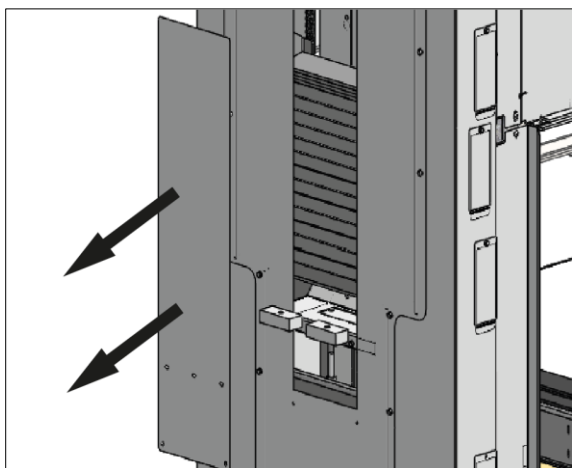
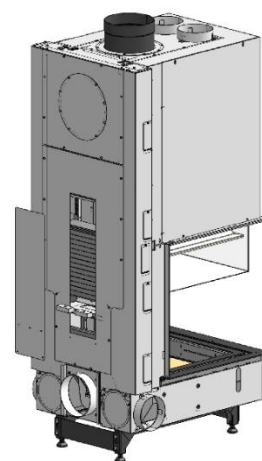
Dispose of metal components as scrap metal.

The glass door is made of special ceramic glass. This must not be placed in regular glass recycling. Ceramic glass does not melt in a glass furnace and therefore causes serious problems. You can take the ceramic glass to your local waste facility for correct recycling.

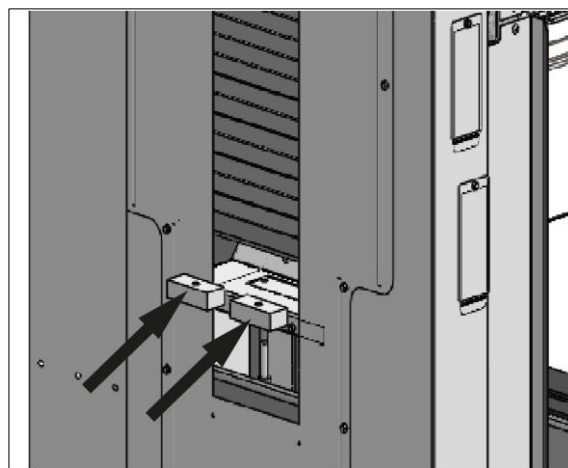
9. ANNEXES

9.1 Transport security of 3-sided fireplaces and room divider

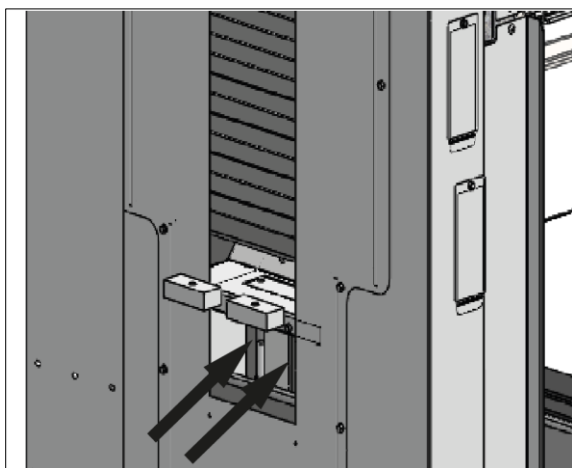
Removing the transport security - Kalfire W - 3-sided fireplaces and room divider



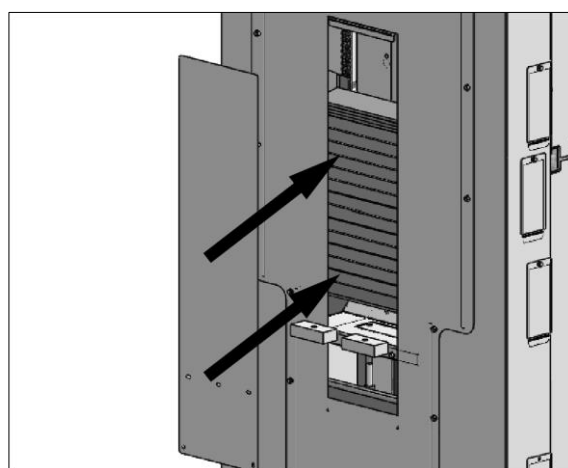
1. Remove the cover panel from the rear panel of the fireplace



3. Remove the two wooden blocks..

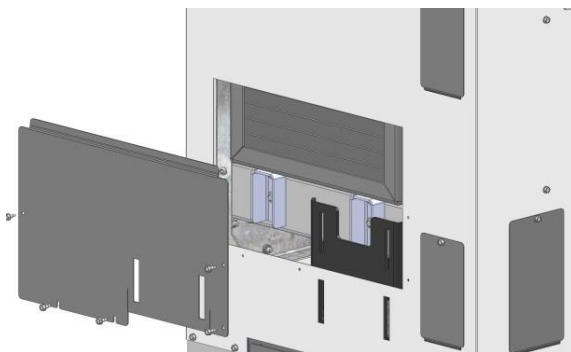
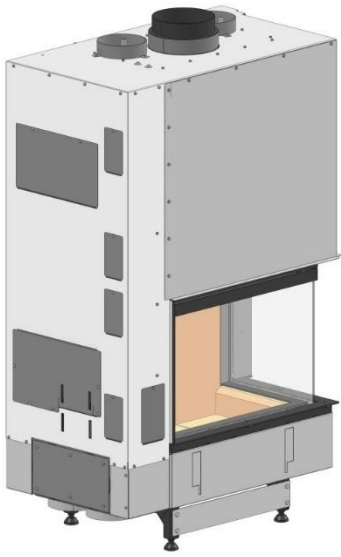


2. Remove the 2 M8 bolts.

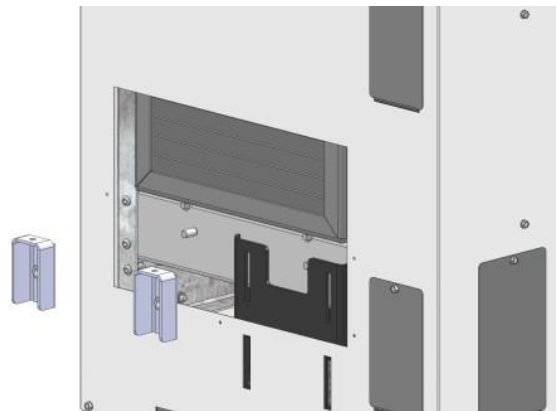


4. Replace the cover panel.

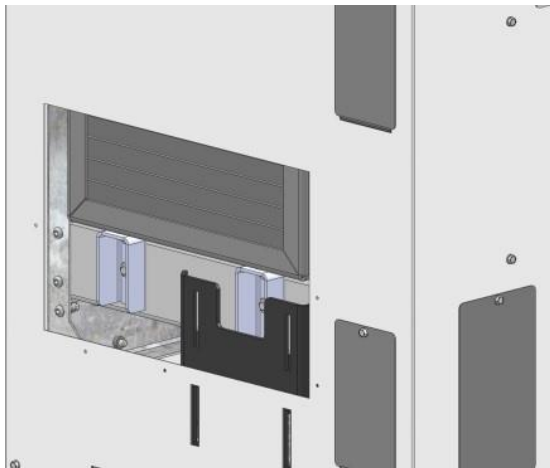
9.2 REMOVE transport security of Kalfire W65/38C



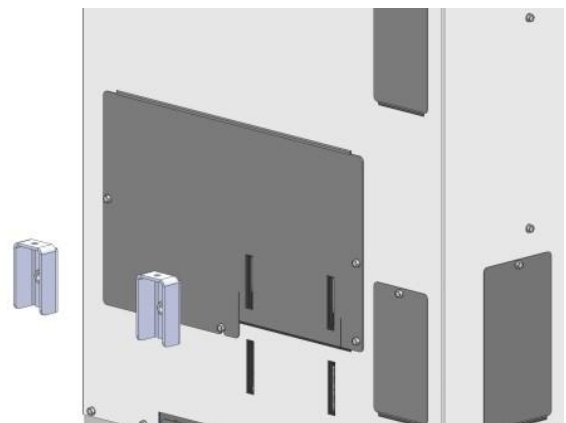
1. Remove the 4 screws. Take off the plate.



3. Remove the security supports

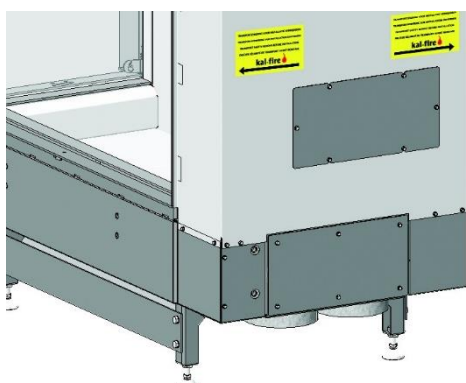
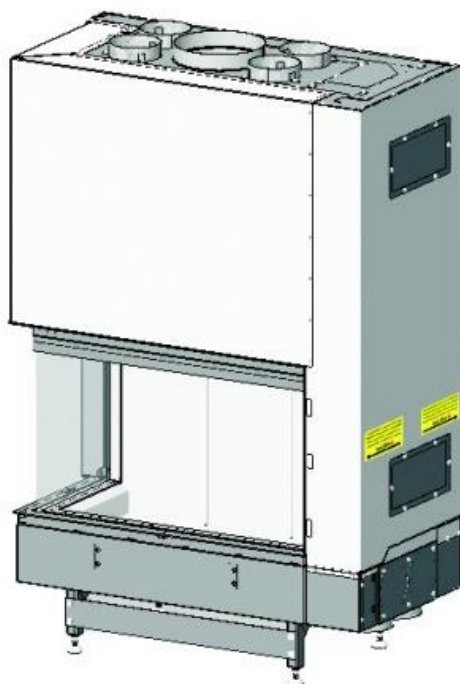


