

ELEMENT



Installation, Operation and Owner's Manual

Sky B series

Bioethanol Fireplaces



DANGER

**HOT GLASS WILL
CAUSE BURNS.**

**DO NOT TOUCH GLASS
UNTIL COOLED.**

**NEVER ALLOW CHILDREN
TO TOUCH GLASS.**



Une surface vitrée chaude
peut causer des brûlures.

Laisser refroidir la surface
vitrée avant d'y toucher.

Ne permettez jamais à un enfant
de toucher la surface vitrée.

A barrier designed to reduce the risk of burns from the hot viewing glass is provided with this appliance and shall be installed for the protection of children and other at-risk individuals.

Une barrière conçu pour réduire le risque de brûlure par le verre de visualisation chaude est fournie avec cet appareil et doit être installé pour la protection des enfants et autres personnes à risque.



WARNING:

FIRE OR EXPLOSION HAZARD

Failure to follow safety warnings exactly could result in serious injury, death, or property damage.

- Do not store or use gasoline or other flammable vapors and liquids in the vicinity of this or any other appliance.
- Installation and service must be performed by a qualified installer, service agency or the gas supplier.



AVERTISSEMENT:

INCENDIE OU D'EXPLOSION

Le non-respect des avertissements de sécurité à la lettre pourrait entraîner de graves blessures, la mort ou des dommages matériels.

- Ne pas entreposer ni utiliser d'essence ni d'autres vapeurs ou liquides inflammables dans le voisinage de cet appareil ou de tout autre appareil.
- Installation et l'entretien doivent être effectués par un installateur qualifié, une agence de service ou le fournisseur de gaz.

INSTALLER: Leave this manual with the appliance.
CONSUMER: Retain this manual for future reference.

INSTALLATEUR: Laissez cette notice avec l'appareil.
CONSOMMATEUR: Conservez cette notice pour consultation ultérieure.



DO NOT USE THIS PRODUCT AS A PRIMARY HEAT SOURCE

ALWAYS USE BIOETHANOL OF 85% TO 96,6% ALCOHOL

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1 DECLARATION OF PERFORMANCE

We hereby declare that the design and construction of the Element4 appliances are complying to the essential demands and regulations.

Product:

Local spaceheater on bioethanol

Model:

Model:

E4-16

- Sky LT, Sky LF

E4-24

- Sky MT, Sky MF

E4-34

- Sky ST, Sky SF

E4-36

- Sky L RD

E4-37

- Sky M RD

E4-38

- Sky S RD

E4-40

- Sky SQ F

Applicable guidelines and norms:

ANSI/CAN/UL/ULC 1370:2024

This declaration loses its validity when changes to the device are made without the written permission by Element4.



J. Kempers

CEO

2 IMPORTANT INFORMATION

Installer

Leave the following for the customer and explain when necessary

- Installation manual
- Suction cups
- Remote control

Owner

Keep this manual for future reference

The fireplace may only be installed by a qualified installer/dealer, following these installation instructions. We advise you to read these instructions properly, before commencing the installation of your device. Make yourself fully aware of all the following instructions and the many features of your Element4 direct vent fireplace appliance.

Before installation check the device for transport damage and inform your supplier immediately if damage is found.

This appliance is a vented bioethanol fireplace. It must not be used for any other purposes such as drying clothes, etc

2.1 FUEL TYPE

This appliance is designed for use with Bioethanol of up to 96.6%.

CAUTION! Never use bioethanol of 100% purity! It can cause serious damage to the appliance!

CAUTION! Do not use any other fuels.

Prohibited fuels include, but are not limited to: gasoline, fuel oils, kerosene, diesel, lamp oils, gelled alcohol fuels, lighter fluids, and solvents.

2.2 INSTALLATION

This direct vent system appliance must be installed as an OEM installation in manufactured homes (USA only) or an aftermarket permanently located, or a mobile home, where not prohibited by local codes and must be installed in accordance with Manufacturer's instructions and the Manufactured Home Construction and Safety Standard, Title 24 CFR, Part 3280, in the United States, or the Standard for Installation in Mobile Homes, CAN/CSA Z240 MH Series, in Canada.

These direct vent appliances must be electrically grounded in accordance with the local codes or, in the absence of local codes, with National Electric code, ANSI/NFPA 70, or the Canadian Electric Code, CSA C22.1.

If your installation is at an elevation greater than 2000' in the US or 4500' in Canada, consult with the local authority having jurisdiction for gas product installations to determine their specific requirements for high altitude installations.

2.3 OTHER INFORMATION

The heat that is coming from the device may effect the materials in its surroundings. Always install the fire taking into account the correct safety distances. For more information see **CHAPTER 7.2**.

The settings and construction of the device must not be changed! For maintenance and further handling of the fire see **CHAPTER 12**

The device is provided with a special set of decorative media. Do not place any extra imitation logs or decoration media on the burner or in the combustion chamber. See **CHAPTER 14** for an instruction on how to arrange the decoration media properly.

2.4 PACKAGING INFORMATION

The packaging of the device is recyclable. Packaging can contain:

- Cardboard
- CFC-free foam (soft)
- Wood
- Plastic
- Paper

These materials must be disposed of responsibly and in accordance with government regulations.

Batteries count as chemical waste. Batteries must be disposed of responsibly and in accordance with government regulations. Remove the batteries first before disposing of the remote control.

The government can also provide you with information on the responsible disposal of discarded devices.

3 SAFETY INFORMATION AND WARNINGS

If the information in these instructions is not followed exactly a fire or explosion may result causing property damage, personal injury or death.

Note: This device may not be used a primary heat source!

Do not use this appliance as a temporary source of heat during construction.

3.4.1 REPLACEMENT OR SPARE PARTS

Parts are only to be changed with original parts by the original manufacturer.

If parts need to be replaced, use only original parts from the manufacturer. The warranty (**APPENDIX F**) will be void if non-standard parts are used.

Dimensions will appear as Inches / metric throughout this manual. For convenience, the inches are rounded to the nearest 1/16" when converted. If greater accuracy is required, use the metric dimensions.

3.4.2 CHILDREN AND PETS

Radiant heat can heat surfaces such as the surround and trims of the fireplace to temperatures that, although approved safe, can be quite

uncomfortable to touch - particularly for children and pets.

Children and pets should always be supervised when in the room where the appliance is located. Remote control handset should be kept out of reach of children.

In the presence of children, we strongly recommend that you install in front of the fireplace: a fire screen or, to protect young toddlers, a "hearth gate".

Children and adults should be alerted to the hazards of high surface temperature and should stay away to avoid burns or clothing ignition.

3.4.3 FLAMMABLE MATERIALS AND LIQUIDS

Do not store or use gasoline or other flammable vapors and liquids in the vicinity of this appliance.

Do not use this appliance if any part has been under water. Immediately call a qualified service technician to inspect the unit and to replace any part of the control system and any gas control that has been under water.

3.4.4 WHAT DO YOU DO IF YOU SPOT A BIOETHANOL LEAK

- Do not try to light any appliance.
- Do not touch any electrical switch; do not use any phone in your building.

The settings and construction of the device must not be changed!

Parts are only to be changed with original parts by the original manufacturer.

Do not place additional imitation wood or glow material on the burner or in the combustion chamber.

This appliance is designed as a heating device and all parts, including the glass therefore become very hot during use (more than 100 degrees). Never touch the appliance during use.

Heat emitted from this appliance may affect nearby materials. Hang curtains at least 2 feet away.

Floors, walls and covers (ceilings) must be non-combustible in places where there is a fire risk due to heat radiating from the appliance and/or drainage device.

WARNING

Children and adults should be alerted to the hazards of high surface temperature and should stay away to avoid burns or clothing ignition.

This unit **MUST** be used with a vent system as described in this installation manual. **NO OTHER VENT SYSTEM OR COMPONENTS MAY BE USED.**

WARNING

This direct vent system appliance must be installed as an OEM installation in manufactured homes (USA only) or an aftermarket permanently located, or a mobile home, **where not prohibited by local codes** and must be installed in accordance with Manufacturer's instructions and the Manufactured Home Construction and Safety Standard, Title 24 CFR, Part 3280, in the United States, or the Standard for Installation in Mobile Homes, CAN/CSA Z240 MH Series, in Canada.

If the information in these instructions is not followed exactly a fire or explosion may result causing property damage, personal injury or death.

Do not store or use gasoline or other flammable vapors and liquids in the vicinity of this appliance.

INSPECT the external vent cap on a regular basis to make sure that no debris, plants, trees, or shrubs are interfering with the air flow.

NEVER OBSTRUCT the flow of ventilation air. Keep the front of the appliance **CLEAR** of all obstacles and materials for servicing and proper operation.

TURN OFF the gas before servicing the appliance. It is recommended that a qualified service technician perform an appliance check-up/service once a year.

Any safety screen or guard removed for servicing **MUST BE REPLACED** before operating this appliance.

WARNING: Glass Handling

The glass must only be removed by a qualified person. Gloves should be worn when removing the glass.

DO NOT USE this appliance if any part has been under water. Immediately call a qualified service technician to inspect the unit and to replace any part of the control system and any gas control that has been under water.

WARNING: Installation and Service

Installation and service must be performed by an authorized qualified installer, service agency or gas supplier.

Any alteration to the product that causes soot or carbon to form and results in damage is not the responsibility of the manufacturer.

ONLY a qualified person may open the door/remove the glass.

Do not modify or substitute any part of this appliance.

This appliance shall not be used for cooking or heating food.

Do not connect or operate this appliance with blower assemblies or mechanical air circulation systems.

A Class B fire extinguisher shall be installed in the same room as the appliance and must remain accessible during operation.

Use only fuel containers equipped with a Flame Mitigation Device (FMD) complying with ASTM F3326.

Fuel containers without FMDs shall not be used.

WARNING: Electrical Grounding

These direct vent appliances must be electrically grounded in accordance with the local codes or, in the absence of local codes, with National Electric code, ANSI/NFPA 70, or the Canadian Electric Code, CSA C22.1

4 REMOTE CONTROL AND IGNITION

4.1 REMOTE CONTROL

The device is operated by remote control (Figure 4.1) The remote control requires 4 type AAA batteries.

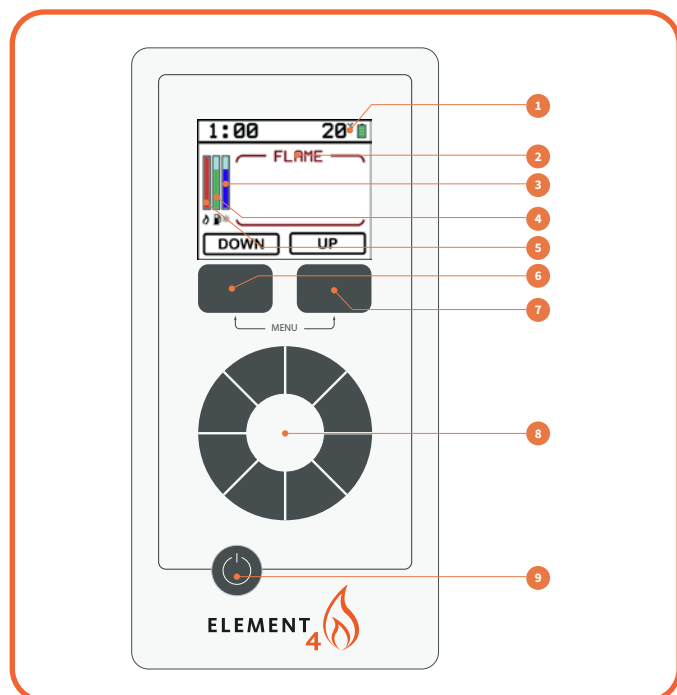


Figure. 4.1 Remote control

1. Room temperature and battery level of remote control
2. Mode
3. Light intensity level
4. Tank level
5. Flame height
6. Increase flame setting
7. Decrease flame setting
8. Light control (optional)
9. ON-button

4.1.1 PAIRING THE REMOTE CONTROL

To pair an (existing or new) handset with the device, the current paired device must be removed. Do this by selecting DEVICE in the MENU and then holding down the DELETE button. The display now shows NO PAIRED DEVICES.

1. Ensure appliance is switched OFF and isolated from mains power.
2. Touch power button on the remote panel.
3. Select PAIR option on remote.
4. Switch ON appliance by connecting to main 115V.
5. The remote screen will show STANDBY when successful.

4.2 FILLING THE TANK

CAUTION: Use bioethanol of 96.6% - 85% purity.

Under no circumstances should 100% bioethanol be used, this may cause serious damage to the fireplace.

CAUTION: Always wipe up spills before ignition

CAUTION: Use fuel container at room temperature

Under no circumstances should 100% bioethanol be used, this may
Before the fireplace can be lit, the tank must first be filled with bioethanol. Filling can only be done when the stove is in STANDBY mode. See Figure 4.2

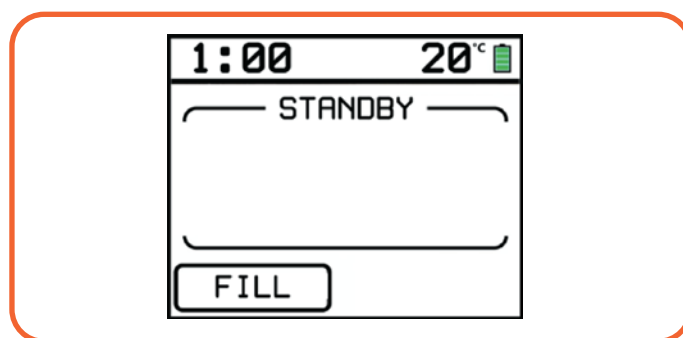


Figure. 4.2 STANDBY mode

CAUTION: If the fire has burned or burned shortly before and has not yet cooled down sufficiently, the tank cannot be filled. according to ANSI/CAN/UL/ULC 1370:2024



1. Make sure that the fireplace is connected to 115V voltage.
2. Open the service hatch and take out the filling hose.
3. Connect the filling hose extender to the filling hose by connecting the quick couplings. See Figure 4.3
4. Insert the extended filling hose to the bottom of an opened bottle or jerry can of bioethanol. Make sure that the bottle or jerry can cannot fall over during the filling process.
5. Press the **ON-button** on the remote control to activate it.
6. Press **-FILL-** (left menu button) to start the filling process. The pump is programmed to run for **2 minutes** (safety system due to building regulations for filling liquid fuels indoors). However, the pump can be stopped by pressing the **-FILL-** again. It is recommended to stop the pump when using 1L bottles so that the filling hose can be safely inserted into another bottle.

7. The pump stops after **3 minutes** or as soon as the tank is full. To check if the tank is full, press -FILL- again, a beep will sound and the pump will stop when full.
8. The tank hose can be emptied by pressing the -FILL- button several times while holding the hose upright to prevent spillage. Make sure the hose is completely free of fuel before disconnecting it.
9. The hose can be detached with the quick release button.

4.3 IGNITING THE BURNER

When the tank is filled, the burner can be ignited. Do this by pressing the ON button until the red bar on the display fills and the fire goes into PRIMING mode. See Figure 4.4 and Figure 4.5. This will take about 30 -45 seconds.

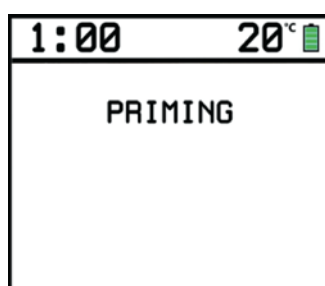


Figure. 4.4 Burner in PRIMING mode

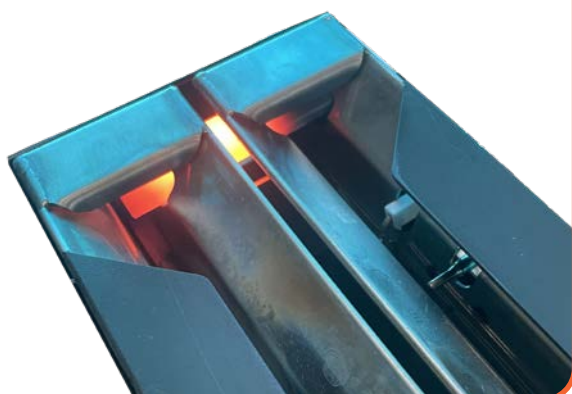


Figure. 4.5 PRIMING: Fuel is going to be ignited

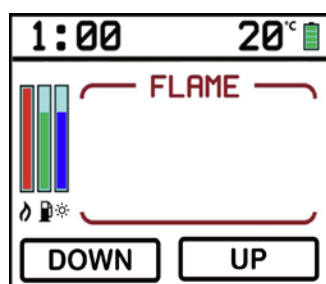


Figure. 4.6 FLAME-mode, burner is turned on

When the fire is burning, a beep will be heard and the fire will go into FLAME mode. See Figure 4.6

To increase the flame height, touch the ON button to activate the remote control and press the UP button.

To decrease the flame height, touch the ON button to activate the remote control and press the DOWN button.

4.4 TURNING THE FIRE PLACE OFF

To turn off the fire, touch the ON button to activate the remote control and then hold the ON button until the red bar is filled. The flames will not extinguish immediately, the remaining will have to be burn out first.

4.5 MANUAL SHUTOFF

This appliance is equipped with a manual shutoff device according to ANSI/CAN/UL/ULC 1370:2024. The shutoff device must remain visible, accessible and operable at all times during use.

The shutoff device allows the user to stop the combustion process and extinguish the flame. It operates in a single direction to prevent accidental or partial closure.

If the flame becomes unstable or irregular, the appliance shall be shut down immediately. Press and hold the manual shutoff for **3 seconds** to fully close the burner and extinguish the flame. Do not attempt to adjust or correct the flame while it is burning. After shutdown, allow the appliance to cool completely and check that only approved fuel has been used and that the ventilation conditions are adequate before restarting.

4.6 LIGHTING CONTROL

If the fireplace is fitted with LED lights, they can be operated whether the fire is on or off.

To **increase** the light intensity, turn the touch dial clockwise.

To **decrease** the light intensity, turn the touch dial counterclockwise.

If the light is on while the fire is turned off, it will remain on. To turn it off, rotate the dial counterclockwise until the display shows "OFF."

5 INSTALLATION PREPARATION AND INSTRUCTION

The device has been developed, tested and approved to conform with applicable standards for the usage, performance and safety of the product. The installation of your fire must be made to conform with local building regulation requirements. We strongly advise that an suitably qualified installer is used in the installation of this appliance. The installer can provide you will all the necessary information regarding the safety regulations of the installation

5.1 VENTLESS OR DIRECT VENT

This appliance can be installed either as ventless (see [figure 5.1](#)) or as a closed appliances with direct vent concentric pipe (see [figure 5.2](#)). With a ventless installation no vent is required. The chimney breast of the fireplace will require ventilation openings at the bottom and the top of at least 200cm² for the fire to draw in sufficient fresh air and to discharge the products of combustion. Extra ventilation into the room may be required to maintain the supply of fresh air – local regulations may apply depending on the country of installation. If installing using the direct vent concentric option then it is recommended that the home is a fully enclosed or mechanically ventilated home. The installation space shall comply with the ventilation provisions of NFPA 1 Fire Code and NFPA 101 Life Safety Code in the United States, or the National Building Code (NBC) and National Fire Code (NFC) in Canada.

5.2 INSTALLATION

Determine the installation location for the device. The appliance must be fixed firmly and level to the floor using the fixings built into the base of the appliance. Do not make any adjustments to the device.

This appliance shall not be installed or operated in bathrooms, washrooms, spa rooms, or sleeping rooms.

Do not install or use this appliance in locations where flammable vapors or gases may be present (e.g., garages, workshops, fuel storage areas).

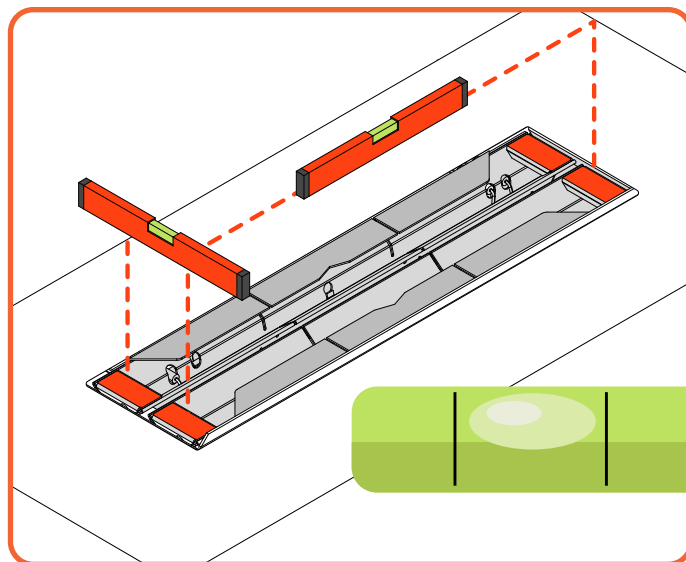


Figure 5.3 | Make sure the burner is level

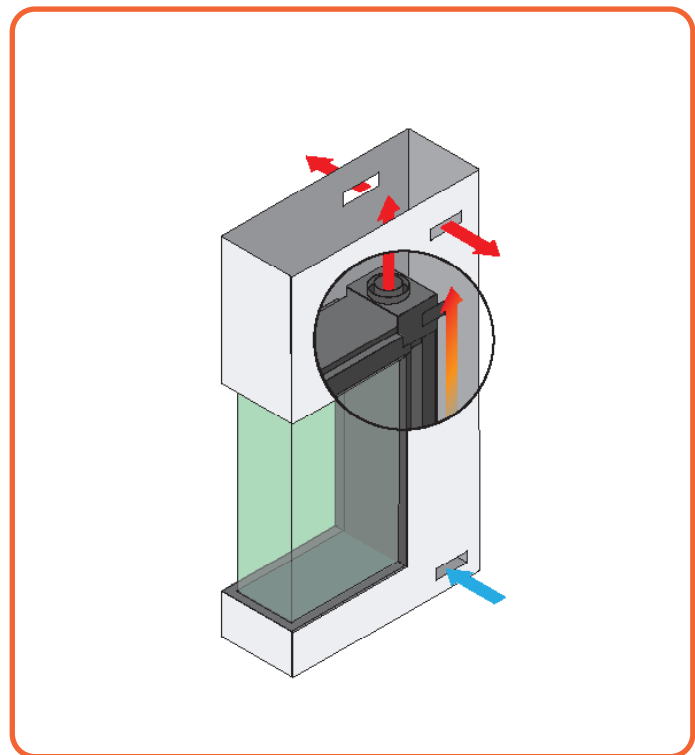


Figure 5.1 | Ventless installation

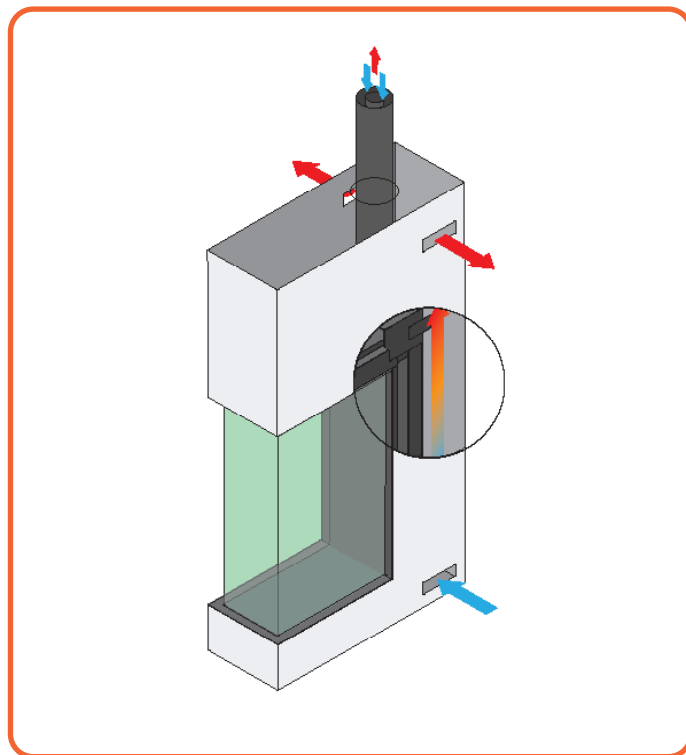


Figure 5.2 | Direct vent installation

6 FIRE SAFE INSTALLATION

To install a bioethanol fireplace as safely as possible, several installation preparations need to be made. This overview can be used to assure the fire safety of a conversion of a fireplace.

6.1 FIRE SAFETY DEVICE SET-UP

Install the device such that there are no flammable materials around the device or enclosure. The device must never be placed against a back wall of combustible materials.

Please note: Combustible materials are considered all materials capable of igniting and burning. Any material that is made of, or faced with wood, wood pulp, paper, plastic or any other material that can catch fire and burn is considered combustible.

Flammable materials, such as wood, can combust at a temperature of 185°F (85°C). At high temperatures this can happen within several minutes or at lower temperatures (more than 185°F (85°C)) this may occur over a period of weeks, months or even years.

A bioethanol fireplace can achieve temperatures of over 392°F (200°C). Therefore no one should use only non-combustible materials around the fireplace and in the enclosure.

Even materials that have been 'flame-proofed', made 'fire-resistant' or are 'fire-rated' are considered combustible. Standard and Type X drywall are combustible.

A material is non-combustible when it cannot catch fire and burn / smolder. For example, materials made of stone, brick, concrete, tile, steel, plaster or glass are non-combustible.

6.2 PLACE OF INSTALLATION

The base surface upon which the appliance rests must be sturdy, level and built to safely support at least 800 pounds (363 kilograms).

It is recommended that the fireplace be set in its final location before building the enclosure.

6.2.1 PLATFORM

The base may be the floor or a purpose built raised platform, e.g. wood, metal

Figure S.1. The minimum length of the fireplace legs is 4 1/16 (103.5mm).

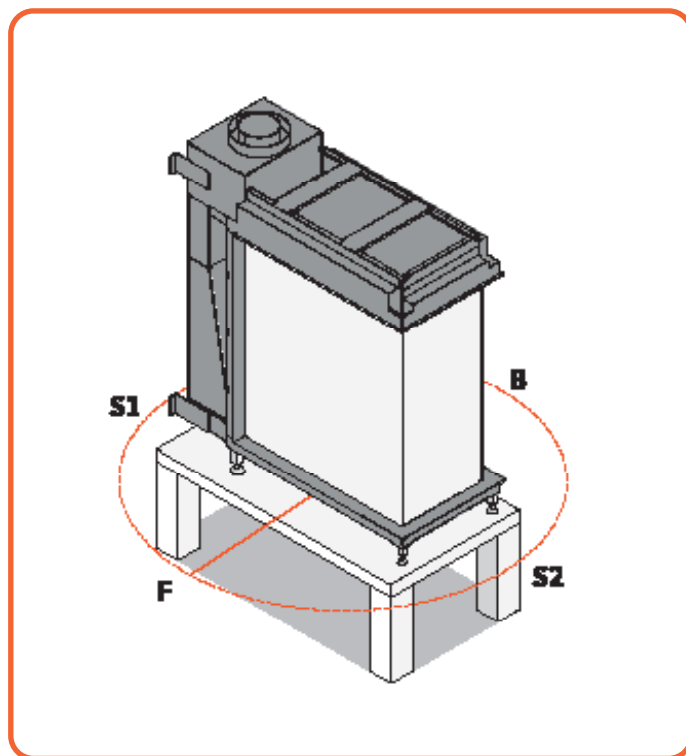


Figure 6.1 | Place of installation

When placed on a platform, a minimum opening of 8" (203 mm) x 6" (152 mm) must be cut through the platform top. The maximum opening size is 23" 5/8 (600mm) x 8" (203 mm). The lineset (gas block etc.) can be routed through this opening. The platform should allow air to flow upwards past the fireplace.

6.2.2 PRE-CONSTRUCTION TEST

Before the enclosure is constructed around the fireplace, it is recommended to do a test of the fireplace with all proper venting material installed.

Should anything be out of order, it can be repaired or changed, without having to break out (part of) the enclosure.

For more information on venting and a first firing of the product see CHAPTER 8 and CHAPTER 15.

6.3 TEMPERATURE

Fireplaces cause heat and this heat will escape in three ways from its source, namely via conduction (i.e. heat release via solid matter), convection (heat release via air) and radiant heat (Figure 6.2). In this section the three types of heat are elaborated upon to ensure proper installation precautions are taken into account.

6.3.1 RADIANT HEAT

When the fireplace is turned on, radiant heat will escape through the ceramic glass and will heat up the environment. Therefore it is important that a minimal distance between the ceramic glass and any flammable material in front of the fireplace is 36 inches (90cm).

For fireplaces radiant heat is the pleasant warmth commonly associated with fire. The heat felt is mainly radiated from the glass.

CAUTION

This appliance is a HEATING appliance and it does become very hot in operation. UNDER ANY CIRCUMSTANCES, DO NOT PLACE any object, furniture, draperies or other item LESS THAN 36" (90 cm) IN FRONT OF THE GLASS OF THE FIREPLACE.

Radiant heat can heat surfaces such as the surround and trims of the fireplace to temperatures that, although approved safe, can be quite uncomfortable to touch - particularly for children and pets. Children and pets should always be supervised when in the room where the appliance is located.

The remote control handset should be kept out of reach of children.

6.3.2 CONDUCTION

Conduction is the transfer of heat through solid material. This causes the material to heat up and expel heat.

WARNING

The entire exterior of the product, visible or invisible, once installed and built in, will conduct heat. Therefore no parts of the fireplace should be in direct contact with combustible materials.

E.g a screw that is used to secure the brackets of the fireplace could pierce a non-combustible material and touch the flammable material underneath. The heat bridge that is then created can (over time) cause the flammable material to burn.

Most of the heat however is conducted through all the parts of the fireplace that are inside the enclosure, which then warms up the air as convection heat.

PLEASE NOTE: The materials of the fireplace expand due to conduction heat. Therefore it is not allowed to bear any weight on the fireplace, including any part of the enclosure!

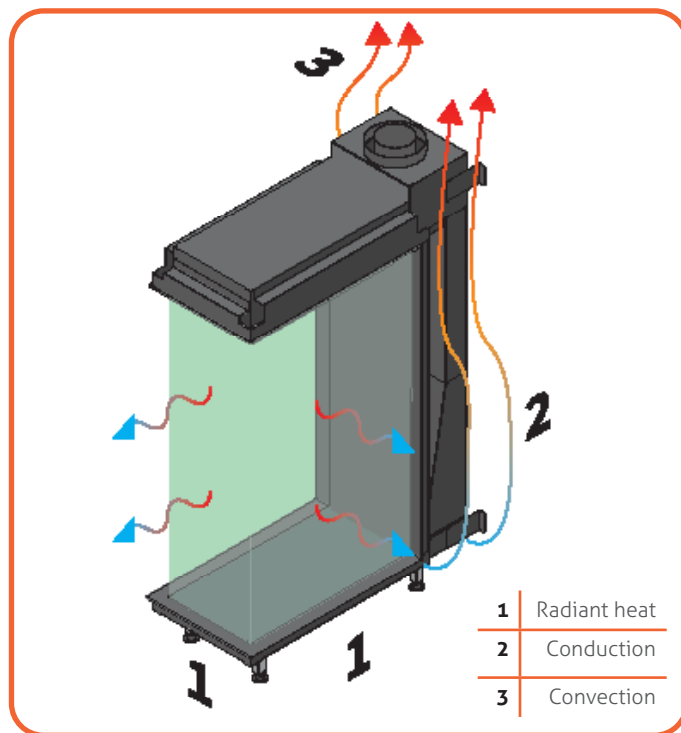


Figure 6.2 | Types of heat

Enclosure support

Any support of the enclosure, other than the platform under the fireplace (CHAPTER 8.2), must be at least 2 inches (5cm) away from any part of the firebox. The frames around the fireplace take into account this distance. Non-combustible materials may be installed to a zero clearance to the outer faces of the appliance outer frame face, given they not cover or prevent the removal of the glass panels or other parts of the fireplace that need to be removed during maintenance.

The entire weight of the walls must be borne by a structure other than the fireplace.

WARNING

Children and adults should be alerted to the hazards of high surface temperature and should stay away to avoid burns or clothing ignition.

6.3.3 CONVECTION

The majority of the heat produced by Element4 fireplaces is quickly given off to the air around the fireplace. Convection is this transfer of heat through air.

Because most of the fireplace is installed inside of the construction of a enclosure, most of the air surrounding the fireplace and therefore the air being warmed up, is located inside the enclosure. Therefore several precautions need to be taken into account, which will be explained in CHAPTER 7.

7 ENCLOSING THE FIREPLACE

7.1 HOT AIR OUTLETS AND VENTILATION GRILLES

As stated in **CHAPTER 6.3.3** the air in the enclosure will be heated by the fireplace. Hot air expands and will rise up. If the proper ventilation of the enclosure is not taken into account, this may cause cracking of the enclosure exterior or heat problems in the long run.

To properly ventilate the enclosure the correct precautions have to be made.

The most common option is the use of combustion air outlets placed in the top and bottom of the enclosure. These outlets are slots through which air can flow freely.

The ventilation grilles are to be placed at a minimal distance of 1 foot (30cm) from the ceiling and 1 foot (30cm) from any built-in furniture from the side, any flammable material or load-bearing concrete parts.

Pro tip: To avoid heat accumulation in the enclosure a non-flammable false ceiling (see) is to be placed directly above the outlets to guide the hot air out. The ventilation grilles need to be easy to clean at all times.

Please note

If a hot air outlet is placed closer to the ceiling than the aforementioned distances, the sudden change in temperature of the surrounding air, when exiting the enclosure, may cause the solid particles in the convection air to settle on the ceiling, causing a black or brown soot stain. It however, will not be of influence on the air flow in the enclosure.

Another option is to create e.g. a recess in the wall near the ceiling, so air can flow out of enclosure. Both options are shown in .

An installer is free to choose the design of the ventilation openings as long as the prescribed amount of air is taken into account. Ventilation grilles may deviate from standard model.

7.1.1 ELECTRICAL PIPES

The conversion has to be free of the usual electric installation pipes, if these are not protected against temperatures over 86°F (30°C) by the necessary precautions. Special pipelines with an heightened heat resistance are permitted.

7.1.2 COLD CLIMATE INSTALLATION

For cold climate installations, it is especially important to insulate outside the chase cavity, between studs and under the floor on which appliance rests, if floor is above ground level. Gas line holes and other openings should be filled with approved firestop.

If the fireplace is being installed on a cement slab in cold climates, a sheet of plywood or a raised platform can be placed underneath to prevent cold transferring to the fireplace and into the room. It also helps to tape the venting for maximum air tightness and to caulk the firestops.