2. Remove the 2 M6 nuts and the 2 M8 nuts..

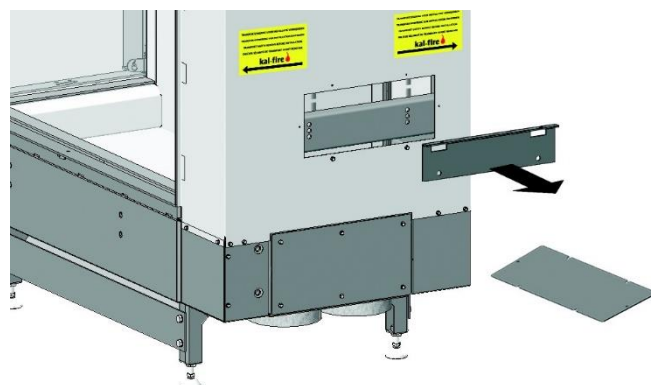


4. Re-attach the plate with 4 screws.

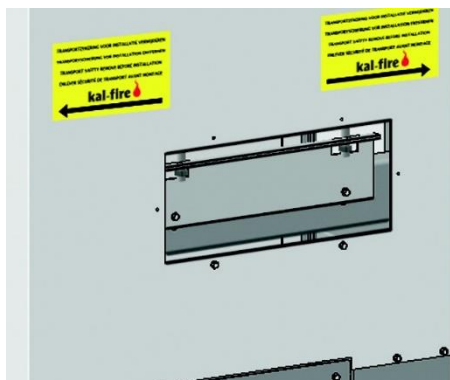
9.3 Removing the transport security - Kalfire W90/47C



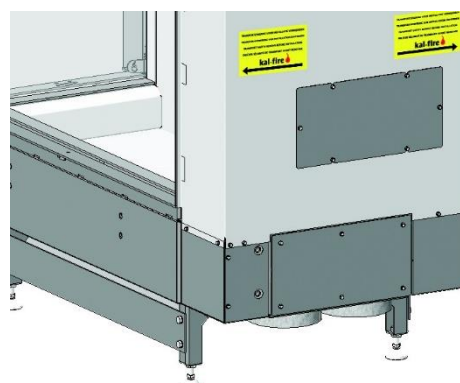
1. Unscrew the 6 screws from the cover plate and remove it.



3. Remove the security plate



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



4. Close the cover plate with 6 screws.

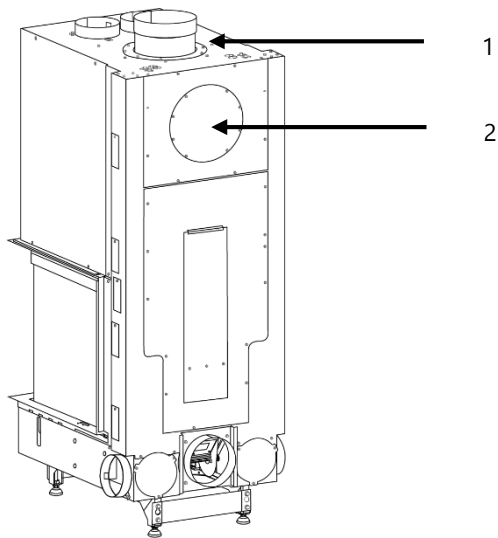
9.4 Technical table

Model	W45/48F	W53/50R	W60/51F	W65/38C	W66/48S	W70/33F	W70/33F
Certification document no.	P8-063/2009	P8-020/2018	P8-003/2015	P8-019/2014	P8-025/2025	P8-017/2015	P8-063/2009
Notified body	1004	1004	1004	1004	1004	1004	1004
Standard	EN16510-2-2:2022	EN16510-2-2:2022	EN16510-2-2:2022	EN16510-2-2:2022	EN16510-2-2:2022	EN16510-2-2:2022	EN16510-2-2:2022
Nominal heat output for space heating (kW)	9,4	13,2	13,2	13	15,2	12,1	9,4
Flue gas mass flow (g/s)	6,8	14	11,3	10,2	15,4	10	6,8
Efficiency (%)	87	80	81	82	78	80	87
Flue gas temperature (°C)	270	301	302	305	279	322	270
CO-emission at 13 % O ₂ (%)	1285	1178	946	1233	800	998	1285
CO ₂ content (%)	10,8	8,1	10,1	10,8	8,8	10,5	10,8
Dust emission at 13 % O ₂ (mg/Nm ³)	36	33	13	35,3	19	34,1	36
NO _x emission at 13 % O ₂ (mg/Nm ³)	150	100	119	94	118	87	150
CnHm at 13 % O ₂ (mg/Nm ³)	58	60	56	82	38	74	58
Minimum flue draught (Pa)	12	12	12	13	13	11	12
Flue gas outlet connection (mm)	150	200	180	180/200	200	180	150
Combustion air inlet connection (mm)	1×Ø150	1× Ø180	1× Ø150	2× Ø150	2× Ø150	2× Ø150	1×Ø150
Convection air inlet (mm)	2×Ø150	2× Ø150	2× Ø150	2× Ø150	2× Ø150	4× Ø150	2×Ø150
Convection air outlet (mm)	2×Ø150	2× Ø150	2× Ø150	2× Ø150	2× Ø150	4× Ø150	2×Ø150
Weight (kg)	180	327	226	270	270	210	180

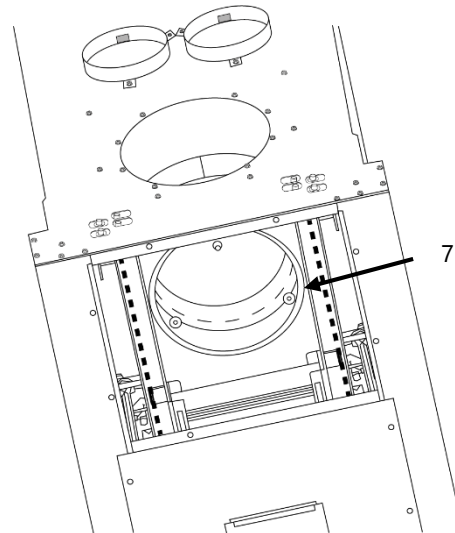
Technical table - continue

Model	W71/62F	W80/52T	W85/40F	W90/47C	W90/47S	W100/61F	W105/47F
Certification document no.	P8-024/2011	P8-070/2015	P8-001/2015	P8-013/2025	P8-026/2025	P8-066/2010	P8-019/2015
Notified body	1004	1004	1004	1004	1004	1004	1004
Standard	EN16510-2-2:2022	EN16510-2-2:2022	EN16510-2-2:2022	EN16510-2-2:2022	EN16510-2-2:2022	EN16510-2-2:2022	EN16510-2-2:2022
Nominal heat output for space heating (kW)	16	16,8	14,8	12,7	13,6	17,6	17,6
Flue gas mass flow (g/s)	12,7	15,8	13,2	14,9	16,7	17,3	15,9
Efficiency (%)	83	80	81	79	79	80	81
Flue gas temperature (°C)	305	313	280	290	269	291	302
CO-emission at 13 % O ₂ (%)	1167	925	686	1215	1193	1170	1008
CO ₂ content (%)	10,6	9,3	9,7	8,6	9,9	8,8	9,5
Dust emission at 13 % O ₂ (mg/Nm ³)	11	12,8	17,2	19	20	22	10,7
NO _x emission at 13 % O ₂ (mg/Nm ³)	113	119	130	130	111	116	118
CnHm at 13 % O ₂ (mg/Nm ³)	61	65	35	93	78	90	60
Minimum flue draught (Pa)	12	11	12	13	12	13	12
Flue gas outlet connection (mm)	250	200	200	250	250/300	250	250
Combustion air inlet connection (mm)	2×Ø150	2× Ø150	2× Ø150	2× Ø150	2× Ø150	2× Ø150	2× Ø150
Convection air inlet (mm)	4×Ø150	2× Ø150	4× Ø150	4× Ø150	2× Ø150	4× Ø150	4× Ø150
Convection air outlet (mm)	4×Ø150	2× Ø150	4× Ø150	4× Ø150	2× Ø150	4× Ø150	4× Ø150
Weight (kg)	271	385	257	320	360	430	328

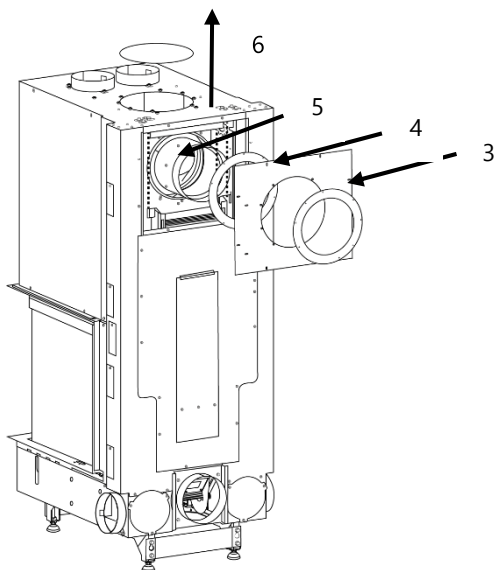
9.5 Rear connection (Kalfire W53/50R)



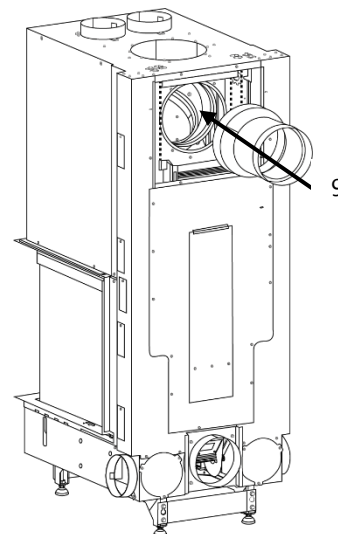
1. Remove the screws from the cover ring around the flue gas outlet and take it off.
2. Remove the screws from the cover plate at the rear and remove it.



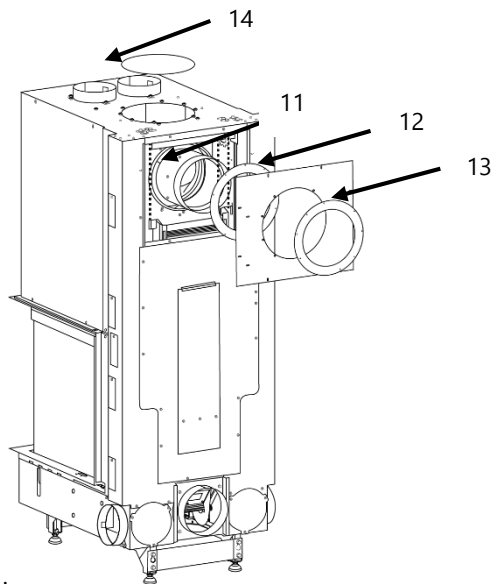
7. Loosen the 4 screws around the rotating flue gas outlet head using an Allen key (do not remove them).
8. Rotate the flue gas outlet head towards the rear.