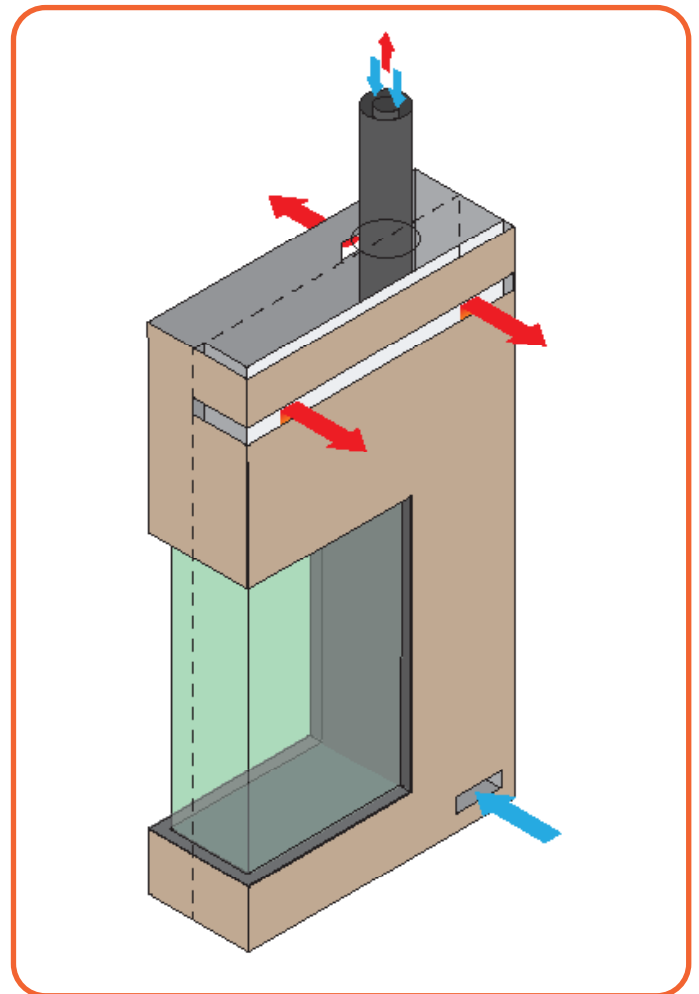


Figure 7.1 | Convection opening in the enclosure top

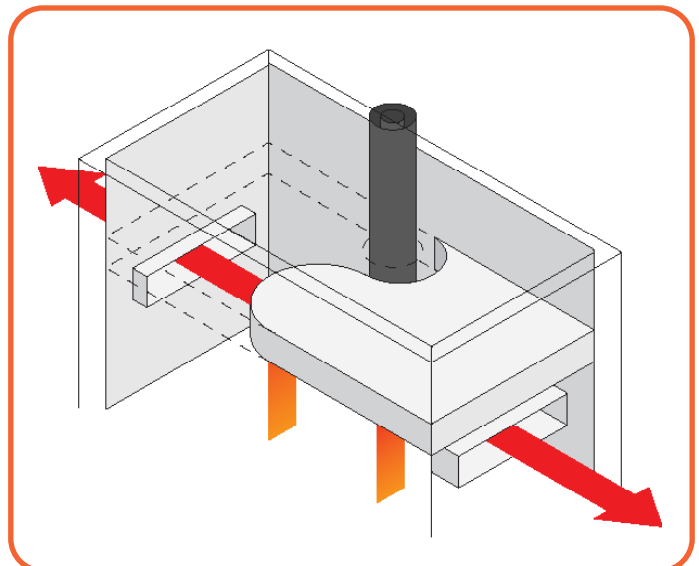


Figure 7.2 | False chimney in the enclosure

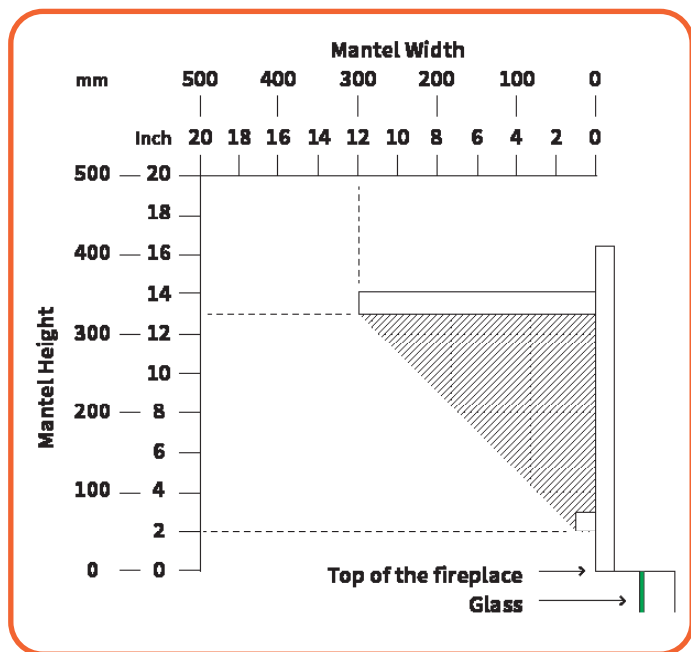


Figure 7.3 | Mantel dimensions above the fireplace

7.2 CLEARANCES (OVERVIEW)

In summary; the minimum clearances (air spaces) to combustible materials must be maintained. It is of the greatest importance that the fireplace and vent system be installed only in accordance with these instructions.

Clearance to combustibles	Inches	Millimeters
Back	11	280
Sides (Non glass)	11	280
Top	26	660
Floor	4	100

Table 7.1 | Clearances to combustibles

Clearance to non-combustibles	Inches	Millimeters
Back	2	50
Sides (Non glass)	2	50
Top	26	660
Floor	4	100

Table 7.2 | Clearances to non-combustibles

Please note:

The **Floor** dimension above is measured from the bottom of the firebox. When the adjustable feet are in their lowest position the required 4" clearance is achieved.

7.3 DECORATING THE ENCLOSURE

Although the main task of the enclosure is to house the fireplace, it is not solely used for that purpose. When properly executed there are many possibilities with the decoration of the enclosure, two of which are elaborated upon below.

7.3.1 MANTELS

Often a mantel is installed above the fireplace, for the classic look and to put decorations on.

shows a range of allowable depths and heights for a combustible mantel installation.

As shown, the minimum allowable mantel height above the fireplace opening is 2" (50 mm) with a 1" (25 mm) deep mantel.

The maximum mantel depth is 12" (300 mm) at a minimum height above the fireplace opening of 13" (330 mm). All of the mantel height/depth combinations fall in between these extremes in accordance with the chart on this page.

Mantels made of non-combustible material are allowed inside these dimensions but they will be subjected to elevated temperatures and may become too hot to touch.

7.3.2 TELEVISIONS

An Element4 fireplace is a perfect furniture piece to connect with a TV, once the necessary precautions are taken. A TV may be placed above the fireplace as long as the hot air cannot influence its functioning.

A wall recess is a good option to accomplish the installation. For more info contact your local dealer.

7.4 FIRE SPECIFIC DIMENSIONS

Every fireplace has specific distances for which the right precautions need to be taken into account (Figure 7.4 and Table 7.3).

7.4.1 MINIMAL ENCLOSURE DIMENSIONS

Product		A	H1	H2	W	D
Sky LF	"	12	77 ¹³ / ₁₆	72	43	17 ³ / ₄
	mm	300	1971	1830	1035	451
Sky LT	"	12	77 ¹³ / ₁₆	72	43	15 ¹ / ₂
	mm	300	1971	1830	1035	394
Sky MF	"	12	59 ¹ / ₂	72	43	17 ³ / ₄
	mm	300	1561	1830	1035	451
Sky MT	"	12	59 ¹ / ₂	72	43	15 ¹ / ₂
	mm	300	1561	1830	1035	394
Sky SF	"	12	45 ³ / ₄	72	43	17 ³ / ₄
	mm	300	1161	1830	1035	451
Sky ST	"	12	45 ³ / ₄	72	43	15 ¹ / ₂
	mm	300	1161	1830	1035	394

Table 7.3 | Sky T and F models

Product		A	H1	H2	W	D
Sky LRD	"	12	85 ¹⁵ / ₁₆	72	17 ¹ / ₄	43 ¹³ / ₁₆
	mm	300	2182	1830	438	1113
Sky MRD	"	12	66 ¹ / ₂	72	17 ¹ / ₄	43 ¹³ / ₁₆
	mm	300	1690	1830	438	1113
Sky SRD	"	12	50 ³ / ₄	72	17 ¹ / ₄	43 ¹³ / ₁₆
	mm	300	1290	1830	438	1113

Table 7.4 | Sky RD models

A	Room ceiling to top of Warm Air Outlet
H1	Minimal internal enclosure height
H2	Room ceiling to appliance bottom
W	Minimal enclosure width necessary
D	Minimal enclosure depth necessary

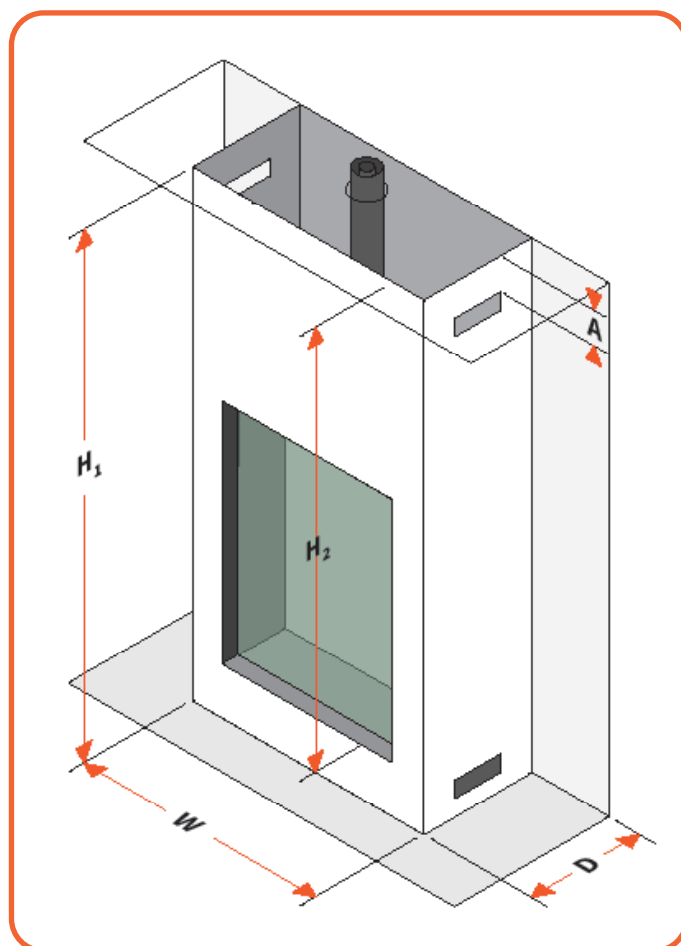


Figure 7.4 | Specific distances on Sky T and F

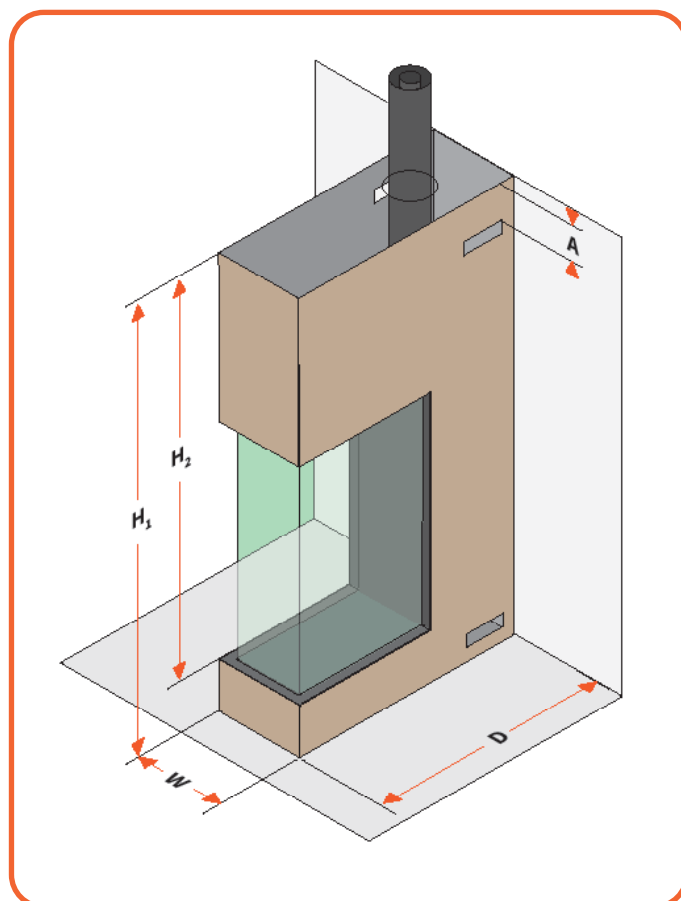


Figure 7.5 | Specific distances on Sky RD

7.4.2 WARM AIR OUTLET AREA BY MODEL

The amount of surface necessary for the hot convections air to flow away properly for the fires as per table below.

Model	Square Inches	Square Centimeters
Sky LF	46	300
Sky LT	46	300
Sky MF	46	300
Sky MT	46	300
Sky SF	46	300
Sky ST	46	300
Sky LRD	46	300
Sky MRD	46	300
Sky SRD	46	300

Table 7.5 | Warm air outlet

7.4.3 FRESH AIR INLET AREA BY MODEL

The amount of surface necessary for the fresh air coming into the chase for the fires as per table below.

Model	Square Inches	Square Centimeters
Sky LF	23	150
Sky LT	23	150
Sky MF	23	150
Sky MT	23	150
Sky SF	23	150
Sky ST	23	150
Sky LRD	23	150
Sky MRD	23	150
Sky SRD	23	150

Table 7.6 | Fresh air inlet

7.5 ROOMDIVIDER INSTALLATION GUIDELINES

The fireplace is supplied with an installation bracket. This bracket should be used instead of the side glass to keep the frame fixed while installing.

In order to prevent the side glass pane from being under too much tension it is strongly recommended to connect the topside of the fireplace to the ceiling or any other support structure. The fireplace has two rod ends installed at the topside and is supplied with 2 turnbuckles that can be used to connect the fireplace to a support structure.

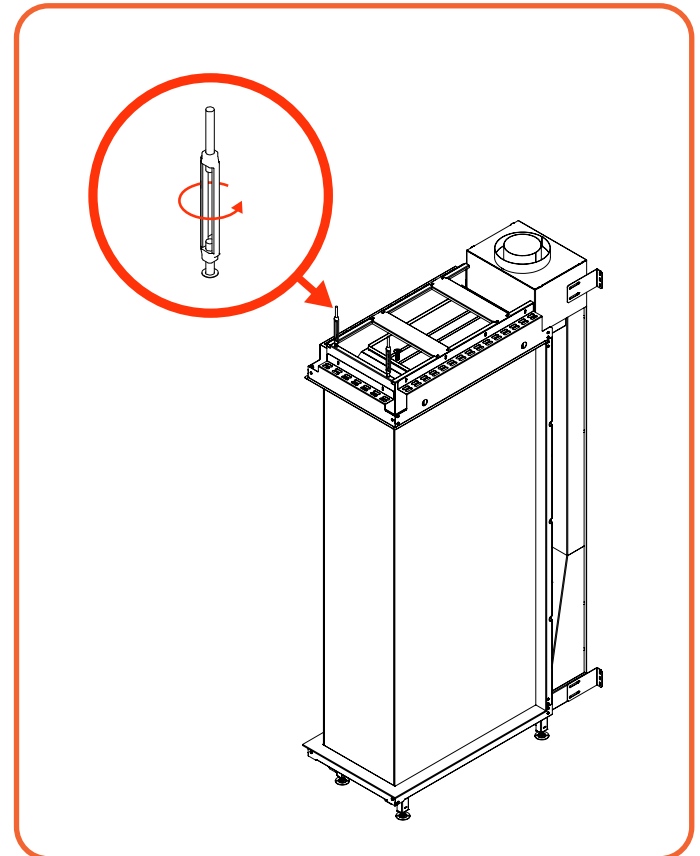


Figure 7.6 | Roomdivider specific construction

8 VENTING REQUIREMENTS

To guarantee the fire safety regarding your vent configuration, a vent chase is necessary. For this case non-combustible materials should be used. Make sure to always ventilate a shaft and never to insulate it, to make sure the hot air is able to get away.

Every transit or terminal should be made such, that the warmth-insulation and non-combustability is guaranteed, according to the building regulation.

8.1 GENERAL SAFETY RULES REGARDING VENTING MATERIAL

This unit must be used with a vent system as described in this manual. The usage of other concentric material is only permitted when it has the same technical specifications as the systems mentioned below.

The following table lists brands of vent material that have been approved for the North American market. The device must be installed with the (stainless steel) flue material as specified.

Vent Manufacturers	
M&G DuraVent, Inc	DirectVent Pro
ICC - Industrial Chimney Company	EXCELDirect
BDM - Bernard Dalsin Manufacturing	Pro-Form
Selkirk Corporation	Direct-Temp
Hart & Cooley Inc.	AmeriVent Direct Vent
Olympia Chimney Supply, Inc.	Ventis Direct Vent

Table 8.1 |

Only for these brands a good and safe performance can be promised (given a proper installation).

The gas fireplace MUST

- be vented directly to outside.
- NEVER be attached to a chimney serving a separate solid fuel burning appliance.
- be a separate vent system. No more than one fireplace is allowed on the same venting system.

The vent may be constructed with either a roof terminal or a wall terminal. The use of flexible venting material to and existing chimney is allowed. Please check whether the desired terminal complies with the regulations in your situation. Local norms and regulations may differ from the general rules in this manual.