3. Remove the screws from the square cover plate and take it off.
4. Remove the screws from the cover ring and remove the ring and the round cover plate.
5. Loosen the nut (no. 13) on the rotating flue connection head (do not remove it).
6. Remove the flue spigot.



9. Slide the flue spigot into the rotating flue gas outlet head.
10. Secure the flue spigot by tightening the nut (no. 13)



11. Slide the cover ring over the flue spigot and secure it.
12. Install the square cover plate.
13. Slide the second cover ring over the flue spigot and secure it.
14. Install the round cover plate on the top of the appliance.

Points of attention

- Ensure that the horizontal section of the rear connection can be cleaned.
- The horizontal section may be a maximum of 50 cm.

9.6 CE marking for W45/48F up to and including W70/33F

CE marking for a heating appliance in accordance with EN 16510-2-2:2022 under Regulation (EU) 305/2011.

	Value	W45/48F	W53/50R	W60/51F	W65/38C	W66/48S	W70/33F
Certification document no.		P8-063/2009	P8-020/2018	P8-003/2015	P8-019/2014	P8-025/2025	P8-017/2015
Notified body		1004	1004	1004	1004	1004	1004
Standard		EN16510-2-2 :2022	EN16510-2-2 :2022	EN16510-2-2 :2022	EN16510-2-2 :2022	EN16510-2-2 :2022	EN16510-2-2 :2022
Nominal heat output for space heating (kW)	P _{nom} /PSH _{nom}	9,4	13,2	13,2	13	15,2	12,1
Part-load heat output for space heating (kW)	P _{part} /PSH _{part}	NPD	NPD	NPD	NPD	NPD	NPD
Efficiency at nominal heat output (%)	η _{nom}	87	80	81	82	78	80
Efficiency at part-load heat output (%)	η _{part}	NPD	NPD	NPD	NPD	NPD	NPD
Seasonal space heating energy efficiency (%)	η _S	77	70	71	72	68	70
Energy efficiency index (EEI)	EEI	116	106	107	109	103	106
CO emission at nominal heat output at 13% O ₂ (mg/Nm ³)	C _O _{nom} (13%O ₂)	1285	1178	946	1233	800	998
CO emission at part-load heat output at 13% O ₂ (mg/Nm ³)	C _O _{part} (13%O ₂)	NPD	NPD	NPD	NPD	NPD	NPD
NO _x emission at nominal heat output at 13% O ₂ (mg/Nm ³)	NO _x _{nom} (13%O ₂)	150	100	119	94	118	87
NO _x emission at part-load heat output at 13% O ₂ (mg/Nm ³)	NO _x _{part} (13%O ₂)	NPD	NPD	NPD	NPD	NPD	NPD
Hydrocarbon emission at nominal heat output at 13% O ₂ (mg/Nm ³)	O _C G _{nom} (13%O ₂)	58	60	56	82	38	74
Hydrocarbon emission at part-load heat output at 13% O ₂ (mg/Nm ³)	O _C G _{part} (13%O ₂)	NPD	NPD	NPD	NPD	NPD	NPD
CO ₂ content (%)		10,8	8,1	10,1	10,8	8,8	10,5
Dust emission at nominal heat output at 13% O ₂ (mg/Nm ³)	P _M _{nom} (13%O ₂)	36	33	13	35,3	19	34,1
Dust emission at part-load heat output at 13% O ₂ (mg/Nm ³)	P _M _{part} (13%O ₂)	NPD	NPD	NPD	NPD	NPD	NPD
Minimum flue draught at nominal heat output (Pa)	P _{nom}	12	12	12	13	13	11
Minimum flue draught at part-load heat output (Pa)	P _{part}	NPD	NPD	NPD	NPD	NPD	NPD

CE marking for W45/48F up to and including W70/33F

CE marking for a heating appliance in accordance with EN 16510-2-2:2022 under Regulation (EU) 305/2011.

	Value	W45/48F	W53/50R	W60/51F	W65/38C	W66/48S	W70/33F
Minimum distance to combustible materials:							
from the rear (mm)	dR	100 + 100 (I)	200 (I)	100 + 200 (I)	100 (I)	200 (I)	200 (I)
from the sides (mm)	dS	50 + 1000 (I)	250 (I)	100 + 200 (I)	100 (I)	200 (I)	200 (I)
from the top (mm)	dC	500	500	500	500	500	500
from the front (mm)	dP	1300	1600	1300	1500	1400	1300
from the lower front radiation area (mm)	dF	500	500	500	500	500	750
from the lateral front radiation area (mm)	dL	1300	1600	1300	800	1400	1300
under the base (without legs) (mm)	dB	100	150	100	150	150	100
Minimum distance to non-combustible walls (mm)*	dnon	4	4	4	4	4	4
Flue gas outlet diameter (mm)	dout	150	200	180	180/200	200	180
Flue gas temperature at nominal heat output (°C)	Tsnom	270	301	302	305	279	322
Flue gas temperature at part-load heat output (°C)	Tspart	NPD	NPD	NPD	NPD	NPD	NPD
Chimney designation	T-Klasse	T400 G	T400 G	T400 G	T400 G	T400 G	T400 G
Flue gas mass flow at nominal heat output (g/s)	Φ _{f,g} nom	6,8	14	11,3	10,2	15,4	10
Flue gas mass flow at part-load heat output (g/s)	Φ _{f,g} part	NPD	NPD	NPD	NPD	NPD	NPD
Heat loss to the room when the appliance is not in operation (m³/h)	Vh	NPD	NPD	NPD	NPD	NPD	NPD
Suitable for intermittent operation		INT	INT	INT	INT	INT	INT
Combustion air inlet connection (mm)		1×Ø150	1× Ø180	1× Ø150	2× Ø150	2× Ø150	2× Ø150
Combustion air requirement (m³/h)		29	36	45	50	50	36
Convection air inlet (mm)		2× Ø150	2× Ø150	2× Ø150	2× Ø150	2× Ø150	4× Ø150
Convection air outlet (mm)		2× Ø150	2× Ø150	2× Ø150	2× Ø150	2× Ø150	4× Ø150
Overall dimensions of the appliance (width, height, depth) (mm)		694, 1420, 463	634, 1869, 776	827, 1507, 530	907, 1514, 524	784, 1626, 577	944, 1090, 463
Appliance mass (kg)	m	180	327	226	270	270	210

I = insulation material

9.7 CE marking for W71/62F up to and including W105/47F

CE marking for a heating appliance in accordance with EN 16510-2-2:2022 under Regulation (EU) 305/2011.

	Value	W71/62F	W80/52T	W85/40F	W90/47C	W90/47S	W100/61F	W105/47F
Certification document no.		P8-024/2011	P8-070/2015	P8-001/2015	P8-013/2025	P8-026/2025	P8-066/2010	P8-019/2015
Notified body		1004	1004	1004	1004	1004	1004	1004
Standard		EN16510-2-2 :2022	EN16510-2-2 :2022	EN16510-2-2 :2022	EN16510-2-2 :2022	EN16510-2-2 :2022	EN16510-2-2 :2022	EN16510-2-2 :2022
Nominal heat output for space heating (kW)	P _{nom} /P _S H _{nom}	16	16,8	14,8	12,7	13,6	17,6	17,6
Part-load heat output for space heating (kW)	P _{part} /P _{SH} part	NPD	NPD	NPD	NPD	NPD	NPD	NPD
Efficiency at nominal heat output (%)	η _{nom}	83	80	81	79	79	80	81
Efficiency at part-load heat output (%)	η _{part}	NPD	NPD	NPD	NPD	NPD	NPD	NPD
Seasonal space heating energy efficiency (%)	η _S	73	70	71	69	69	70	71
Energy efficiency index (EEI)	EEI	110	106	107	104	105	106	107
CO emission at nominal heat output at 13% O ₂ (mg/Nm ³)	CO _{nom} (13%O ₂)	1167	925	686	1215	1193	1170	1008
CO emission at part-load heat output at 13% O ₂ (mg/Nm ³)	CO _{part} (13%O ₂)	NPD	NPD	NPD	NPD	NPD	NPD	NPD
NO _x emission at nominal heat output at 13% O ₂ (mg/Nm ³)	NO _{xnom} (13%O ₂)	113	119	130	130	111	116	118
NO _x emission at part-load heat output at 13% O ₂ (mg/Nm ³)	NO _{xpart} (13%O ₂)	NPD	NPD	NPD	NPD	NPD	NPD	NPD
Hydrocarbon emission at nominal heat output at 13% O ₂ (mg/Nm ³)	OCG _{nom} (13%O ₂)	61	65	35	93	78	90	60
Hydrocarbon emission at part-load heat output at 13% O ₂ (mg/Nm ³)	OCG _{part} (13%O ₂)	NPD	NPD	NPD	NPD	NPD	NPD	NPD
CO ₂ content (%)		10,6	9,3	9,7	8,6	9,9	8,8	9,5
Dust emission at nominal heat output at 13% O ₂ (mg/Nm ³)	PM _{nom} (13%O ₂)	11	12,8	17,2	19	20	22	10,7
Dust emission at part-load heat output at 13% O ₂ (mg/Nm ³)	PM _{part} (13%O ₂)	NPD	NPD	NPD	NPD	NPD	NPD	NPD
Minimum flue draught at nominal heat output (Pa)	P _{nom}	12	11	12	13	12	13	12
Minimum flue draught at part-load heat output (Pa)	P _{part}	NPD	NPD	NPD	NPD	NPD	NPD	NPD

CE marking for W71/62F up to and including W105/47F

CE marking for a heating appliance in accordance with EN 16510-2-2:2022 under Regulation (EU) 305/2011.