8.2 INSTALLATION OF VENTING MATERIAL

Follow the following (general) instructions for the installation of venting materials;

- This fireplace is shipped with a North American venting adapter (see Figure 8.1). It MUST attach to the vent collar of the fireplace.
- Drill a hole of 6,5 inches (160 mm) for the wall or roof transit with a 6" (150 mm) diameter flue connection, and 8,5 inches (210 mm) with a flue with a diameter of 8 inches (200 mm).
- Provide a (fire) safe transit construction in wall, floor or roof sheeting. Whenever venting passes through a wall, an approved heat shield or 'wall thimble' must be installed.
- A minimum clearance of 3" (75 mm) must be maintained between combustible materials and the top of any horizontal vent pipe surface
- A minimum clearance of 1" (25 mm) must be maintained between combustible materials and any other vent pipe surface.
- The horizontal parts of the venting must be pitched up away from the fireplace. For every 12" (305 mm) of horizontal run, the venting must rise 1/4" (6.5 mm) toward the termination.
- The venting must never run downward unless with the use of a power vent.
- Build up the system from the fireplace.
- Assemble vent pipes in the correct direction! The inner vent pipe goes into - and the outer vent pipe goes over the fireplace connection.
- Make sure the vent pipe are sufficiently braced, so the weight of the vent pipes being supported by the fireplace..
- The concentric vent pipes could come loose due to expansion and cooling down. It is recommended that a chuck parker be used in places that are inaccessible after installation.
- In colder climate environments, the fireplace can be lowered to STANDBY MODE (Pilot Flame only)(*). This will help maintain a steady draft within the venting over a period of up to five days.

*) Does not apply to fireplaces with a power vent.



Figure 8.1 | North American vent adapter (5/8")

8.2.1 ADAPTING THE LENGTH OF THE CHIMNEY

Not all parts can be adjusted! To fit the vent system correctly, you are to use an adjustable fitting. You can use an adjustable concentric / co-axial pipe, wall or roof fitting. To get a sealed vent gas connection, the inner pipe must always be an inch (2 cm) longer than the outer pipe. Always attach adjustable parts with a chuck.

8.2.2 CALCULATE CHIMNEY

For proper operation of the fireplace it is important that the flue pipe meets the requirements. To determine this, a calculation chart is prepared which can be found in **CHAPTER 9**.

8.3 DETERMINING THE VENT GAS EXTRACTION DIAMETER

The fireplace has a vent diameter of 5"/8" (200/130mm.) It is not necessary to start with a vertical length for the Sky Series fireplaces. A bend can be installed directly onto the fireplace.

When your vent only graduates vertically, you may taper directly onto the stove, to a diameter of 4"/6" (150/100 mm).

8.3.1 DETERMINING MAXIMUM VERTICAL LENGTH

If you are using a diameter of 5"/8" (200/130mm) then your maximum total length is 72 feet / 22 meters. If you have tapered your vent gas extraction as per the above, to a diameter of 4"/6" (150/100 mm), then the total maximum permitted vertical length of your vent gas extraction is 36 feet / 11 meters.

8.3.2 DETERMINING MAXIMUM HORIZONTAL LENGTH

A gas fireplace, in contrast to classic log fires, can have a horizontal flue section. The maximum horizontal section is 17 feet (5m) and is directly dependent on the vertical section.

In order to determine whether your intended vent configuration shall function properly, a venting category is determined, which can be found in **CHAPTER 9**.

Each category refers to a table. Each appendix has two tables:

- A table for a horizontal terminal.
- A table for a vertical terminal.

You must use the table applicable to you. You calculate your Total Vertical Section (TVS) as well as your Total Horizontal Section (THS).

Calculating the Total Vertical Section (TVS)

You calculate the Total Vertical Section by adding up all vertical upward sections in the extraction gradation.

Calculating the Total Horizontal Section (THS)

You calculate the Total Horizontal Section by adding up all horizontal parts in the extraction gradation.

In the table you will find advice; TVS on the vertical axis and THS on the horizontal axis.

8.3.4 ELBOWS

Beware of the elbows in your vent. They provide extra resistance in the system and must therefore be included in the TVS and THS.

There are 2 bend types:

45° and 90° elbows (Type N)

- From vertical to horizontal
- From horizontal to vertical

45° and 90° elbows (Type Q)

- From horizontal to horizontal

The first 3 type N elbows (from vertical to horizontal) do not need to be included in your calculations. The next type N elbows are each calculated as 1 horizontal meter (39 3/8") in the THS.

For a type Q elbow (horizontal to horizontal) the following applies:

- 90° elbow in the horizontal section counts as 2 horizontal meters (78 3/4") in the THS.
- 45° elbow in the horizontal section counts as 1 horizontal meter (39 3/8") in the THS

Extraction sections in a 45° upward vent pipe:

- 45° upward sections are calculated both vertically and horizontally.

8.3.3 RESULTS

Once you have found your total vertical section (TVS) and your total horizontal section (THS) plot the intersection of these two numbers on the appropriate chart, below.

The intersecting block will have one of two entries; V or X:

Result	Action
V	No Restrictor required
X	No good operation guaranteed

Table 8.2 |

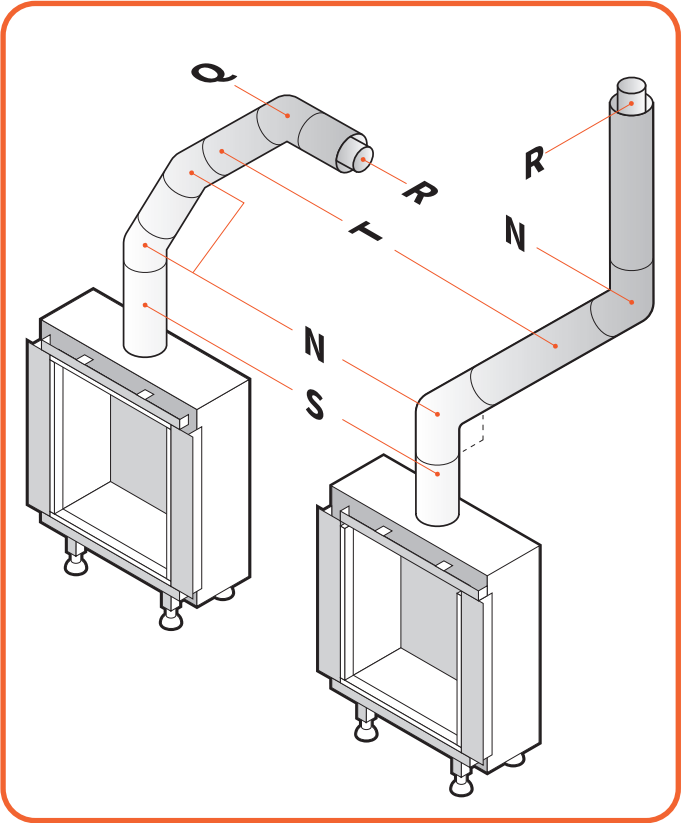


Figure 8.2 | Vent elbows examples

R	Horizontal or vertical terminal
N	Elbow 45° & 90° vertical to horizontal and vice versa
Q	Elbow 45° & 90° horizontal to horizontal
T	Vent pipe section horizontal
S	Vent pipe section vertical

Table 8.3 |

9 VENT CALCULATION TABLE

The calculation table shows when your installation has the correct vent configuration.

Result Action

V The installation is allowed

X The installation is not allowed with this vent configuration. Try adjusting the dimensions. *

9.1 HORIZONTAL TERMINATION

Imperial

Total vertical Section	36'	V	V	V	V	V	V	V	V	V	V	V
	33'	V	V	V	V	V	V	V	V	V	V	V
	30'	V	V	V	V	V	V	V	V	V	V	V
	27'	V	V	V	V	V	V	V	V	V	V	V
	24'	V	V	V	V	V	V	V	V	V	V	V
	21'	V	V	V	V	V	V	V	V	V	V	V
	18'	V	V	V	V	V	V	V	V	V	V	V
	15'	V	V	V	V	V	V	V	V	V	V	V
	13'6"	V	V	V	V	V	V	V	V	V	V	V
	12'	V	V	V	V	V	V	V	V	V	V	V
	10'6"	V	V	V	V	V	V	V	V	V	V	V
	9'	V	V	V	V	V	V	V	V	V	V	V
	7'6"	V	V	V	V	V	V	V	V	V	V	V
	6'	V	V	V	V	V	V	V	V	V	V	X
	4'6"	V	V	V	V	V	V	V	X	X	X	X
	3'	V	V	V	V	V	X	X	X	X	X	X
	20"	V	V	V	X	X	X	X	X	X	X	X
		20"	3'	4'6"	6'	7'6"	9'	10'6"	12'	13'6"	15'	16'6"
Total Horizontal Section												

Metric

Total vertical Section	11 m	V	V	V	V	V	V	V	V	V	V	V
	10 m	V	V	V	V	V	V	V	V	V	V	V
	9 m	V	V	V	V	V	V	V	V	V	V	V
	8 m	V	V	V	V	V	V	V	V	V	V	V
	7 m	V	V	V	V	V	V	V	V	V	V	V
	6 m	V	V	V	V	V	V	V	V	V	V	V
	5 m	V	V	V	V	V	V	V	V	V	V	V
	4 m	V	V	V	V	V	V	V	V	V	V	V
	3.5 m	V	V	V	V	V	V	V	V	V	V	V
	3 m	V	V	V	V	V	V	V	V	V	V	V
	2.5 m	V	V	V	V	V	V	V	V	V	V	V
	2 m	V	V	V	V	V	V	V	V	V	V	V
	1.5 m	V	V	V	V	V	V	V	V	X	X	X
	1 m	V	V	V	V	V	V	V	X	X	X	X
	0.5 m	V	V	V	V	X	X	X	X	X	X	X
		0 m	0.5 m	1 m	1.5 m	2 m	2.5 m	3 m	3.5 m	4 m	4.5 m	5 m
Total Horizontal Section												

* Please contact your dealer regarding if a power vent will work in your situation

9.2 VERTICAL TERMINATION VENT DIAMETER

For a vertical termination the minimal starting length is **20 inches (or 0.5 meter)** before the first elbow and the minimal vertical section is **3 feet (or 1 meter)**.

Imperial

Total vertical Section	Total Horizontal Section										
	0	20"	3'	4'6"	6'	7'6"	9'	10'6"	12'	13'6"	15'
72'	V	V	X	X	X	X	X	X	X	X	X
69'	V	V	V	V	X	X	X	X	X	X	X
66'	V	V	V	V	V	V	X	X	X	X	X
63'	V	V	V	V	V	V	V	V	X	X	X
60'	V	V	V	V	V	V	V	V	V	V	X
57'	V	V	V	V	V	V	V	V	V	V	V
54'	V	V	V	V	V	V	V	V	V	V	V
51'	V	V	V	V	V	V	V	V	V	V	V
48'	V	V	V	V	V	V	V	V	V	V	V
45'	V	V	V	V	V	V	V	V	V	V	V
42'	V	V	V	V	V	V	V	V	V	V	V
39'	V	V	V	V	V	V	V	V	V	V	V
36'	V	V	V	V	V	V	V	V	V	V	V
33'	V	V	V	V	V	V	V	V	V	V	V
30'	V	V	V	V	V	V	V	V	V	V	V
27'	V	V	V	V	V	V	V	V	V	V	V
24'	V	V	V	V	V	V	V	V	V	V	V
21'	V	V	V	V	V	V	V	V	V	V	V
18'	V	V	V	V	V	V	V	V	V	V	V
15'	V	V	V	V	V	V	V	V	V	V	V
13'6"	V	V	V	V	V	V	V	V	V	V	V
12'	V	V	V	V	V	V	V	V	V	V	V
10'6"	V	V	V	V	V	V	V	V	V	V	V
9'	V	V	V	V	V	V	V	V	V	V	V
7'6"	V	V	V	V	V	V	V	V	V	V	V
6'	V	V	V	V	V	V	V	V	V	V	X
4'6"	V	V	V	V	V	V	V	X	X	X	X
3'	V	V	V	V	V	X	X	X	X	X	X

Metric												
Total vertical Section	22 m	V	V	X	X	X	X	X	X	X	X	X
	21 m	V	V	V	X	X	X	X	X	X	X	X
	20 m	V	V	V	V	X	X	X	X	X	X	X
	19 m	V	V	V	V	V	X	X	X	X	X	X
	18 m	V	V	V	V	V	V	V	V	V	X	
	17 m	V	V	V	V	V	V	V	V	V	V	V
	16 m	V	V	V	V	V	V	V	V	V	V	V
	15 m	V	V	V	V	V	V	V	V	V	V	V
	14 m	V	V	V	V	V	V	V	V	V	V	V
	13 m	V	V	V	V	V	V	V	V	V	V	V
	12 m	V	V	V	V	V	V	V	V	V	V	V
	11 m	V	V	V	V	V	V	V	V	V	V	V
	10 m	V	V	V	V	V	V	V	V	V	V	V
	9 m	V	V	V	V	V	V	V	V	V	V	V
	8 m	V	V	V	V	V	V	V	V	V	V	V
	7 m	V	V	V	V	V	V	V	V	V	V	V
	6 m	V	V	V	V	V	V	V	V	V	V	V
	5 m	V	V	V	V	V	V	V	V	V	V	V
	4 m	V	V	V	V	V	V	V	V	V	V	V
	3.5 m	V	V	V	V	V	V	V	V	V	V	V
	3 m	V	V	V	V	V	V	V	V	V	V	V
	2.5 m	V	V	V	V	V	V	V	V	V		X
	2 m	V	V	V	V	V	V	V	V		X	X
	1.5 m	V	V	V	V	V	V	V		X	X	X
	1 m	V	V	V	V	V	V	X	X	X	X	X
		0 m	0.5 m	1 m	1.5 m	2 m	2.5 m	3 m	3.5 m	4 m	4.5 m	5 m
		Total Horizontal Section										

10 VENT TERMINATIONS

10.1 VERTICAL TERMINATIONS - CLEARANCES AND REQUIREMENTS

(Figure 10.1 & Figure 10.2)

Important Note for Roof Terminations

These instructions should be used as a guideline and do not supersede local codes in any way. Install venting according to local codes, these instructions, the current National Fuel Gas Code (ANSI Z223.1 in the USA) or the current standard of CAN/CSA-B149.1 in Canada.

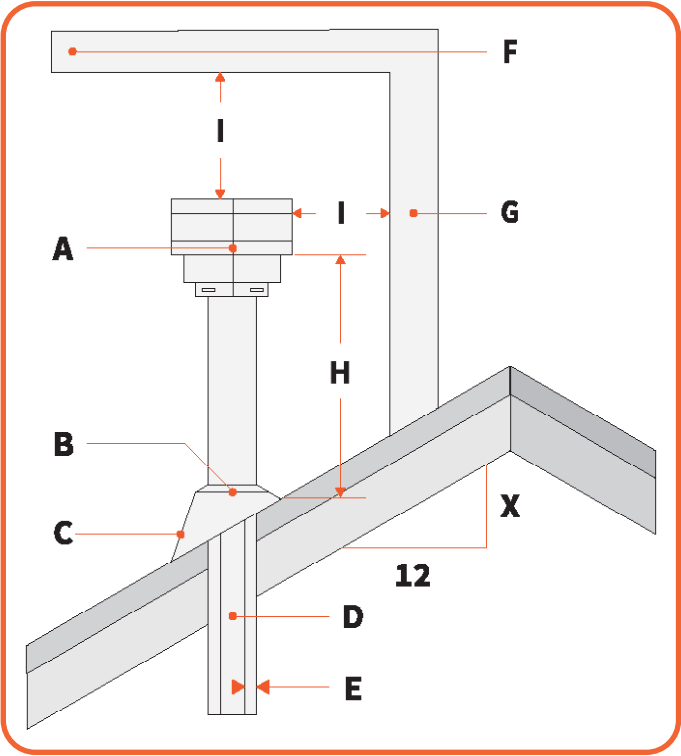


Figure 10.1 | Vertical Vent Termination Clearances

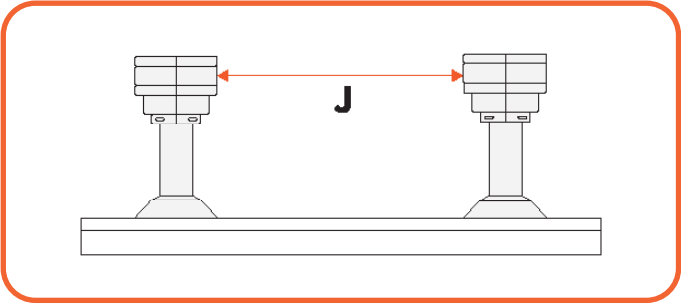


Figure 10.2 | Multiple termination clearance

#	Description
A	Vent termination
B	Storm Collar
C	Flashing
D	Concentric vent pipe
E	Minimum clearance to combustibles 1 inch (2.5 cm)
F	Horizontal overhang
G	Vertical wall
H	Minimum height from roof to lowest discharge opening of vent
I	Minimum distance between terminal and vertical wall / horizontal overhang = 2 feet (60 cm)
J	Minimum distance between two roof terminations 12 inches (30 cm)

10.1.1 TERMINATION HEIGHT FOR VENTS ABOVE FLAT OR SLOPED ROOFS (REF. NFPA 54 / ANSI Z 223.1)

The vent / air intake termination clearances above the high side of an angled roof (H in the table above) is as shown in the following chart:

Roof Pitch (X)	Imperial (Feet)	Metric (meters)
Flat to 6/12	1.00	0.30
6/12 to 7/12	1.25	0.38
7/12 to 8/12	1.50	0.46
8/12 to 9/12	2.00	0.61
9/12 to 10/12	2.50	0.76
10/12 to 11/12	3.25	0.99
11/12 to 12/12	4.00	1.22
12/12 to 14/12	5.00	1.52
14/12 to 16/12	6.00	1.83
16/12 to 18/12	7.00	2.13
18/12 to 20/12	7.50	2.29
20/12 to 21/12	8.00	2.44

Table 10.1 |

10.2 HORIZONTAL TERMINATIONS - CLEARANCES AND REQUIREMENTS

, and the table below show a range of distances, that need to be taken into account for the installation of fireplaces with a horizontal vent termination.