	Value	W71/62F	W80/52T	W85/40F	W90/47C	W90/47S	W100/61F	W105/47F
Minimum distance to combustible materials:								
from the rear (mm)	dR	100 + 200 (WD)	200 (WD)	100 + 200 (WD)	100 (WD)	100 + 100 (WD)	100 + 100 (WD)	100 + 100 (WD)
from the sides (mm)	dS	100 + 200 (WD)	200 (WD)	100 + 200 (WD)	100 (WD)	150 + 100 (WD)	100 + 100 (WD)	100 + 100 (WD)
from the top (mm)	dC	500	500	500	500	500	500	500
from the front (mm)	dP	1500	1600	1300	1500	1600	1500	1500
from the lower front radiation area (mm)	dF	500	500	500	500	500	500	500
from the lateral front radiation area (mm)	dL	1500	1600	1300	800	1600	1500	1500
under the base (without legs) (mm)	dB	100	100	100	150	150	150	100
Minimum distance to non-combustible walls (mm)*	dnon	4	4	4	4	4	4	4
Flue gas outlet diameter (mm)	dout	250	200	200	250	250	250	250
Flue gas temperature at nominal heat output (°C)	Tsnom	305	313	280	290	269	291	302
Flue gas temperature at part-load heat output (°C)	Tspart	NPD	NPD	NPD	NPD	NPD	NPD	NPD
Chimney designation	T-Klasse	T400 G	T400 G	T400 G	T400 G	T400 G	T400 G	T400 G
Flue gas mass flow at nominal heat output (g/s)	Φf,g nom	12,7	15,8	13,2	14,9	16,7	17,3	15,9
Flue gas mass flow at part-load heat output (g/s)	Φf,g part	NPD	NPD	NPD	NPD	NPD	NPD	NPD
Heat loss to the room when the appliance is not in operation (m³/h)	Vh	NPD	NPD	NPD	NPD	NPD	NPD	NPD
Suitable for intermittent operation		INT	INT	INT	INT	INT	INT	INT
Combustion air inlet connection (mm)		2× Ø150	2× Ø150	2× Ø150	2× Ø150	2× Ø150	2× Ø150	2× Ø150
Combustion air requirement (m³/h)		63	56	50	45	45	45	58
Convection air inlet (mm)		4× Ø150	2× Ø150	4× Ø150	4× Ø150	2× Ø150	4× Ø150	4× Ø150
Convection air outlet (mm)		4× Ø150	2× Ø150	4× Ø150	4× Ø150	2× Ø150	4× Ø150	4× Ø150
Overall dimensions of the appliance (width, height, depth) (mm)		937, 1638, 530	1142, 1487, 576	1077, 1397, 531	1157, 1706, 572	1034, 1616, 627	1221, 1547, 530	1279, 1477, 555
Appliance mass (kg)	m	271	385	257	320	360	430	328

I = insulation material

9.8 Declarations of Performance according to Regulation (EU) 305/2011

9.8.1 Declaration of Performance according to Regulation (EU) 305/2011 – Kalfire W45/48F

Nr.	Information in accordance with (EU) 305/2011	
1	Unique identification code of the product type	Type B
2	Intended use	Space heating in residential buildings
3	Manufacturer / trademark	Kalfire BV Geloërveldweg 21 - NL-5951DH Belfeld
4	Authorised representative	Drs. Ing. Beijko van Melick MSc Managing Director
5	System(s) for assessment and verification of constancy of performance of the construction product	System 3
6	Notified body(ies)	1004
7	Test report number	P8-063/2009
	Harmonised technical specifications	EN 16510-2-2:2022
8	Essential characteristics	
	Safety in case of fire	
	<i>Protection of combustible materials</i>	
	Minimum distance to combustible materials - bottom dB (mm)	100
	Minimum distance to combustible materials - floor in front dF (mm)	500
	Minimum distance to combustible materials - ceiling dC (mm)	500
	Minimum distance to combustible materials - rear dR (mm)	100 + (100 I) <i>I = insulation material</i>
	Minimum distance to combustible materials – side dS (mm)	50 + (100 I) <i>I = insulation material</i>
	Minimum distance to combustible materials – side radiation area dL (mm)	1300
	Minimum distance to adjacent combustible materials (e.g. furniture)	1300
	Material type and thickness of the protective insulation material	Stone wool core insulation board RD-KD 035 (0.035 W/m·K)
	Hygiene, health and environment	
	<i>Emissions at nominal heat output at 13% O₂</i>	
	Carbon monoxide emission (CO) (mg/m ³)	1285
	Nitrogen oxides emission (NO _x) (mg/m ³)	150
	Emission of organic gaseous carbon (OGC) (mg/m ³)	58
	Particulate matter emissions (PM) (mg/m ³)	36
	<i>Emissions at part load heat output at 13% O₂</i>	
	Carbon monoxide emission (CO) (mg/m ³)	NPD
	Nitrogen oxides emission (NO _x) (mg/m ³)	NPD
	Emission of organic gaseous carbon (OGC) (mg/m ³)	NPD
	Particulate matter emissions (PM) (mg/m ³)	NPD

Safety and accessibility in use	
<i>Data for installation to a chimney at nominal heat output</i>	
Flue gas outlet temperature at nominal heat output (°C)	270
Minimum flue draught (Pa)	12
Flue gas mass flow (g/s)	6,79
<i>Data for installation to a chimney at part load heat output</i>	
Flue gas outlet temperature (°C)	NPD
Minimum flue draught (Pa)	NPD
Flue gas mass flow (g/s)	NPD
<i>Data for installation to a chimney regarding fire safety on safety test heat output</i>	
Fire safety of installation to the chimney	T400 G
Energy economy and heat retention	
<i>Appliance's thermal output and energy efficiency at nominal heat output</i>	
Space heat output (kW)	9,4
Water heat output	NPD
Efficiency (%)	87
<i>Heat output and energy efficiency of the appliance at part load heat output</i>	
Space heat output (kW)	NPD
Water heat output	NPD
Efficiency (%)	NPD
<i>Space heating efficiency</i>	
Seasonal space heating efficiency at nominal heat output (%)	77
Energy Efficiency Index (EEI)	116
Energy efficiency class	A+
Electric power consumption at nominal heat output	NPD
Electric power consumption at part load heat output	NPD
Power consumption in standby mode	NPD
Sustainable use of natural resources	
Environmental sustainability	NPD
9	The performance of the product identified above is in conformity with the set of declared performance. This declaration of performance is issued, in accordance with Regulation (EU) No 305/2011, under the sole responsibility of the manufacturer identified above.

Signed for and on behalf of the manufacturer by:



Drs. Ing. Beijko van Melick MSc
Managing Director, Kalfire BV

Place and date: NL-Belfeld, 9 November 2025

9.8.2 Declaration of Performance according to Regulation (EU) 305/2011 – Kalfire W53/50R

Nr.	Information in accordance with (EU) 305/2011	
1	Unique identification code of the product type	Type B
2	Intended use	Space heating in residential buildings
3	Manufacturer / trademark	Kalfire BV Geloërveldweg 21 - NL-5951DH Belfeld
4	Authorised representative	Drs. Ing. Beijko van Melick MSc Managing Director
5	System(s) for assessment and verification of constancy of performance of the construction product	System 3
6	Notified body(ies)	1004
7	Test report number	P8-020/2018
	Harmonised technical specifications	EN 16510-2-2:2022
8	Essential characteristics	
	Safety in case of fire	
	<i>Protection of combustible materials</i>	
	Minimum distance to combustible materials - bottom dB (mm)	150
	Minimum distance to combustible materials - floor in front dF (mm)	500
	Minimum distance to combustible materials - ceiling dC (mm)	500
	Minimum distance to combustible materials - rear dR (mm)	200 (I) <i>I = insulation material</i>
	Minimum distance to combustible materials – side dS (mm)	250 (I) <i>I = insulation material</i>
	Minimum distance to combustible materials – side radiation area dL (mm)	1600
	Minimum distance to adjacent combustible materials (e.g. furniture)	1600
	Material type and thickness of the protective insulation material	Stone wool core insulation board RD-KD 035 (0.035 W/m·K)
	Hygiene, health and environment	
	<i>Emissions at nominal heat output at 13% O₂</i>	
	Carbon monoxide emission (CO) (mg/m ³)	1178
	Nitrogen oxides emission (NO _x) (mg/m ³)	100
	Emission of organic gaseous carbon (OGC) (mg/m ³)	60
	Particulate matter emissions (PM) (mg/m ³)	33
	<i>Emissions at part load heat output at 13% O₂</i>	
	Carbon monoxide emission (CO) (mg/m ³)	NPD
	Nitrogen oxides emission (NO _x) (mg/m ³)	NPD
	Emission of organic gaseous carbon (OGC) (mg/m ³)	NPD
	Particulate matter emissions (PM) (mg/m ³)	NPD

Safety and accessibility in use	
<i>Data for installation to a chimney at nominal heat output</i>	
Flue gas outlet temperature at nominal heat output (°C)	301
Minimum flue draught (Pa)	12
Flue gas mass flow (g/s)	14
<i>Data for installation to a chimney at part load heat output</i>	
Flue gas outlet temperature (°C)	NPD
Minimum flue draught (Pa)	NPD
Flue gas mass flow (g/s)	NPD
<i>Data for installation to a chimney regarding fire safety on safety test heat output</i>	
Fire safety of installation to the chimney	T400 G
Energy economy and heat retention	
<i>Appliance's thermal output and energy efficiency at nominal heat output</i>	
Space heat output (kW)	13,2
Water heat output	NPD
Efficiency (%)	80
<i>Heat output and energy efficiency of the appliance at part load heat output</i>	
Space heat output (kW)	NPD
Water heat output	NPD
Efficiency (%)	NPD
<i>Space heating efficiency</i>	
Seasonal space heating efficiency at nominal heat output (%)	70
Energy Efficiency Index (EEI)	106
Energy efficiency class	A
Electric power consumption at nominal heat output	NPD
Electric power consumption at part load heat output	NPD
Power consumption in standby mode	NPD
Sustainable use of natural resources	
Environmental sustainability	NPD
9	The performance of the product identified above is in conformity with the set of declared performance. This declaration of performance is issued, in accordance with Regulation (EU) No 305/2011, under the sole responsibility of the manufacturer identified above.

Signed for and on behalf of the manufacturer by:



Drs. Ing. Beijko van Melick MSc
Managing Director, Kalfire BV

Place and date: NL-Belfeld, 9 November 2025

9.8.3 Declaration of Performance according to Regulation (EU) 305/2011 – Kalfire W60/51F

Nr.	Information in accordance with (EU) 305/2011	
1	Unique identification code of the product type	Type B
2	Intended use	Space heating in residential buildings
3	Manufacturer / trademark	Kalfire BV Geloërveldweg 21 - NL-5951DH Belfeld
4	Authorised representative	Drs. Ing. Beijko van Melick MSc Managing Director
5	System(s) for assessment and verification of constancy of performance of the construction product	System 3
6	Notified body(ies)	1004
7	Test report number	P8-003/2015
	Harmonised technical specifications	EN 16510-2-2:2022
8	Essential characteristics	
	Safety in case of fire	
	<i>Protection of combustible materials</i>	
	Minimum distance to combustible materials - bottom dB (mm)	100
	Minimum distance to combustible materials - floor in front dF (mm)	500
	Minimum distance to combustible materials - ceiling dC (mm)	500
	Minimum distance to combustible materials - rear dR (mm)	100 + (200 I) <i>I = insulation material</i>
	Minimum distance to combustible materials – side dS (mm)	100 + (200 I) <i>I = insulation material</i>
	Minimum distance to combustible materials – side radiation area dL (mm)	1300
	Minimum distance to adjacent combustible materials (e.g. furniture)	1300
	Material type and thickness of the protective insulation material	Stone wool core insulation board RD-KD 035 (0.035 W/m·K)
	Hygiene, health and environment	
	<i>Emissions at nominal heat output at 13% O₂</i>	
	Carbon monoxide emission (CO) (mg/m ³)	946
	Nitrogen oxides emission (NO _x) (mg/m ³)	119
	Emission of organic gaseous carbon (OGC) (mg/m ³)	56
	Particulate matter emissions (PM) (mg/m ³)	13
	<i>Emissions at part load heat output at 13% O₂</i>	
	Carbon monoxide emission (CO) (mg/m ³)	NPD
	Nitrogen oxides emission (NO _x) (mg/m ³)	NPD
	Emission of organic gaseous carbon (OGC) (mg/m ³)	NPD
	Particulate matter emissions (PM) (mg/m ³)	NPD

Safety and accessibility in use	
<i>Data for installation to a chimney at nominal heat output</i>	
Flue gas outlet temperature at nominal heat output (°C)	302
Minimum flue draught (Pa)	12
Flue gas mass flow (g/s)	11,3
<i>Data for installation to a chimney at part load heat output</i>	
Flue gas outlet temperature (°C)	NPD
Minimum flue draught (Pa)	NPD
Flue gas mass flow (g/s)	NPD
<i>Data for installation to a chimney regarding fire safety on safety test heat output</i>	
Fire safety of installation to the chimney	T400 G
Energy economy and heat retention	
<i>Appliance's thermal output and energy efficiency at nominal heat output</i>	
Space heat output (kW)	13,2
Water heat output	NPD
Efficiency (%)	81
<i>Heat output and energy efficiency of the appliance at part load heat output</i>	
Space heat output (kW)	NPD
Water heat output	NPD
Efficiency (%)	NPD
<i>Space heating efficiency</i>	
Seasonal space heating efficiency at nominal heat output (%)	71
Energy Efficiency Index (EEI)	107
Energy efficiency class	A+
Electric power consumption at nominal heat output	NPD
Electric power consumption at part load heat output	NPD
Power consumption in standby mode	NPD
Sustainable use of natural resources	
Environmental sustainability	NPD
9	The performance of the product identified above is in conformity with the set of declared performance. This declaration of performance is issued, in accordance with Regulation (EU) No 305/2011, under the sole responsibility of the manufacturer identified above.

Signed for and on behalf of the manufacturer by:



Drs. Ing. Beijko van Melick MSc
Managing Director, Kalfire BV

Place and date: NL-Belfeld, 9 November 2025

9.8.4 Declaration of Performance according to Regulation (EU) 305/2011 – Kalfire W65/38C

Nr.	Information in accordance with (EU) 305/2011	
1	Unique identification code of the product type	Type B
2	Intended use	Space heating in residential buildings
3	Manufacturer / trademark	Kalfire BV Geloërveldweg 21 - NL-5951DH Belfeld
4	Authorised representative	Drs. Ing. Beijko van Melick MSc Managing Director
5	System(s) for assessment and verification of constancy of performance of the construction product	System 3
6	Notified body(ies)	1004
7	Test report number	P8-020/2014
	Harmonised technical specifications	EN 16510-2-2:2022
8	Essential characteristics	
	Safety in case of fire	
	<i>Protection of combustible materials</i>	
	Minimum distance to combustible materials - bottom dB (mm)	150
	Minimum distance to combustible materials - floor in front dF (mm)	500
	Minimum distance to combustible materials - ceiling dC (mm)	500
	Minimum distance to combustible materials - rear dR (mm)	100 (I) <i>I = insulation material</i>
	Minimum distance to combustible materials – side dS (mm)	100 (I) <i>I = insulation material</i>
	Minimum distance to combustible materials – side radiation area dL (mm)	800
	Minimum distance to adjacent combustible materials (e.g. furniture)	1500
	Material type and thickness of the protective insulation material	Stone wool core insulation board RD-KD 035 (0.035 W/m·K)
	Hygiene, health and environment	
	<i>Emissions at nominal heat output at 13% O₂</i>	
	Carbon monoxide emission (CO) (mg/m ³)	1233
	Nitrogen oxides emission (NO _x) (mg/m ³)	94
	Emission of organic gaseous carbon (OGC) (mg/m ³)	82
	Particulate matter emissions (PM) (mg/m ³)	35,3
	<i>Emissions at part load heat output at 13% O₂</i>	
	Carbon monoxide emission (CO) (mg/m ³)	NPD
	Nitrogen oxides emission (NO _x) (mg/m ³)	NPD
	Emission of organic gaseous carbon (OGC) (mg/m ³)	NPD
	Particulate matter emissions (PM) (mg/m ³)	NPD

Safety and accessibility in use	
<i>Data for installation to a chimney at nominal heat output</i>	
Flue gas outlet temperature at nominal heat output (°C)	257
Minimum flue draught (Pa)	13
Flue gas mass flow (g/s)	10,2
<i>Data for installation to a chimney at part load heat output</i>	
Flue gas outlet temperature (°C)	NPD
Minimum flue draught (Pa)	NPD
Flue gas mass flow (g/s)	NPD
<i>Data for installation to a chimney regarding fire safety on safety test heat output</i>	
Fire safety of installation to the chimney	T400 G
Energy economy and heat retention	
<i>Appliance's thermal output and energy efficiency at nominal heat output</i>	
Space heat output (kW)	13
Water heat output	NPD
Efficiency (%)	82
<i>Heat output and energy efficiency of the appliance at part load heat output</i>	
Space heat output (kW)	NPD
Water heat output	NPD
Efficiency (%)	NPD
<i>Space heating efficiency</i>	
Seasonal space heating efficiency at nominal heat output (%)	72
Energy Efficiency Index (EEI)	108
Energy efficiency class	A+
Electric power consumption at nominal heat output	NPD
Electric power consumption at part load heat output	NPD
Power consumption in standby mode	NPD
Sustainable use of natural resources	
Environmental sustainability	NPD
9	The performance of the product identified above is in conformity with the set of declared performance. This declaration of performance is issued, in accordance with Regulation (EU) No 305/2011, under the sole responsibility of the manufacturer identified above.

Signed for and on behalf of the manufacturer by:



Drs. Ing. Beijko van Melick MSc
Managing Director, Kalfire BV

Place and date: NL-Belfeld, 9 November 2025

9.8.5 Declaration of Performance according to Regulation (EU) 305/2011 – Kalfire W66/48S

Nr.	Information in accordance with (EU) 305/2011	
1	Unique identification code of the product type	Type B
2	Intended use	Space heating in residential buildings
3	Manufacturer / trademark	Kalfire BV Geloërveldweg 21 - NL-5951DH Belfeld
4	Authorised representative	Drs. Ing. Beijko van Melick MSc Managing Director
5	System(s) for assessment and verification of constancy of performance of the construction product	System 3
6	Notified body(ies)	1004
7	Test report number	P8-025/2025
	Harmonised technical specifications	EN 16510-2-2:2022
8	Essential characteristics	
	Safety in case of fire	
	<i>Protection of combustible materials</i>	
	Minimum distance to combustible materials - bottom dB (mm)	150
	Minimum distance to combustible materials - floor in front dF (mm)	500
	Minimum distance to combustible materials - ceiling dC (mm)	500
	Minimum distance to combustible materials - rear dR (mm)	200 (I) <i>I = insulation material</i>
	Minimum distance to combustible materials – side dS (mm)	200 ((I) <i>I = insulation material</i>
	Minimum distance to combustible materials – side radiation area dL (mm)	1400
	Minimum distance to adjacent combustible materials (e.g. furniture)	1400
	Material type and thickness of the protective insulation material	Stone wool core insulation board RD-KD 035 (0.035 W/m·K)
	Hygiene, health and environment	
	<i>Emissions at nominal heat output at 13% O₂</i>	
	Carbon monoxide emission (CO) (mg/m ³)	800
	Nitrogen oxides emission (NO _x) (mg/m ³)	118
	Emission of organic gaseous carbon (OGC) (mg/m ³)	38
	Particulate matter emissions (PM) (mg/m ³)	19
	<i>Emissions at part load heat output at 13% O₂</i>	
	Carbon monoxide emission (CO) (mg/m ³)	NPD
	Nitrogen oxides emission (NO _x) (mg/m ³)	NPD
	Emission of organic gaseous carbon (OGC) (mg/m ³)	NPD
	Particulate matter emissions (PM) (mg/m ³)	NPD

Safety and accessibility in use	
<i>Data for installation to a chimney at nominal heat output</i>	
Flue gas outlet temperature at nominal heat output (°C)	279
Minimum flue draught (Pa)	12
Flue gas mass flow (g/s)	15,4
<i>Data for installation to a chimney at part load heat output</i>	
Flue gas outlet temperature (°C)	NPD
Minimum flue draught (Pa)	NPD
Flue gas mass flow (g/s)	NPD
<i>Data for installation to a chimney regarding fire safety on safety test heat output</i>	
Fire safety of installation to the chimney	T400 G
Energy economy and heat retention	
<i>Appliance's thermal output and energy efficiency at nominal heat output</i>	
Space heat output (kW)	15,2
Water heat output	NPD
Efficiency (%)	78
<i>Heat output and energy efficiency of the appliance at part load heat output</i>	
Space heat output (kW)	NPD
Water heat output	NPD
Efficiency (%)	NPD
<i>Space heating efficiency</i>	
Seasonal space heating efficiency at nominal heat output (%)	68
Energy Efficiency Index (EEI)	103
Energy efficiency class	A
Electric power consumption at nominal heat output	NPD
Electric power consumption at part load heat output	NPD
Power consumption in standby mode	NPD
Sustainable use of natural resources	
Environmental sustainability	NPD
9	The performance of the product identified above is in conformity with the set of declared performance. This declaration of performance is issued, in accordance with Regulation (EU) No 305/2011, under the sole responsibility of the manufacturer identified above.