		US INSTALLATION**	CANADA INSTALLATION*
		Imperial (Metric)	Imperial (Metric)
A	Clearance above grade, veranda, porch, deck or balcony	• 12 inches* (30 cm)	• 12 inches* (30 cm)
B	Clearance to window or door that may be opened	• 6 inches (15 cm) for appliances <10k BTUh (3 kWh) • 9 inches / 22.5 kWh for appliances 10k < X <50k BTUh (3 < X <15 kWh) • 12 inches (30 cm) for appliances > 50k BTUh (15 kWh) **	• 6 inches (15 cm) for appliances <10.000 BTUh(3 kWh) • 12 inches (30 cm) for appliances >10.000 BTUh(3kWh)
C	Clearance to permanently closed window (Recommended to prevent window condensation).	• 9 inches (22.5 cm)	• 12 inches (30 cm)
D	Vertical clearance to ventilated soffit located above the termination	• 18 inches (45 cm) horizontally from the center line of the termination	• 18 inches (45 cm) horizontally from the center line of the termination
E	Clearance to unventilated soffit	• 12 inches (30 cm)	• 12 inches (30 cm)
F	Min. clearance to outside corner	• 5 inches (12.5 cm)	• 5 inches (12.5 cm)
G	Min. clearance to inside corner	• 6 inches (15 cm) – SV 4.5 HT-2	• 6 inches (15 cm) – SV 4.5 HT-2
H	Clearance to each inside of center line extended above meter / regulator assembly	• 3 feet (90 cm) within a height of 15 feet (4.5 m) above the meter /regulator assembly *	• 3 feet (90 cm) within a height of 15 feet (4.5 m) above the meter /regulator assembly *
I	Clearance to service regulator vent outlet	• 3 feet (90 cm) **	• 3 feet (90 cm) *
J	Clearance to nonmechanical air supply inlet to building or the combustion air inlet to any other appliance.	• 6 inches (15 cm) for appliances <10k BTUh (3 kWh) • 9 inches / 22.5 kWh for appliances 10k < X <50k BTUh (3 < X <15 kWh) • 12 inches (30 cm) for appliances > 50k BTUh (15 kWh) **	• 6 inches (15 cm) for appliances <10.000 BTUh(3 kWh) • 12 inches (30 cm) for appliances >10.000 BTUh(3kWh)
K	Clearance to a mechanical air supply inlet.	• 3 feet (90 cm) above if within 10 feet (3m) horizontally **	• 6 feet (1.8 m)*
L	Clearance above paved sidewalk or paved driveway located on public property.	• 7 feet (2.1 m) ³	• 7 feet (2.1 m) ³
M	Clearance under veranda porch, deck or balcony	• 12 inches (30 cm) ³	• 12 inches (30 cm) ⁴
N	Depth of alcove (Maximum)	• 6 feet (1.8 m)**	• 6 feet (1.8 m)**
O	Clearance to termination (alcove)	• 6 inches (15 cm)**	• 6 inches (15 cm)**
P	Width of alcove (Minimum)	• 3 feet (90 cm)*	• 3 feet (90 cm)*
Q	Clearance to combustible above (Alcove)	• 18 inches (45 cm)**	• 18 inches (45 cm)**
R	Top and bottom clearance from air inlet	• 3 feet (90 cm)	• 3 feet (90 cm)
S	Side clearance from air inlet	• 9 inches (22.5 cm)	• 9 inches (22.5 cm)
T	Side distance from ventilated soffit	• 6 inches (15 cm)	• 6 inches (15 cm)

Table 10.2 |

¹ In accordance with the current CSA-B149.1 National Gas and propane installation code.

² In accordance with the current ANSI SZ223.1/NFPA 54 National fuel gas codes.

³ A vent shall not terminate directly above a sidewalk or paved driveway which is located between two single family dwellings and serves both dwellings.

⁴ Only permitted if veranda, porch, deck or balcony is fully open on a minimum 2 sides beneath the floor.

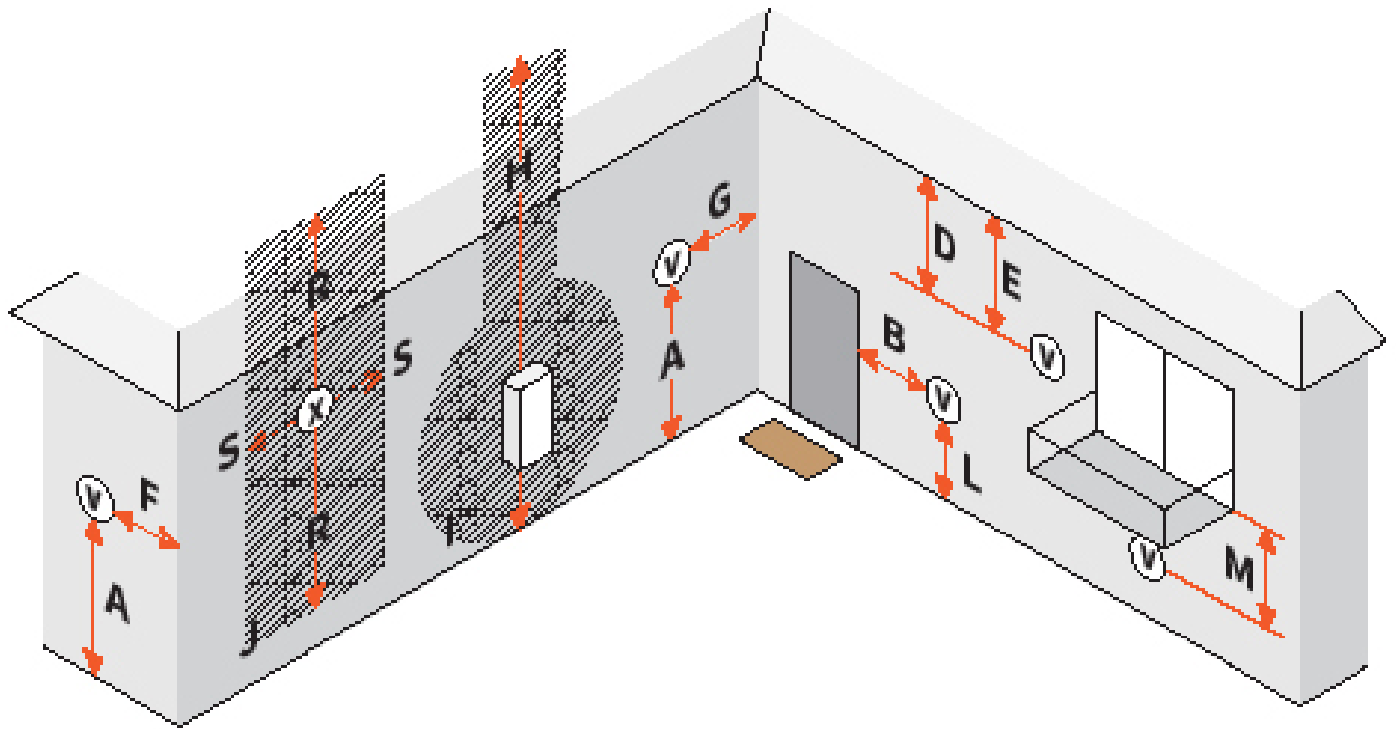


Figure 10.3 | horizontal vent termination I

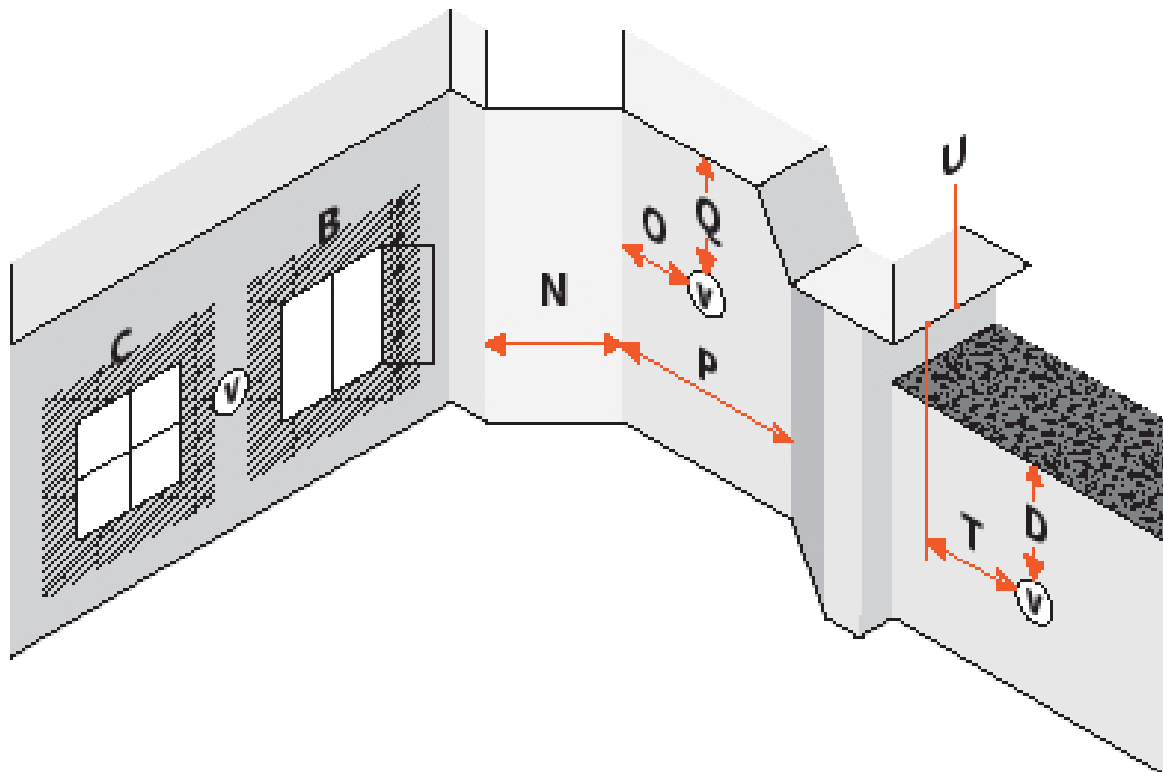


Figure 10.4 | Horizontal vent termination II

11 MAINTENANCE INSTRUCTION SKY T AND F

This part of the manual focuses on maintenance. To ensure the optimal flame picture of your device, an annual maintenance by a competent company or installer is prescribed.

11.1 MAINTENANCE IN THE COMBUSTION CHAMBER

During maintenance, a glass pane must be removed from the fireplace. To do this, follow these steps:

11.1.1 (DIS)ASSEMBLY OF THE TRIMS

For a tight finish of the fireplace, trims are available. During maintenance these trims must be removed, before the glass can be removed. Please follow these steps:

Disassembly:

- Remove the screws from the upper trim, see [Figure 11.2](#)
- Remove the upper trim, see [Figure 11.3](#)
- Remove both the side trims and bottom trim. They are held by magnet snappers, [Figure 11.4](#) & [Figure 11.5](#).

Assembly:

- Put the trims back in reversed order.

11.1.2 REMOVING THE GLASS

To be able to clean the glass on the inside, one needs to remove the glass. To do this follow these steps:

- Check, whether the trims are removed in as in step 11.1.1.
- Determine which type of glass clamps are used: Screwed clamps - proceed to [Figure 11.10](#), or spring loaded clamps - proceed to [Figure 11.8](#)

NB: Put away the glass in a safe place, when you are not using it, to make sure it will not damage during maintenance. Remove the suction cup after putting away the glass to avoid tracing or stains.

11.2 CLEANING THE GLASS

Take the following into account when cleaning the glass:

- Always clean the glass at room temperature.
- Use a cleaning agent approved by Element4 for cleaning.
- If you have anti-reflection glass in your fireplace, it must always be cleaned with the specially intended Element4 cleaning agent. This is available through your dealer or installer.
- Only use a microfibre cloth. Other materials such as (kitchen) paper, steel wool, etc. can cause scratches and can damage the coating on anti-reflective windows.
- Remove deposits regularly to prevent them from burning in.

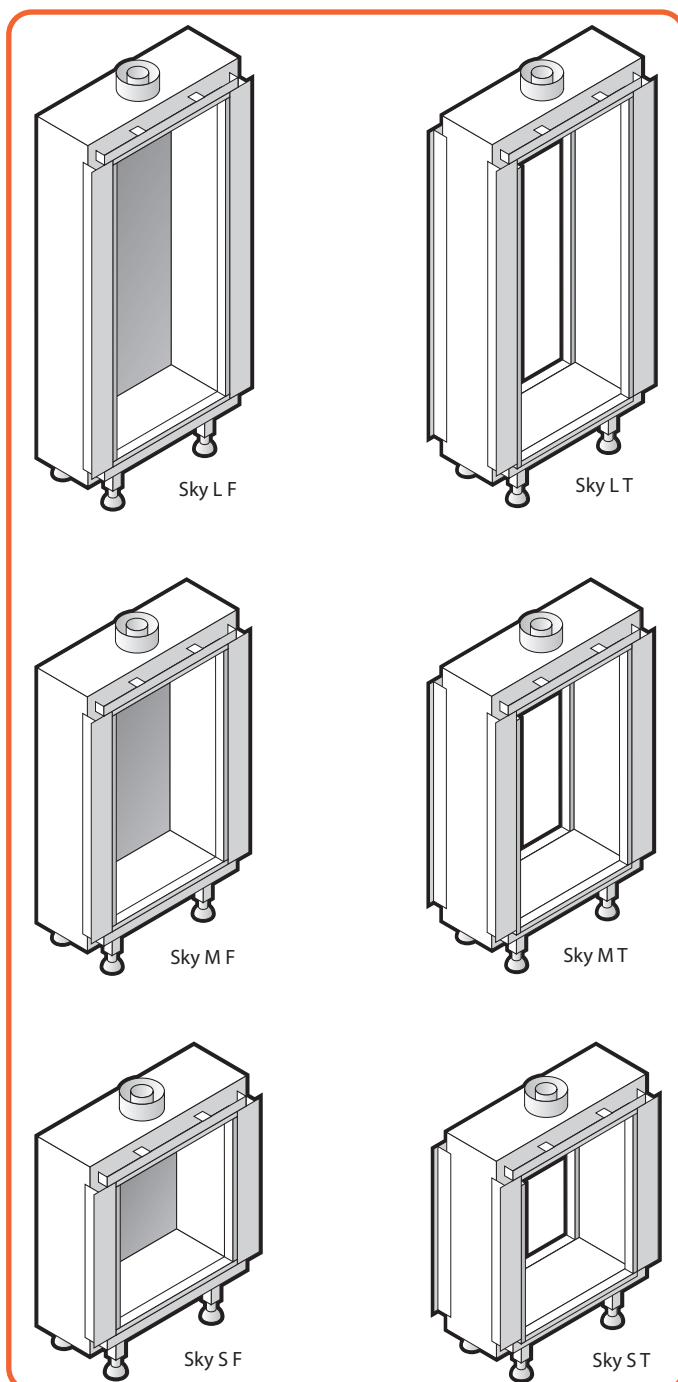


Figure 11.1 | Isometric view Sky Models

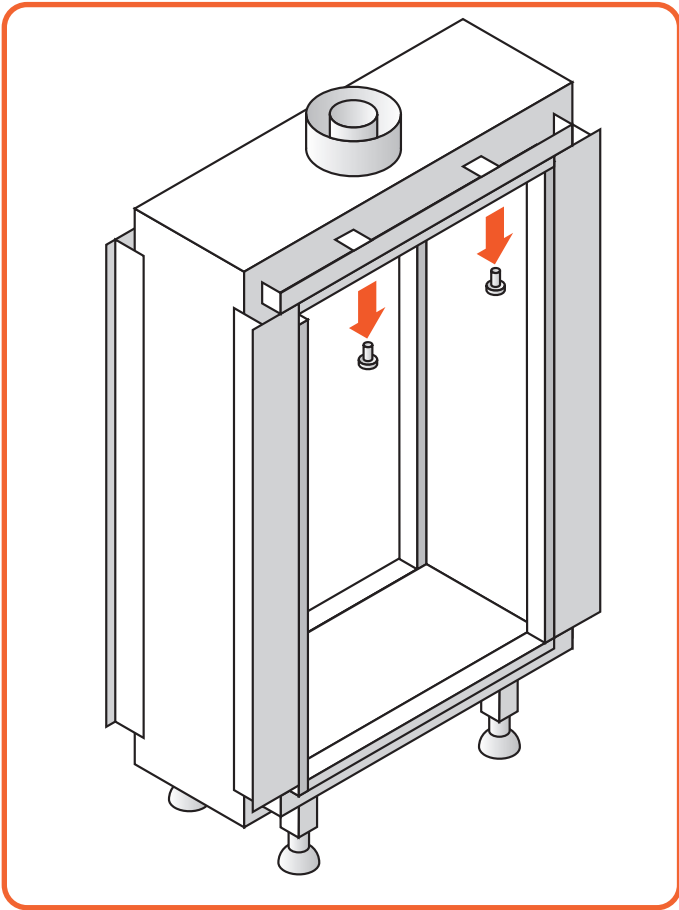


Figure 11.2 | Remove screws upper trim

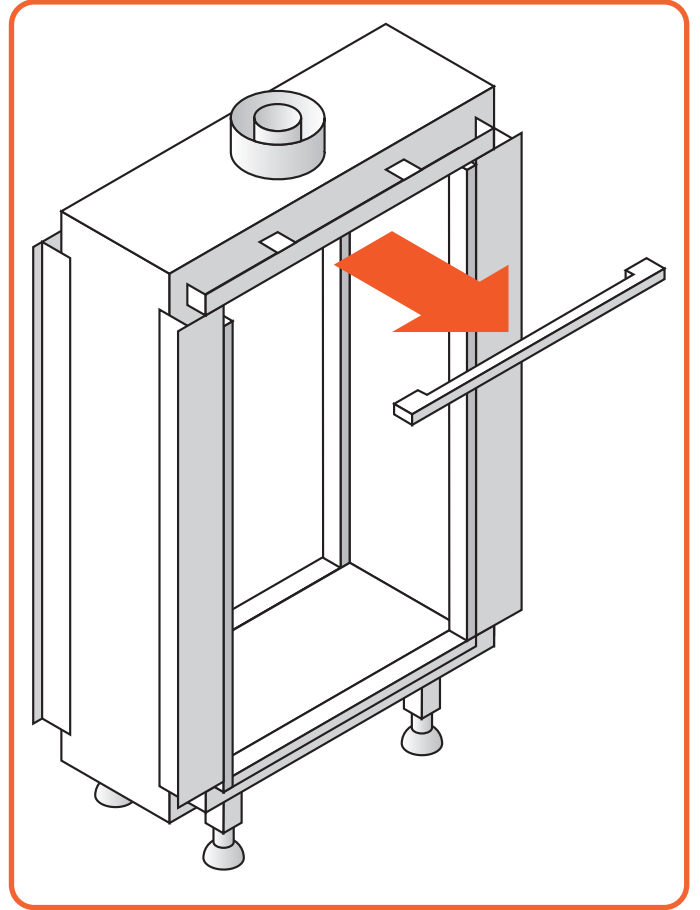


Figure 11.3 | Remove upper trim

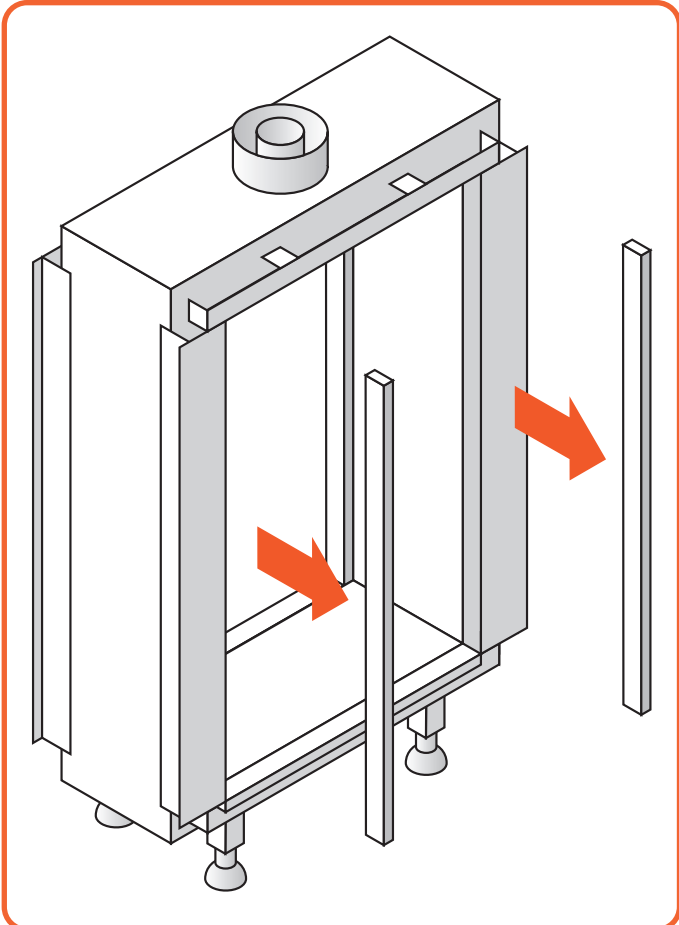


Figure 11.4 | Remove side trims

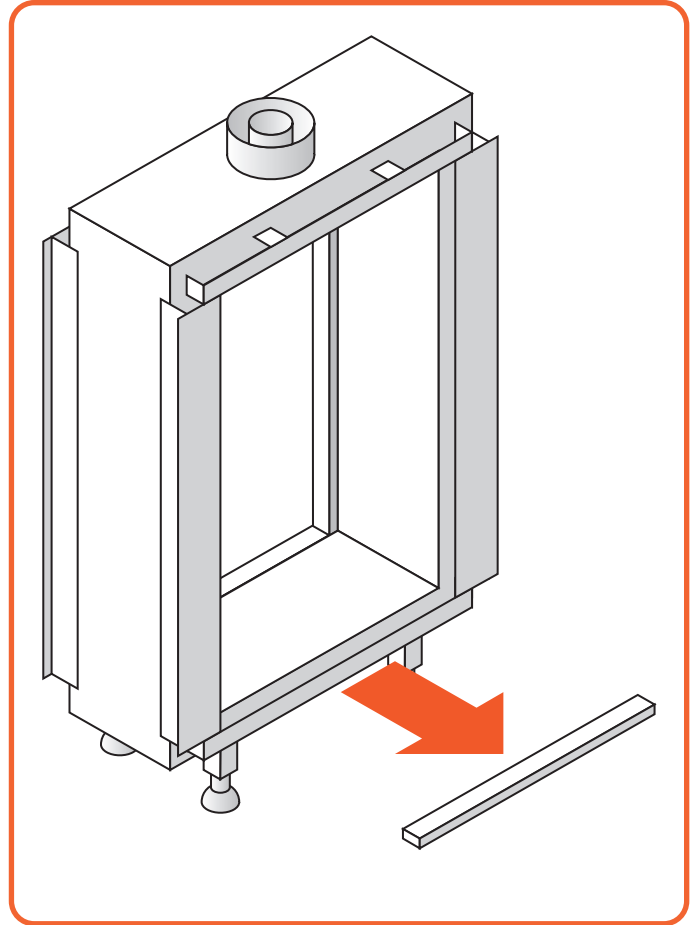


Figure 11.5 | Remove bottom trim

Determine which type of glass clamps are used; screwed clamps like in Figure 11.6 or spring loaded clamps like in Figure 11.7.

If screwed glass clamps are used, proceed to Figure 11.10

If spring loaded glass clamps are used, proceed to Figure 11.8

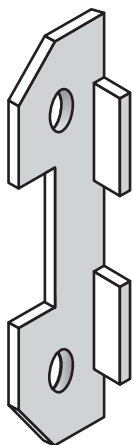


Figure 11.6 | Screwed glass brackets

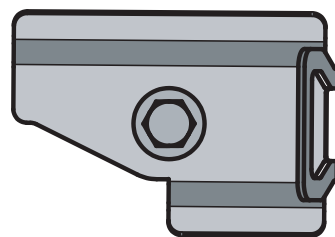


Figure 11.7 | Spring loaded glass clamps

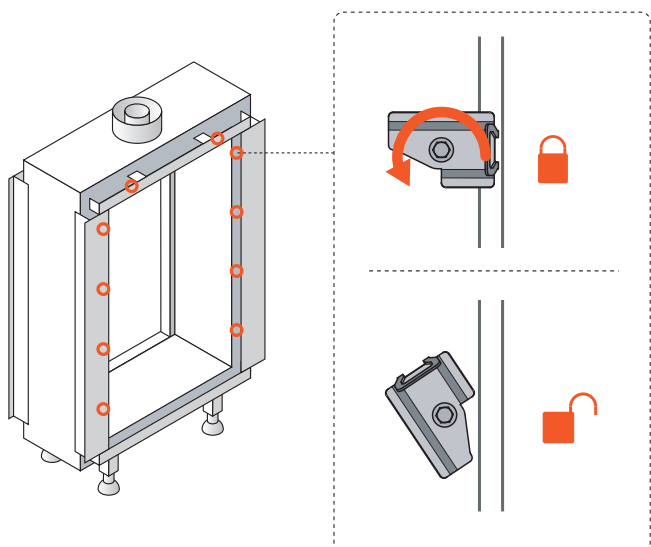


Figure 11.8 | Turn glass clamps to release glass

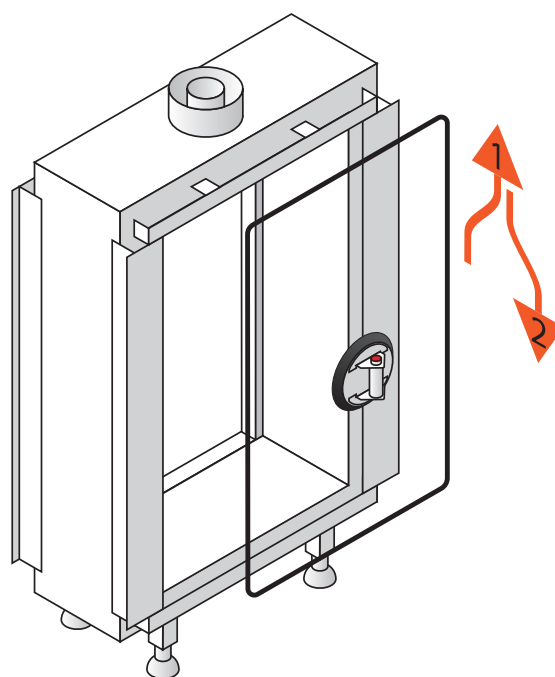


Figure 11.9 | Carefully lift the glass out of the fireplace

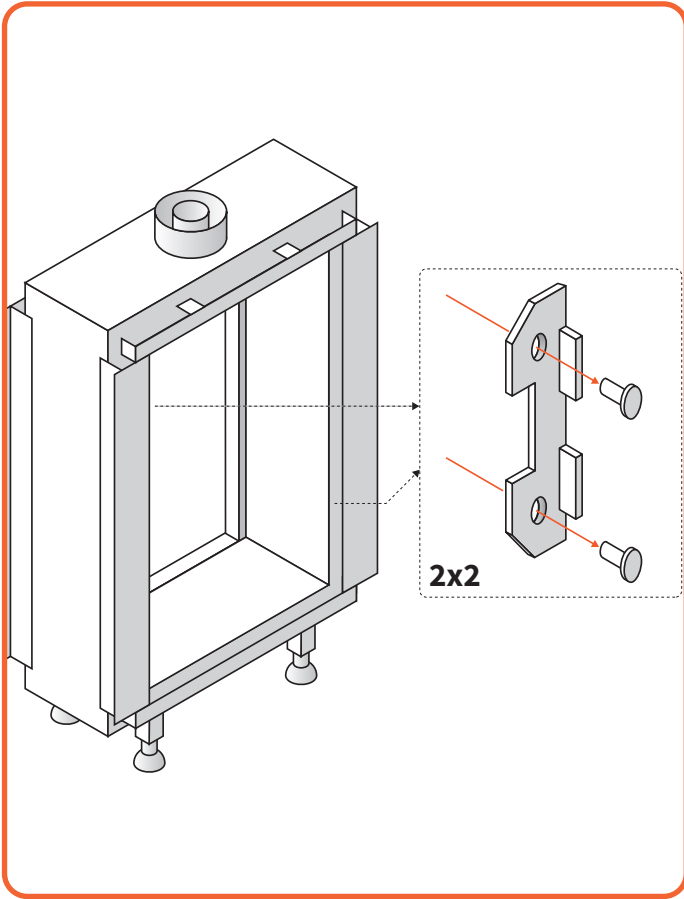


Figure 11.10 | Remove glass brackets

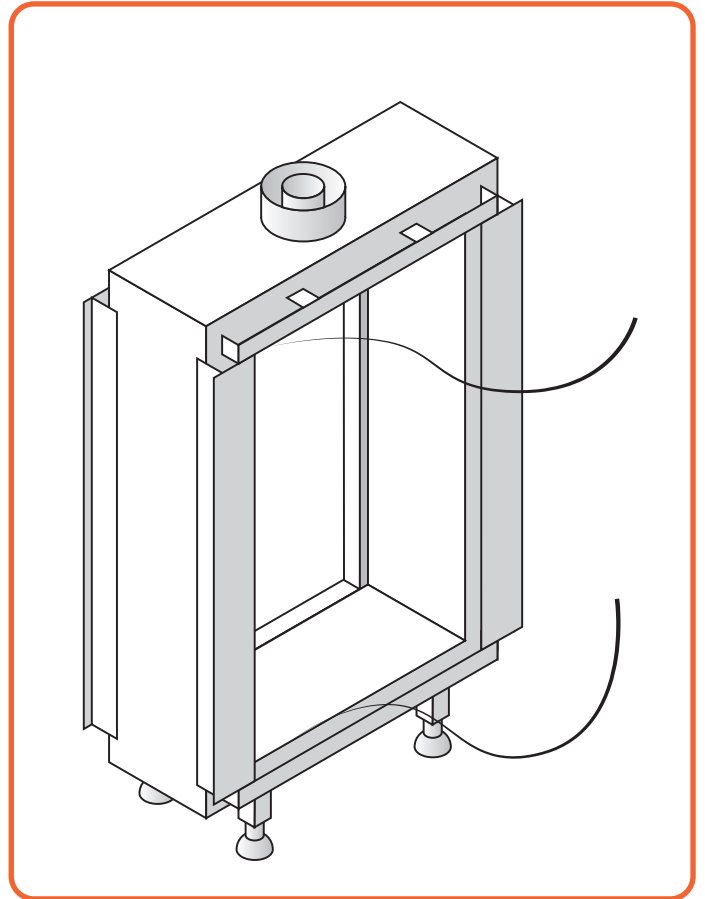


Figure 11.11 | Remove glass rope

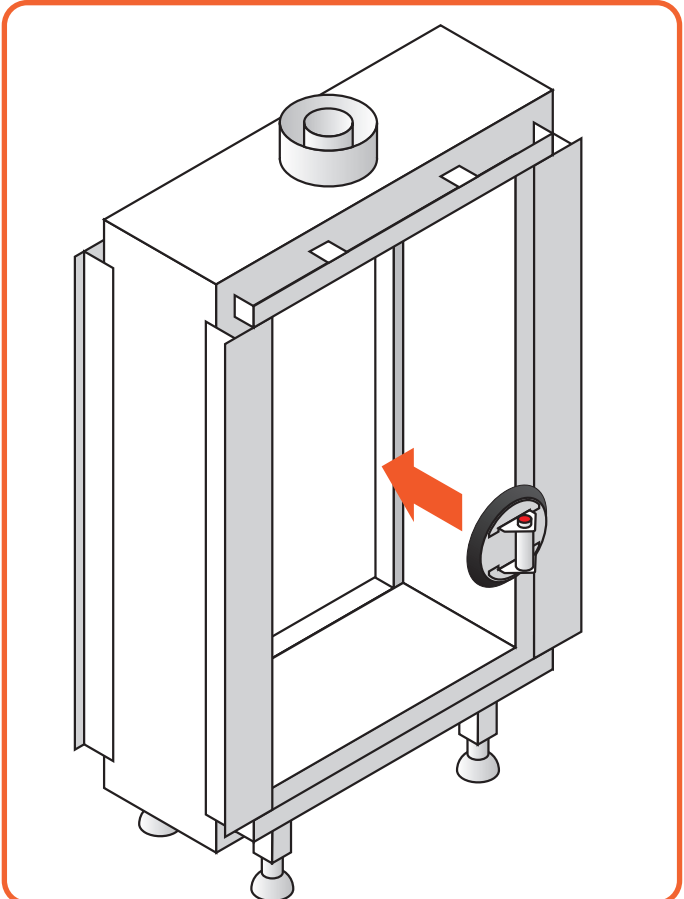


Figure 11.12 | Place suction cup on the glass

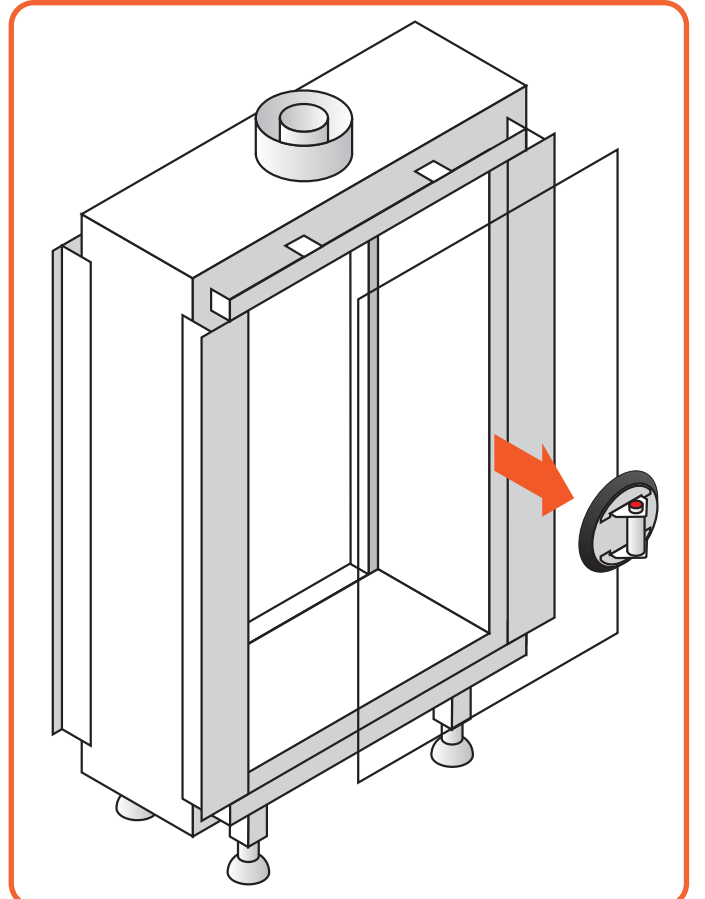


Figure 11.13 | Carefully lift the glass out of the fireplace

12 MAINTENANCE INSTRUCTION SKY RD

This part of the manual focuses on maintenance. To ensure the optimal flame picture of your device, an annual maintenance by a competent company or installer is prescribed.