Signed for and on behalf of the manufacturer by:



Drs. Ing. Beijko van Melick MSc
Managing Director, Kalfire BV

Place and date: NL-Belfeld, 9 November 2025

9.8.6 Declaration of Performance according to Regulation (EU) 305/2011 – Kalfire W70/33F

Nr.	Information in accordance with (EU) 305/2011	
1	Unique identification code of the product type	Type B
2	Intended use	Space heating in residential buildings
3	Manufacturer / trademark	Kalfire BV Geloërveldweg 21 - NL-5951DH Belfeld
4	Authorised representative	Drs. Ing. Beijko van Melick MSc Managing Director
5	System(s) for assessment and verification of constancy of performance of the construction product	System 3
6	Notified body(ies)	1004
7	Test report number	P8-017/2015
	Harmonised technical specifications	EN 16510-2-2:2022
8	Essential characteristics	
	Safety in case of fire	
	<i>Protection of combustible materials</i>	
	Minimum distance to combustible materials - bottom dB (mm)	100
	Minimum distance to combustible materials - floor in front dF (mm)	750
	Minimum distance to combustible materials - ceiling dC (mm)	500
	Minimum distance to combustible materials - rear dR (mm)	200 (I) <i>I = insulation material</i>
	Minimum distance to combustible materials – side dS (mm)	200 (I) <i>I = insulation material</i>
	Minimum distance to combustible materials – side radiation area dL (mm)	1300
	Minimum distance to adjacent combustible materials (e.g. furniture)	1300
	Material type and thickness of the protective insulation material	Stone wool core insulation board RD-KD 035 (0.035 W/m·K)
	Hygiene, health and environment	
	<i>Emissions at nominal heat output at 13% O₂</i>	
	Carbon monoxide emission (CO) (mg/m ³)	998
	Nitrogen oxides emission (NO _x) (mg/m ³)	87
	Emission of organic gaseous carbon (OGC) (mg/m ³)	74
	Particulate matter emissions (PM) (mg/m ³)	34,1
	<i>Emissions at part load heat output at 13% O₂</i>	
	Carbon monoxide emission (CO) (mg/m ³)	NPD
	Nitrogen oxides emission (NO _x) (mg/m ³)	NPD
	Emission of organic gaseous carbon (OGC) (mg/m ³)	NPD
	Particulate matter emissions (PM) (mg/m ³)	NPD

Safety and accessibility in use	
<i>Data for installation to a chimney at nominal heat output</i>	
Flue gas outlet temperature at nominal heat output (°C)	322
Minimum flue draught (Pa)	11
Flue gas mass flow (g/s)	10
<i>Data for installation to a chimney at part load heat output</i>	
Flue gas outlet temperature (°C)	NPD
Minimum flue draught (Pa)	NPD
Flue gas mass flow (g/s)	NPD
<i>Data for installation to a chimney regarding fire safety on safety test heat output</i>	
Fire safety of installation to the chimney	T400 G
Energy economy and heat retention	
<i>Appliance's thermal output and energy efficiency at nominal heat output</i>	
Space heat output (kW)	12,1
Water heat output	NPD
Efficiency (%)	80
<i>Heat output and energy efficiency of the appliance at part load heat output</i>	
Space heat output (kW)	NPD
Water heat output	NPD
Efficiency (%)	NPD
<i>Space heating efficiency</i>	
Seasonal space heating efficiency at nominal heat output (%)	70
Energy Efficiency Index (EEI)	106
Energy efficiency class	A
Electric power consumption at nominal heat output	NPD
Electric power consumption at part load heat output	NPD
Power consumption in standby mode	NPD
Sustainable use of natural resources	
Environmental sustainability	NPD
9	The performance of the product identified above is in conformity with the set of declared performance. This declaration of performance is issued, in accordance with Regulation (EU) No 305/2011, under the sole responsibility of the manufacturer identified above.

Signed for and on behalf of the manufacturer by:



Drs. Ing. Beijko van Melick MSc
Managing Director, Kalfire BV

Place and date: NL-Belfeld, 9 November 2025

9.8.7 Declaration of Performance according to Regulation (EU) 305/2011 – Kalfire W71/62F

Nr.	Information in accordance with (EU) 305/2011	
1	Unique identification code of the product type	Type B
2	Intended use	Space heating in residential buildings
3	Manufacturer / trademark	Kalfire BV Geloërveldweg 21 - NL-5951DH Belfeld
4	Authorised representative	Drs. Ing. Beijko van Melick MSc Managing Director
5	System(s) for assessment and verification of constancy of performance of the construction product	System 3
6	Notified body(ies)	1004
7	Test report number	P8-024/2011
	Harmonised technical specifications	EN 16510-2-2:2022
8	Essential characteristics	
	Safety in case of fire	
	<i>Protection of combustible materials</i>	
	Minimum distance to combustible materials - bottom dB (mm)	100
	Minimum distance to combustible materials - floor in front dF (mm)	500
	Minimum distance to combustible materials - ceiling dC (mm)	500
	Minimum distance to combustible materials - rear dR (mm)	100 + (200 l) <i>l = insulation material</i>
	Minimum distance to combustible materials – side dS (mm)	100 + (200 l) <i>l = insulation material</i>
	Minimum distance to combustible materials – side radiation area dL (mm)	1500
	Minimum distance to adjacent combustible materials (e.g. furniture)	1500
	Material type and thickness of the protective insulation material	Stone wool core insulation board RD-KD 035 (0.035 W/m·K)
	Hygiene, health and environment	
	<i>Emissions at nominal heat output at 13% O₂</i>	
	Carbon monoxide emission (CO) (mg/m ³)	1167
	Nitrogen oxides emission (NO _x) (mg/m ³)	113
	Emission of organic gaseous carbon (OGC) (mg/m ³)	61
	Particulate matter emissions (PM) (mg/m ³)	11
	<i>Emissions at part load heat output at 13% O₂</i>	
	Carbon monoxide emission (CO) (mg/m ³)	NPD
	Nitrogen oxides emission (NO _x) (mg/m ³)	NPD
	Emission of organic gaseous carbon (OGC) (mg/m ³)	NPD
	Particulate matter emissions (PM) (mg/m ³)	NPD

Safety and accessibility in use	
<i>Data for installation to a chimney at nominal heat output</i>	
Flue gas outlet temperature at nominal heat output (°C)	305
Minimum flue draught (Pa)	12
Flue gas mass flow (g/s)	12,7
<i>Data for installation to a chimney at part load heat output</i>	
Flue gas outlet temperature (°C)	NPD
Minimum flue draught (Pa)	NPD
Flue gas mass flow (g/s)	NPD
<i>Data for installation to a chimney regarding fire safety on safety test heat output</i>	
Fire safety of installation to the chimney	T400 G
Energy economy and heat retention	
<i>Appliance's thermal output and energy efficiency at nominal heat output</i>	
Space heat output (kW)	16
Water heat output	NPD
Efficiency (%)	83
<i>Heat output and energy efficiency of the appliance at part load heat output</i>	
Space heat output (kW)	NPD
Water heat output	NPD
Efficiency (%)	NPD
<i>Space heating efficiency</i>	
Seasonal space heating efficiency at nominal heat output (%)	73
Energy Efficiency Index (EEI)	110
Energy efficiency class	A+
Electric power consumption at nominal heat output	NPD
Electric power consumption at part load heat output	NPD
Power consumption in standby mode	NPD
Sustainable use of natural resources	
Environmental sustainability	NPD
9	The performance of the product identified above is in conformity with the set of declared performance. This declaration of performance is issued, in accordance with Regulation (EU) No 305/2011, under the sole responsibility of the manufacturer identified above.

Signed for and on behalf of the manufacturer by:



Drs. Ing. Beijko van Melick MSc
Managing Director, Kalfire BV

Place and date: NL-Belfeld, 9 November 2025

9.8.8 Declaration of Performance according to Regulation (EU) 305/2011 – Kalfire W80/52T

Nr.	Information in accordance with (EU) 305/2011	
1	Unique identification code of the product type	Type B
2	Intended use	Space heating in residential buildings
3	Manufacturer / trademark	Kalfire BV Geloërveldweg 21 - NL-5951DH Belfeld
4	Authorised representative	Drs. Ing. Beijko van Melick MSc Managing Director
5	System(s) for assessment and verification of constancy of performance of the construction product	System 3
6	Notified body(ies)	1004
7	Test report number	P8-070/2015
	Harmonised technical specifications	EN 16510-2-2:2022
8	Essential characteristics	
	Safety in case of fire	
	<i>Protection of combustible materials</i>	
	Minimum distance to combustible materials - bottom dB (mm)	100
	Minimum distance to combustible materials - floor in front dF (mm)	500
	Minimum distance to combustible materials - ceiling dC (mm)	500
	Minimum distance to combustible materials - rear dR (mm)	200 (I) <i>I = insulation material</i>
	Minimum distance to combustible materials – side dS (mm)	200 (I) <i>I = insulation material</i>
	Minimum distance to combustible materials – side radiation area dL (mm)	1600
	Minimum distance to adjacent combustible materials (e.g. furniture)	1600
	Material type and thickness of the protective insulation material	Stone wool core insulation board RD-KD 035 (0.035 W/m·K)
	Hygiene, health and environment	
	<i>Emissions at nominal heat output at 13% O₂</i>	
	Carbon monoxide emission (CO) (mg/m ³)	925
	Nitrogen oxides emission (NO _x) (mg/m ³)	119
	Emission of organic gaseous carbon (OGC) (mg/m ³)	65
	Particulate matter emissions (PM) (mg/m ³)	12,8
	<i>Emissions at part load heat output at 13% O₂</i>	
	Carbon monoxide emission (CO) (mg/m ³)	NPD
	Nitrogen oxides emission (NO _x) (mg/m ³)	NPD
	Emission of organic gaseous carbon (OGC) (mg/m ³)	NPD
	Particulate matter emissions (PM) (mg/m ³)	NPD

Safety and accessibility in use	
<i>Data for installation to a chimney at nominal heat output</i>	
Flue gas outlet temperature at nominal heat output (°C)	313
Minimum flue draught (Pa)	11
Flue gas mass flow (g/s)	15,8
<i>Data for installation to a chimney at part load heat output</i>	
Flue gas outlet temperature (°C)	NPD
Minimum flue draught (Pa)	NPD
Flue gas mass flow (g/s)	NPD
<i>Data for installation to a chimney regarding fire safety on safety test heat output</i>	
Fire safety of installation to the chimney	T400 G
Energy economy and heat retention	
<i>Appliance's thermal output and energy efficiency at nominal heat output</i>	
Space heat output (kW)	16,8
Water heat output	NPD
Efficiency (%)	80
<i>Heat output and energy efficiency of the appliance at part load heat output</i>	
Space heat output (kW)	NPD
Water heat output	NPD
Efficiency (%)	NPD
<i>Space heating efficiency</i>	
Seasonal space heating efficiency at nominal heat output (%)	70
Energy Efficiency Index (EEI)	106
Energy efficiency class	A
Electric power consumption at nominal heat output	NPD
Electric power consumption at part load heat output	NPD
Power consumption in standby mode	NPD
Sustainable use of natural resources	
Environmental sustainability	NPD
9	The performance of the product identified above is in conformity with the set of declared performance. This declaration of performance is issued, in accordance with Regulation (EU) No 305/2011, under the sole responsibility of the manufacturer identified above.

Signed for and on behalf of the manufacturer by:



Drs. Ing. Beijko van Melick MSc
Managing Director, Kalfire BV

Place and date: NL-Belfeld, 9 November 2025

9.8.9 Declaration of Performance according to Regulation (EU) 305/2011 – Kalfire W85/40F

Nr.	Information in accordance with (EU) 305/2011	
1	Unique identification code of the product type	Type B
2	Intended use	Space heating in residential buildings
3	Manufacturer / trademark	Kalfire BV Geloërveldweg 21 - NL-5951DH Belfeld
4	Authorised representative	Drs. Ing. Beijko van Melick MSc Managing Director
5	System(s) for assessment and verification of constancy of performance of the construction product	System 3
6	Notified body(ies)	1004
7	Test report number	P8-001/2015
	Harmonised technical specifications	EN 16510-2-2:2022
8	Essential characteristics	
	Safety in case of fire	
	<i>Protection of combustible materials</i>	
	Minimum distance to combustible materials - bottom dB (mm)	100
	Minimum distance to combustible materials - floor in front dF (mm)	500
	Minimum distance to combustible materials - ceiling dC (mm)	500
	Minimum distance to combustible materials - rear dR (mm)	100 + (200 I) <i>I = insulation material</i>
	Minimum distance to combustible materials – side dS (mm)	100 + (200 I) <i>I = insulation material</i>
	Minimum distance to combustible materials – side radiation area dL (mm)	1300
	Minimum distance to adjacent combustible materials (e.g. furniture)	1300
	Material type and thickness of the protective insulation material	Stone wool core insulation board RD-KD 035 (0.035 W/m·K)
	Hygiene, health and environment	
	<i>Emissions at nominal heat output at 13% O₂</i>	
	Carbon monoxide emission (CO) (mg/m ³)	686
	Nitrogen oxides emission (NO _x) (mg/m ³)	130
	Emission of organic gaseous carbon (OGC) (mg/m ³)	35
	Particulate matter emissions (PM) (mg/m ³)	17,2
	<i>Emissions at part load heat output at 13% O₂</i>	
	Carbon monoxide emission (CO) (mg/m ³)	NPD
	Nitrogen oxides emission (NO _x) (mg/m ³)	NPD
	Emission of organic gaseous carbon (OGC) (mg/m ³)	NPD
	Particulate matter emissions (PM) (mg/m ³)	NPD

Safety and accessibility in use	
<i>Data for installation to a chimney at nominal heat output</i>	
Flue gas outlet temperature at nominal heat output (°C)	280
Minimum flue draught (Pa)	12
Flue gas mass flow (g/s)	13,2
<i>Data for installation to a chimney at part load heat output</i>	
Flue gas outlet temperature (°C)	NPD
Minimum flue draught (Pa)	NPD
Flue gas mass flow (g/s)	NPD
<i>Data for installation to a chimney regarding fire safety on safety test heat output</i>	
Fire safety of installation to the chimney	T400 G
Energy economy and heat retention	
<i>Appliance's thermal output and energy efficiency at nominal heat output</i>	
Space heat output (kW)	14,8
Water heat output	NPD
Efficiency (%)	81
<i>Heat output and energy efficiency of the appliance at part load heat output</i>	
Space heat output (kW)	NPD
Water heat output	NPD
Efficiency (%)	NPD
<i>Space heating efficiency</i>	
Seasonal space heating efficiency at nominal heat output (%)	71
Energy Efficiency Index (EEI)	107
Energy efficiency class	A+
Electric power consumption at nominal heat output	NPD
Electric power consumption at part load heat output	NPD
Power consumption in standby mode	NPD
Sustainable use of natural resources	
Environmental sustainability	NPD
9	The performance of the product identified above is in conformity with the set of declared performance. This declaration of performance is issued, in accordance with Regulation (EU) No 305/2011, under the sole responsibility of the manufacturer identified above.

Signed for and on behalf of the manufacturer by:



Drs. Ing. Beijko van Melick MSc
Managing Director, Kalfire BV

Place and date: NL-Belfeld, 9 November 2025

9.8.10 Declaration of Performance according to Regulation (EU) 305/2011 – Kalfire W90/47C

Nr.	Information in accordance with (EU) 305/2011	
1	Unique identification code of the product type	Type B
2	Intended use	Space heating in residential buildings
3	Manufacturer / trademark	Kalfire BV Geloërveldweg 21 - NL-5951DH Belfeld
4	Authorised representative	Drs. Ing. Beijko van Melick MSc Managing Director
5	System(s) for assessment and verification of constancy of performance of the construction product	System 3
6	Notified body(ies)	1004
7	Test report number	P8-013/2025
	Harmonised technical specifications	EN 16510-2-2:2022
8	Essential characteristics	
	Safety in case of fire	
	<i>Protection of combustible materials</i>	
	Minimum distance to combustible materials - bottom dB (mm)	150
	Minimum distance to combustible materials - floor in front dF (mm)	500
	Minimum distance to combustible materials - ceiling dC (mm)	500
	Minimum distance to combustible materials - rear dR (mm)	100 (I) <i>I = insulation material</i>
	Minimum distance to combustible materials – side dS (mm)	100 (I) <i>I = insulation material</i>
	Minimum distance to combustible materials – side radiation area dL (mm)	800
	Minimum distance to adjacent combustible materials (e.g. furniture)	1500
	Material type and thickness of the protective insulation material	Stone wool core insulation board RD-KD 035 (0.035 W/m·K)
	Hygiene, health and environment	
	<i>Emissions at nominal heat output at 13% O₂</i>	
	Carbon monoxide emission (CO) (mg/m ³)	1215
	Nitrogen oxides emission (NO _x) (mg/m ³)	130
	Emission of organic gaseous carbon (OGC) (mg/m ³)	93
	Particulate matter emissions (PM) (mg/m ³)	19
	<i>Emissions at part load heat output at 13% O₂</i>	
	Carbon monoxide emission (CO) (mg/m ³)	NPD
	Nitrogen oxides emission (NO _x) (mg/m ³)	NPD
	Emission of organic gaseous carbon (OGC) (mg/m ³)	NPD
	Particulate matter emissions (PM) (mg/m ³)	NPD

Safety and accessibility in use	
<i>Data for installation to a chimney at nominal heat output</i>	
Flue gas outlet temperature at nominal heat output (°C)	290
Minimum flue draught (Pa)	13
Flue gas mass flow (g/s)	14,9
<i>Data for installation to a chimney at part load heat output</i>	
Flue gas outlet temperature (°C)	NPD
Minimum flue draught (Pa)	NPD
Flue gas mass flow (g/s)	NPD
<i>Data for installation to a chimney regarding fire safety on safety test heat output</i>	
Fire safety of installation to the chimney	T400 G
Energy economy and heat retention	
<i>Appliance's thermal output and energy efficiency at nominal heat output</i>	
Space heat output (kW)	12,7
Water heat output	NPD
Efficiency (%)	79
<i>Heat output and energy efficiency of the appliance at part load heat output</i>	
Space heat output (kW)	NPD
Water heat output	NPD
Efficiency (%)	NPD
<i>Space heating efficiency</i>	
Seasonal space heating efficiency at nominal heat output (%)	69
Energy Efficiency Index (EEI)	104
Energy efficiency class	A
Electric power consumption at nominal heat output	NPD
Electric power consumption at part load heat output	NPD
Power consumption in standby mode	NPD
Sustainable use of natural resources	
Environmental sustainability	NPD
9	The performance of the product identified above is in conformity with the set of declared performance. This declaration of performance is issued, in accordance with Regulation (EU) No 305/2011, under the sole responsibility of the manufacturer identified above.