12.1 MAINTENANCE IN THE COMBUSTION CHAMBER

During maintenance, a glass pane must be removed from the fireplace. To do this, follow these steps:

12.1.1 (DIS)ASSEMBLY OF THE TRIMS

For a tight finish of the fireplace, trims are available. During maintenance these trims must be removed, before the glass can be removed. Please follow these steps:

Disassembly:

- Unscrew the top trim and remove it, See [Figure 12.2](#) & [Figure 12.3](#).
- Remove both the side trims and bottom trim. They are held by magnet snappers, [Figure 12.4](#) & [Figure 12.5](#).

Assembly:

- Put the trims back in reversed order.

12.1.2 REMOVING THE GLASS

To be able to clean the glass on the inside, one needs to remove the glass. To do this follow these steps:

- Check, whether the trims are removed in as in step 12.1.2.
- Rotate the glass clamps to free the glass, see [Figure 12.6](#). The Sky S has only 1 clamp on the side instead of two.
- Place the Suction cups on the glass and make sure they are fixed securely, see [Figure 12.7](#)
- Lift the glass out of the lower glass rail and tilt it out through the opening, as seen in [Figure 12.8](#).

NB: Put away the glass in a safe place, when you are not using it, to make sure it will not damage during maintenance. Remove the suction cup after putting away the glass to avoid tracing or stains.

12.2 CLEANING THE GLASS

Take the following into account when cleaning the glass:

- Always clean the glass at room temperature.
- Use a cleaning agent approved by Element4 for cleaning.
- If you have anti-reflection glass in your fireplace, it must always be cleaned with the specially intended Element4 cleaning agent. This is available through your dealer or installer.
- Only use a microfibre cloth. Other materials such as (kitchen) paper, steel wool, etc. can cause scratches and can damage the coating on anti-reflective windows.
- Remove deposits regularly to prevent them from burning in.

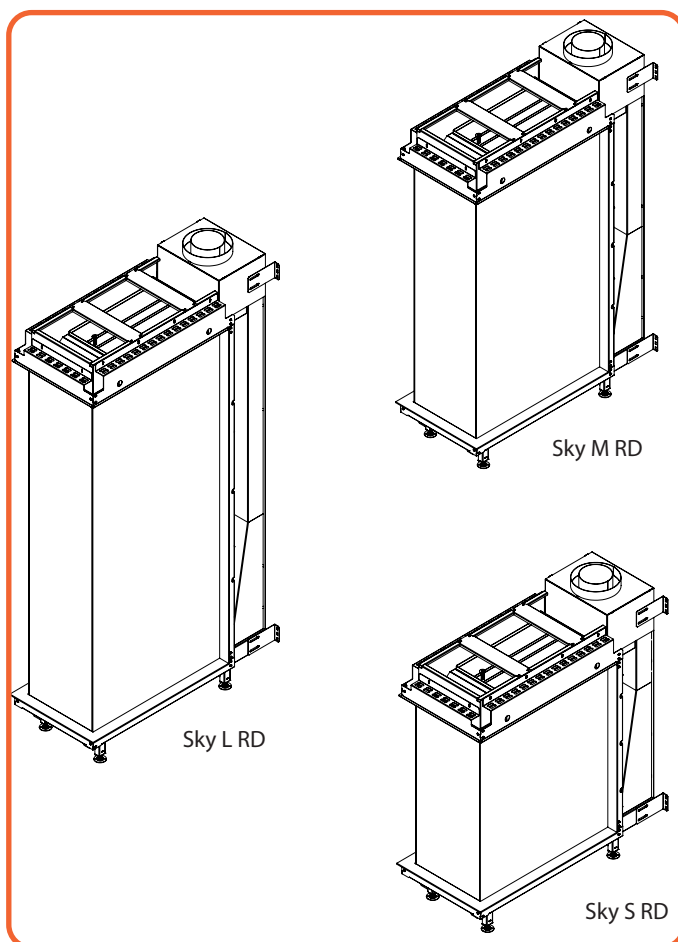


Figure 12.1 | Isometric view Sky L RD, M RD, S RD

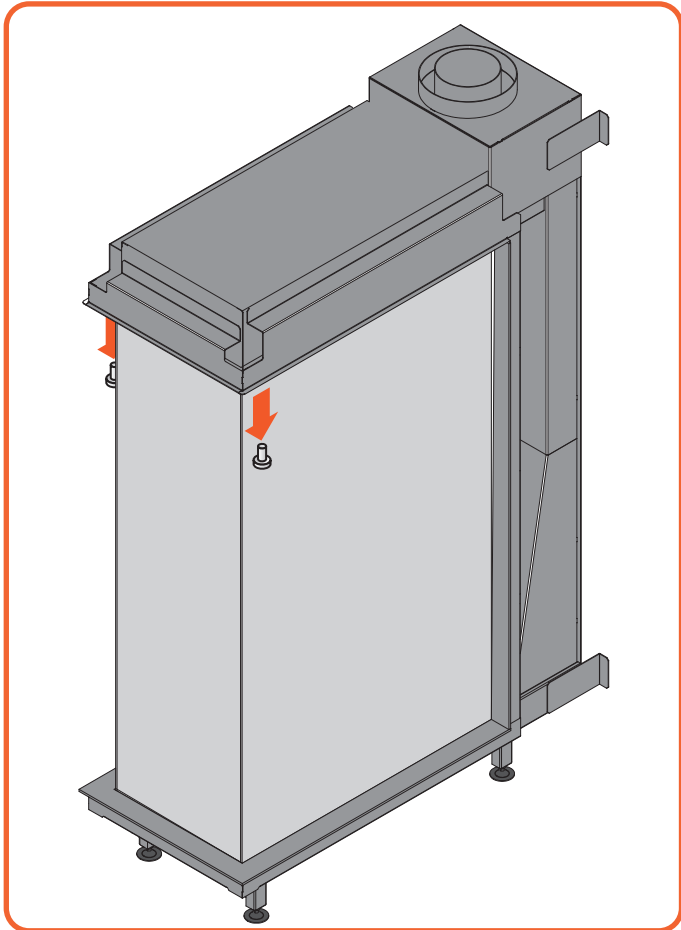


Figure 12.2 | Unscrew top trim

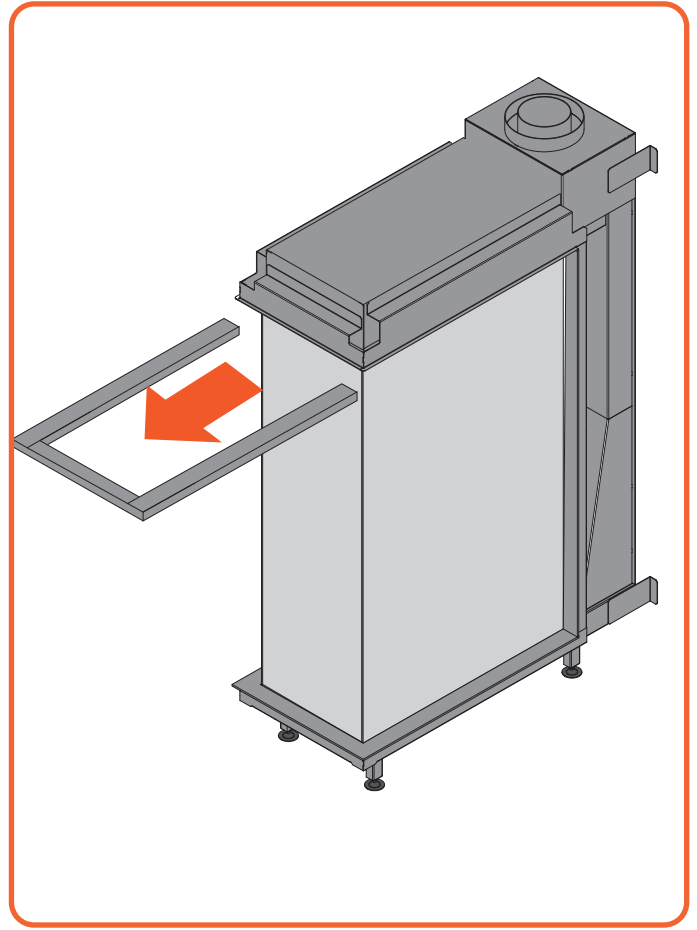


Figure 12.3 | Remove top trim

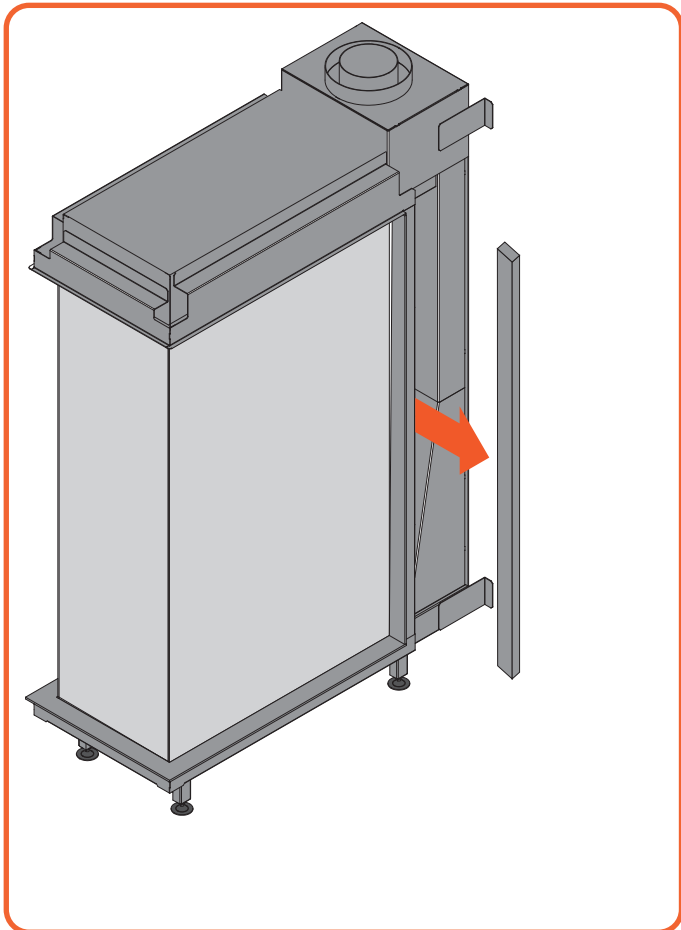


Figure 12.4 | Remove side trims

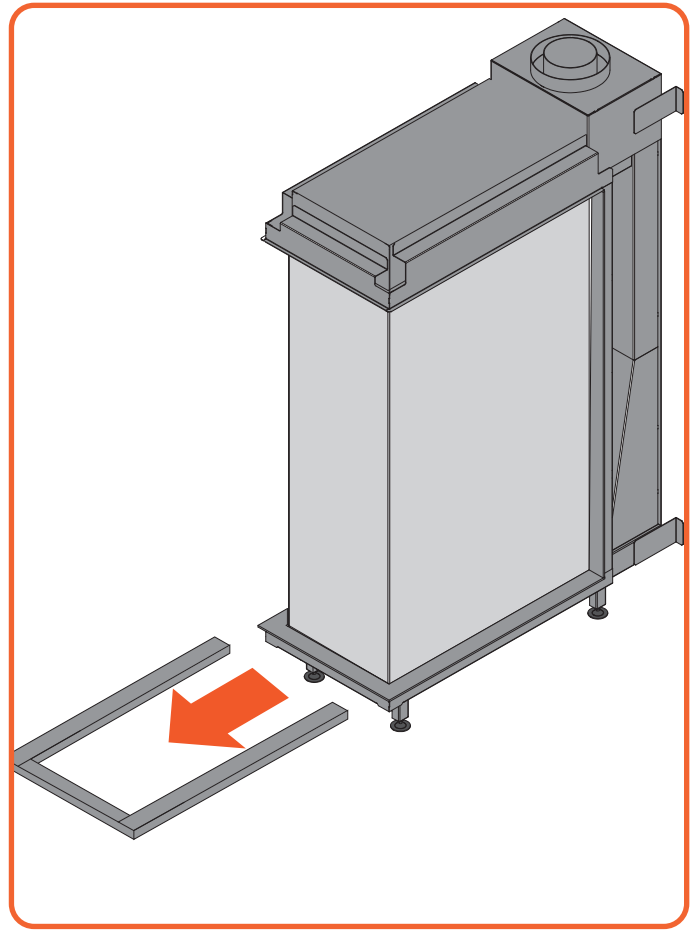


Figure 12.5 | Remove bottom trim

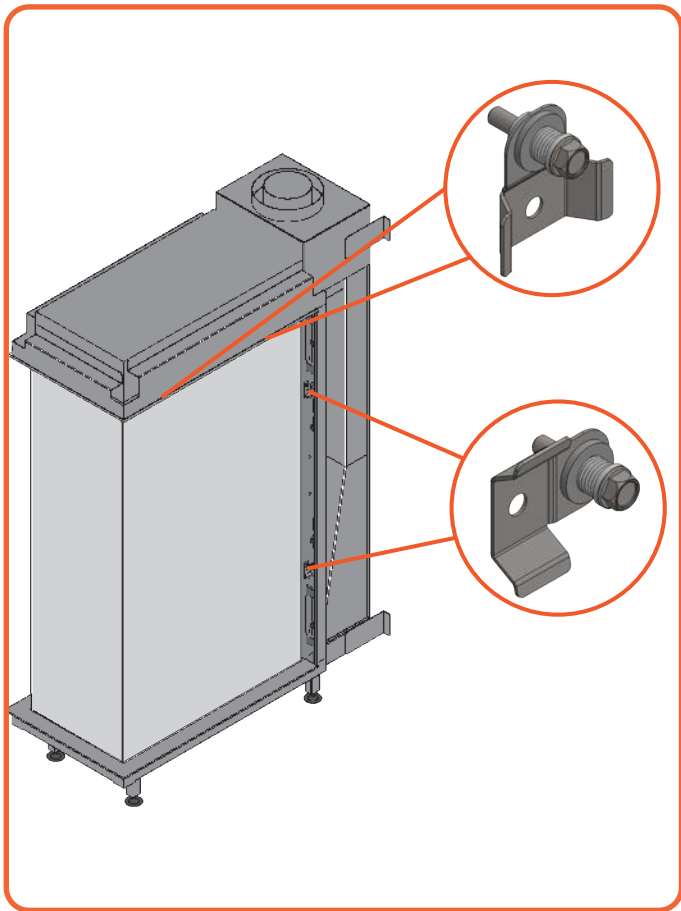


Figure 12.6 | Rotate glass clamps

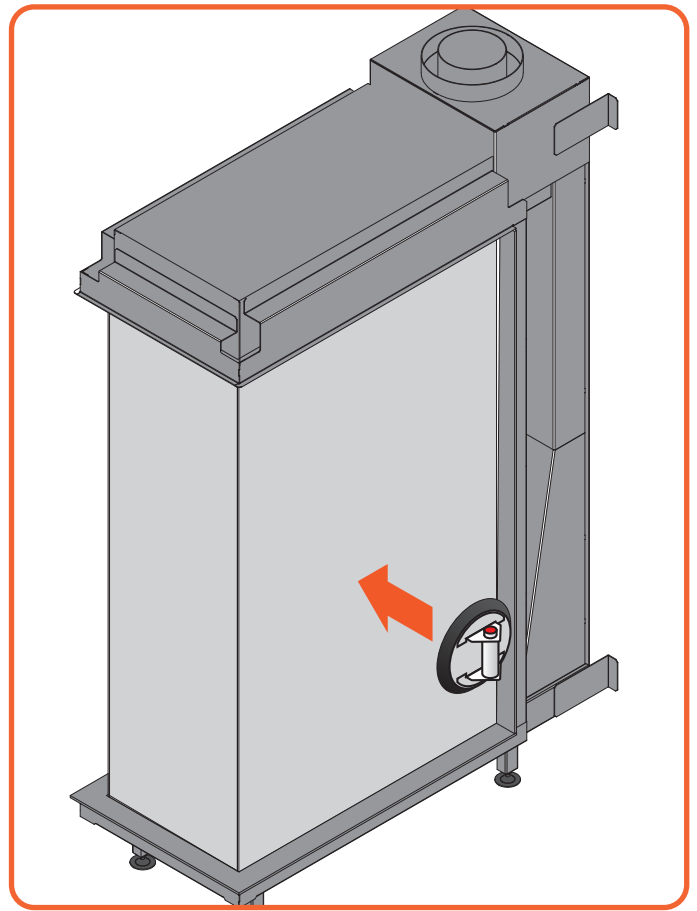


Figure 12.8 | Place Suction cup on the glass

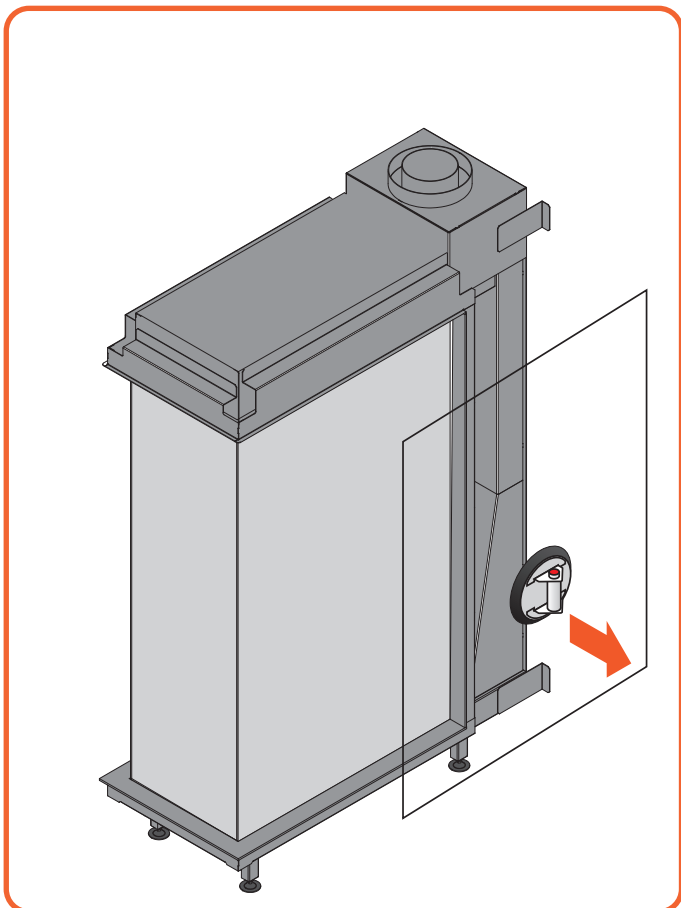


Figure 12.7 | Carefully lift the glass out of the fireplace

13 BURNER MAINTENANCE

Inspect the fuel reservoir, seals, and fittings at least twice per year for signs of leakage, hardening, cracking, or fuel odor.