Signed for and on behalf of the manufacturer by:



Drs. Ing. Beijko van Melick MSc
Managing Director, Kalfire BV

Place and date: NL-Belfeld, 9 November 2025

9.8.11 Declaration of Performance according to Regulation (EU) 305/2011 – Kalfire W90/47S

Nr.	Information in accordance with (EU) 305/2011	
1	Unique identification code of the product type	Type B
2	Intended use	Space heating in residential buildings
3	Manufacturer / trademark	Kalfire BV Geloërveldweg 21 - NL-5951DH Belfeld
4	Authorised representative	Drs. Ing. Beijko van Melick MSc Managing Director
5	System(s) for assessment and verification of constancy of performance of the construction product	System 3
6	Notified body(ies)	1004
7	Test report number	P8-026/2025
	Harmonised technical specifications	EN 16510-2-2:2022
8	Essential characteristics	
	Safety in case of fire	
	<i>Protection of combustible materials</i>	
	Minimum distance to combustible materials - bottom dB (mm)	150
	Minimum distance to combustible materials - floor in front dF (mm)	500
	Minimum distance to combustible materials - ceiling dC (mm)	500
	Minimum distance to combustible materials - rear dR (mm)	100 + (100 I) <i>I = insulation material</i>
	Minimum distance to combustible materials – side dS (mm)	150 + (100 I) <i>I = insulation material</i>
	Minimum distance to combustible materials – side radiation area dL (mm)	1600
	Minimum distance to adjacent combustible materials (e.g. furniture)	1600
	Material type and thickness of the protective insulation material	Stone wool core insulation board RD-KD 035 (0.035 W/m·K)
	Hygiene, health and environment	
	<i>Emissions at nominal heat output at 13% O₂</i>	
	Carbon monoxide emission (CO) (mg/m ³)	1193
	Nitrogen oxides emission (NO _x) (mg/m ³)	111
	Emission of organic gaseous carbon (OGC) (mg/m ³)	78
	Particulate matter emissions (PM) (mg/m ³)	20
	<i>Emissions at part load heat output at 13% O₂</i>	
	Carbon monoxide emission (CO) (mg/m ³)	NPD
	Nitrogen oxides emission (NO _x) (mg/m ³)	NPD
	Emission of organic gaseous carbon (OGC) (mg/m ³)	NPD
	Particulate matter emissions (PM) (mg/m ³)	NPD

Safety and accessibility in use	
<i>Data for installation to a chimney at nominal heat output</i>	
Flue gas outlet temperature at nominal heat output (°C)	269
Minimum flue draught (Pa)	12
Flue gas mass flow (g/s)	16,7
<i>Data for installation to a chimney at part load heat output</i>	
Flue gas outlet temperature (°C)	NPD
Minimum flue draught (Pa)	NPD
Flue gas mass flow (g/s)	NPD
<i>Data for installation to a chimney regarding fire safety on safety test heat output</i>	
Fire safety of installation to the chimney	T400 G
Energy economy and heat retention	
<i>Appliance's thermal output and energy efficiency at nominal heat output</i>	
Space heat output (kW)	13,6
Water heat output	NPD
Efficiency (%)	79
<i>Heat output and energy efficiency of the appliance at part load heat output</i>	
Space heat output (kW)	NPD
Water heat output	NPD
Efficiency (%)	NPD
<i>Space heating efficiency</i>	
Seasonal space heating efficiency at nominal heat output (%)	69
Energy Efficiency Index (EEI)	105
Energy efficiency class	A
Electric power consumption at nominal heat output	NPD
Electric power consumption at part load heat output	NPD
Power consumption in standby mode	NPD
Sustainable use of natural resources	
Environmental sustainability	NPD
9	The performance of the product identified above is in conformity with the set of declared performance. This declaration of performance is issued, in accordance with Regulation (EU) No 305/2011, under the sole responsibility of the manufacturer identified above.

Signed for and on behalf of the manufacturer by:



Drs. Ing. Beijko van Melick MSc
Managing Director, Kalfire BV

Place and date: NL-Belfeld, 9 November 2025

9.8.12 Declaration of Performance according to Regulation (EU) 305/2011 – Kalfire W100/61F

Nr.	Information in accordance with (EU) 305/2011	
1	Unique identification code of the product type	Type B
2	Intended use	Space heating in residential buildings
3	Manufacturer / trademark	Kalfire BV Geloërveldweg 21 - NL-5951DH Belfeld
4	Authorised representative	Drs. Ing. Beijko van Melick MSc Managing Director
5	System(s) for assessment and verification of constancy of performance of the construction product	System 3
6	Notified body(ies)	1004
7	Test report number	P8-066/2010
	Harmonised technical specifications	EN 16510-2-2:2022
8	Essential characteristics	
	Safety in case of fire	
	<i>Protection of combustible materials</i>	
	Minimum distance to combustible materials - bottom dB (mm)	150
	Minimum distance to combustible materials - floor in front dF (mm)	500
	Minimum distance to combustible materials - ceiling dC (mm)	500
	Minimum distance to combustible materials - rear dR (mm)	100 + (100 I) <i>I = insulation material</i>
	Minimum distance to combustible materials – side dS (mm)	100 + (100 I) <i>I = insulation material</i>
	Minimum distance to combustible materials – side radiation area dL (mm)	1500
	Minimum distance to adjacent combustible materials (e.g. furniture)	1500
	Material type and thickness of the protective insulation material	Stone wool core insulation board RD-KD 035 (0.035 W/m·K)
	Hygiene, health and environment	
	<i>Emissions at nominal heat output at 13% O₂</i>	
	Carbon monoxide emission (CO) (mg/m ³)	1170
	Nitrogen oxides emission (NO _x) (mg/m ³)	116
	Emission of organic gaseous carbon (OGC) (mg/m ³)	90
	Particulate matter emissions (PM) (mg/m ³)	22
	<i>Emissions at part load heat output at 13% O₂</i>	
	Carbon monoxide emission (CO) (mg/m ³)	NPD
	Nitrogen oxides emission (NO _x) (mg/m ³)	NPD
	Emission of organic gaseous carbon (OGC) (mg/m ³)	NPD
	Particulate matter emissions (PM) (mg/m ³)	NPD

Safety and accessibility in use	
<i>Data for installation to a chimney at nominal heat output</i>	
Flue gas outlet temperature at nominal heat output (°C)	291
Minimum flue draught (Pa)	13
Flue gas mass flow (g/s)	17,3
<i>Data for installation to a chimney at part load heat output</i>	
Flue gas outlet temperature (°C)	NPD
Minimum flue draught (Pa)	NPD
Flue gas mass flow (g/s)	NPD
<i>Data for installation to a chimney regarding fire safety on safety test heat output</i>	
Fire safety of installation to the chimney	T400 G
Energy economy and heat retention	
<i>Appliance's thermal output and energy efficiency at nominal heat output</i>	
Space heat output (kW)	17,6
Water heat output	NPD
Efficiency (%)	80
<i>Heat output and energy efficiency of the appliance at part load heat output</i>	
Space heat output (kW)	NPD
Water heat output	NPD
Efficiency (%)	NPD
<i>Space heating efficiency</i>	
Seasonal space heating efficiency at nominal heat output (%)	70
Energy Efficiency Index (EEI)	106
Energy efficiency class	A
Electric power consumption at nominal heat output	NPD
Electric power consumption at part load heat output	NPD
Power consumption in standby mode	NPD
Sustainable use of natural resources	
Environmental sustainability	NPD
9	The performance of the product identified above is in conformity with the set of declared performance. This declaration of performance is issued, in accordance with Regulation (EU) No 305/2011, under the sole responsibility of the manufacturer identified above.

Signed for and on behalf of the manufacturer by:



Drs. Ing. Beijko van Melick MSc
Managing Director, Kalfire BV

Place and date: NL-Belfeld, 9 November 2025

9.8.13 Declaration of Performance according to Regulation (EU) 305/2011 – Kalfire W105/47F

Nr.	Information in accordance with (EU) 305/2011	
1	Unique identification code of the product type	Type B
2	Intended use	Space heating in residential buildings
3	Manufacturer / trademark	Kalfire BV Geloërveldweg 21 - NL-5951DH Belfeld
4	Authorised representative	Drs. Ing. Beijko van Melick MSc Managing Director
5	System(s) for assessment and verification of constancy of performance of the construction product	System 3
6	Notified body(ies)	1004
7	Test report number	P8-019/2015
	Harmonised technical specifications	EN 16510-2-2:2022
8	Essential characteristics	
	Safety in case of fire	
	<i>Protection of combustible materials</i>	
	Minimum distance to combustible materials - bottom dB (mm)	100
	Minimum distance to combustible materials - floor in front dF (mm)	500
	Minimum distance to combustible materials - ceiling dC (mm)	500
	Minimum distance to combustible materials - rear dR (mm)	100 + (100 I) <i>I = insulation material</i>
	Minimum distance to combustible materials – side dS (mm)	100 + (100 I) <i>I = insulation material</i>
	Minimum distance to combustible materials – side radiation area dL (mm)	1500
	Minimum distance to adjacent combustible materials (e.g. furniture)	1500
	Material type and thickness of the protective insulation material	Stone wool core insulation board RD-KD 035 (0.035 W/m·K)
	Hygiene, health and environment	
	<i>Emissions at nominal heat output at 13% O₂</i>	
	Carbon monoxide emission (CO) (mg/m ³)	1008
	Nitrogen oxides emission (NO _x) (mg/m ³)	118
	Emission of organic gaseous carbon (OGC) (mg/m ³)	60
	Particulate matter emissions (PM) (mg/m ³)	10,7
	<i>Emissions at part load heat output at 13% O₂</i>	
	Carbon monoxide emission (CO) (mg/m ³)	NPD
	Nitrogen oxides emission (NO _x) (mg/m ³)	NPD
	Emission of organic gaseous carbon (OGC) (mg/m ³)	NPD
	Particulate matter emissions (PM) (mg/m ³)	NPD

	Safety and accessibility in use	
	<i>Data for installation to a chimney at nominal heat output</i>	
	Flue gas outlet temperature at nominal heat output (°C)	302
	Minimum flue draught (Pa)	12
	Flue gas mass flow (g/s)	15,9
	<i>Data for installation to a chimney at part load heat output</i>	
	Flue gas outlet temperature (°C)	NPD
	Minimum flue draught (Pa)	NPD
	Flue gas mass flow (g/s)	NPD
	<i>Data for installation to a chimney regarding fire safety on safety test heat output</i>	
	Fire safety of installation to the chimney	T400 G
	Energy economy and heat retention	
	<i>Appliance's thermal output and energy efficiency at nominal heat output</i>	
	Space heat output (kW)	17,6
	Water heat output	NPD
	Efficiency (%)	81
	<i>Heat output and energy efficiency of the appliance at part load heat output</i>	
	Space heat output (kW)	NPD
	Water heat output	NPD
	Efficiency (%)	NPD
	<i>Space heating efficiency</i>	
	Seasonal space heating efficiency at nominal heat output (%)	71
	Energy Efficiency Index (EEI)	107
	Energy efficiency class	A+
	Electric power consumption at nominal heat output	NPD
	Electric power consumption at part load heat output	NPD
	Power consumption in standby mode	NPD
	Sustainable use of natural resources	
	Environmental sustainability	NPD
9	The performance of the product identified above is in conformity with the set of declared performance. This declaration of performance is issued, in accordance with Regulation (EU) No 305/2011, under the sole responsibility of the manufacturer identified above.	

Signed for and on behalf of the manufacturer by:



Drs. Ing. Beijko van Melick MSc
Managing Director, Kalfire BV

Place and date: NL-Belfeld, 9 November 2025

KALFIRE

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