Replace seals only with manufacturer-approved parts.

Do not use alcohol, acetone, or solvent-based cleaners on gaskets or sealing surfaces, as these may degrade sealing materials.

APPENDIX A has an overview for burner malfunctions. The burner can be reached via the maintenance access.

The starter and thermocouple can be reached through the combustion chamber.

#	Part
1	Starter
2	Thermocouple
3	Fill pump
4	Fuel pump

Table 13.3 |

13.2.1 BURNERS

The flames of the burners must be checked visually. The flames must be equal in both burner trays. If this is not the case, check whether decorative material has entered the burner..

13.2.2 STARTER

For the proper functioning of the fireplace, the starter must be checked. The starter must start both burner trays and the glowing part must be evenly distributed over the burners. The area around the starter must be kept clean. Decoration materials and dirt can impede ignition. When inspecting the starter, you should also check for damage to the components.

13.2.3 THERMOCOUPLE

The Element4 bioethanol fireplace has a thermocouple that checks whether a fire is burning. It is important that it is clean so that the flame properly heats up the thermocouple. Make sure there is no decorative material between the flame and thermocouple.

13.2.4 FUEL PUMP

The fuel pump pumps bioethanol from the tank to both burner trays. It must be checked whether this is done equally over both gutters. It must also be checked that there is no bio-ethanol leakage in the fuel lines.

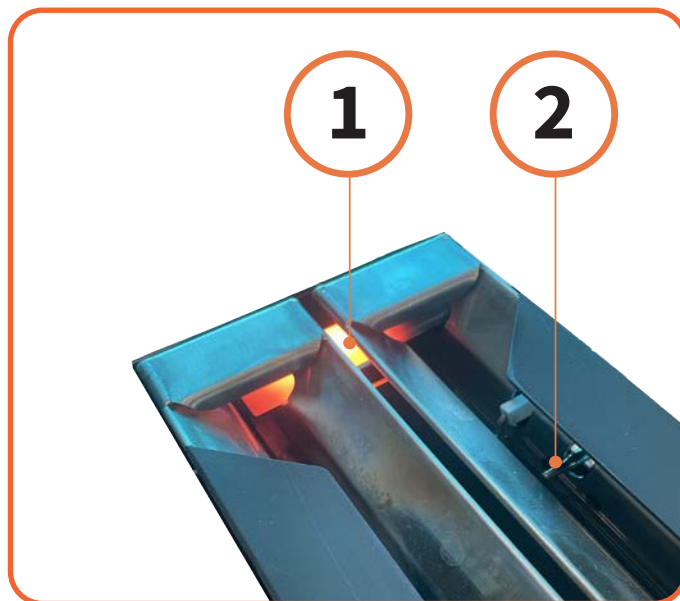


Figure 13.1 | Location of starter and thermocouple

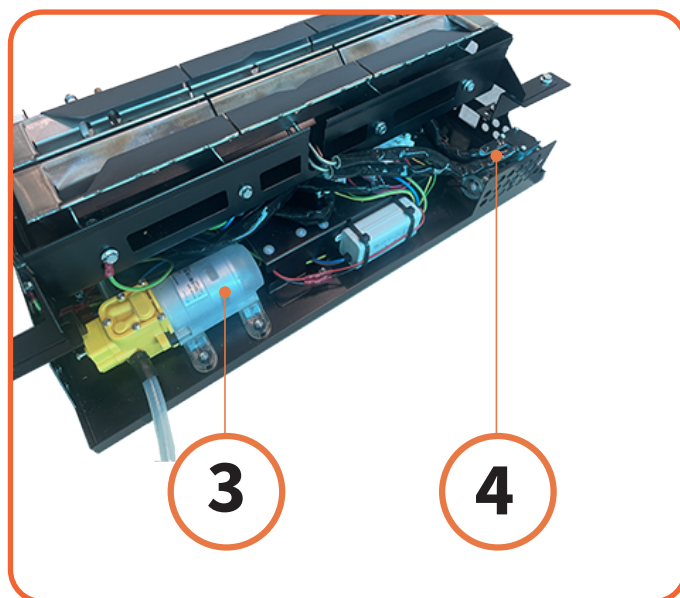


Figure 13.2 | Location of fill pump and fuel pump

14 DECORATIVE (CERAMIC) PARTS

This appliance is equipped with a ceramic fire bed with heat-resistant ceramic fibers, or artificial glassy silicate fibres. Excessive exposure to this material may cause irritation to the eyes, skin and respiratory tract. We therefore recommend that the dust emission is reduced as much as possible when handling these materials.

14.1 DECORATION ARRANGEMENT

Only the decoration ceramics supplied with this appliance are to be used. The ceramics must be laid only as shown on this page. Replacement parts are available from your dealer, but should only be installed by a qualified installation engineer.

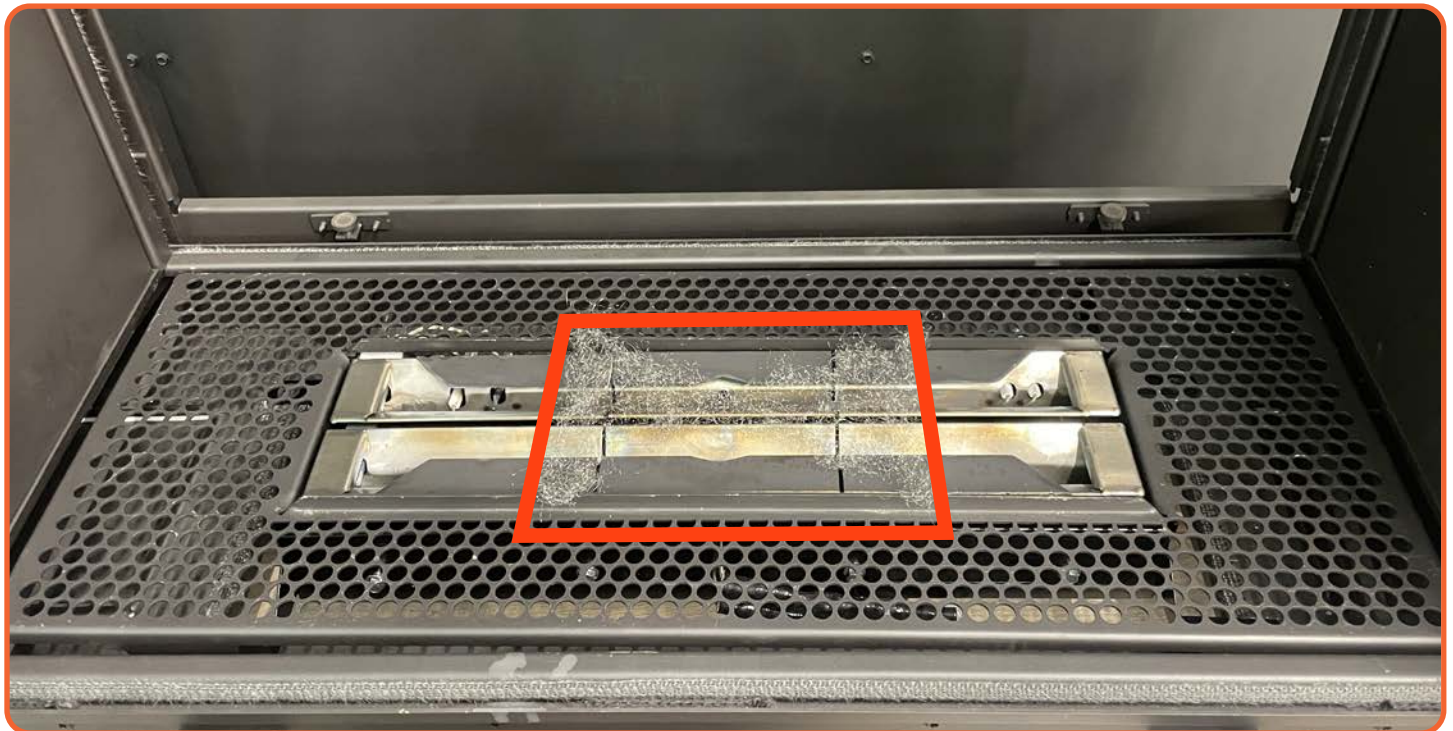
Position the decoration logs as shown on the following steps.

Make sure there is no decoration material directly in the flame when the fire is turned on.

Make sure the burner grate is still open enough to supply the combustion chamber with fresh air.

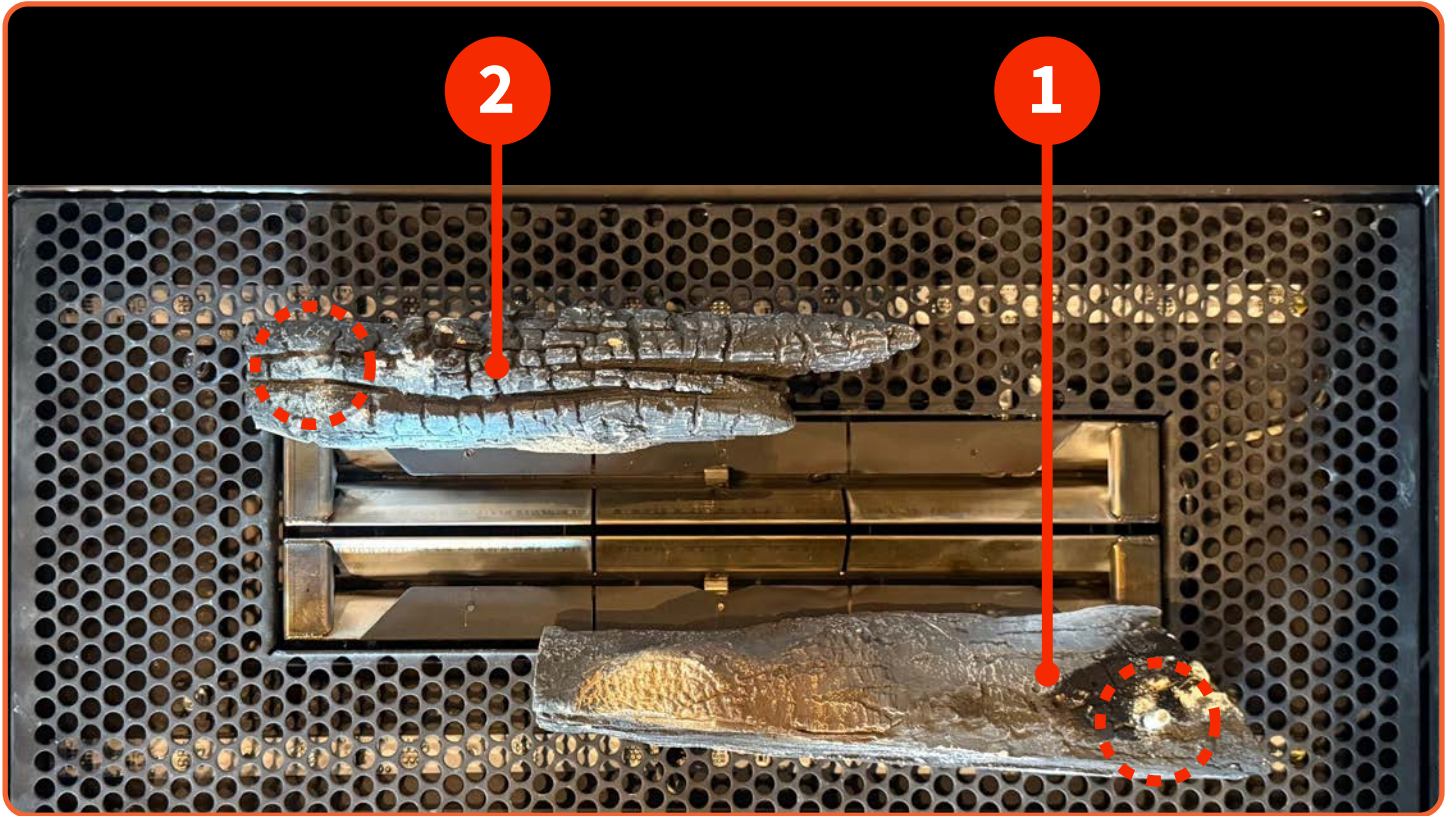


Figure 14.1 | Logset Sky Bioethanol series



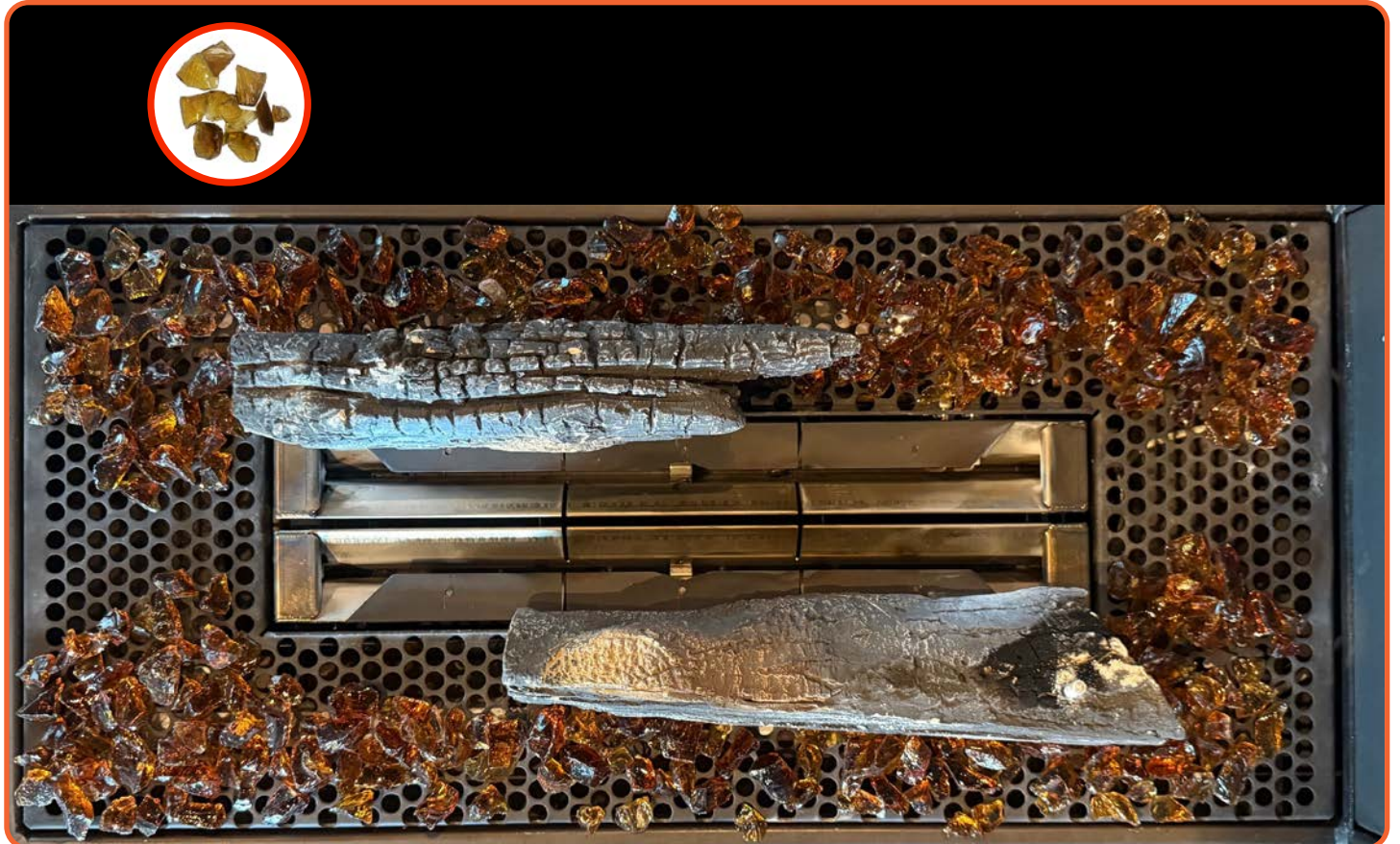
Pull a quarter to a third of the filament off the total contents of the bag. Pull it apart a little and place it over the burner, but make sure it stays within the orange compartment. The filament should not come into contact with the sensors in the burner.

Figure 14.2 | Step 1



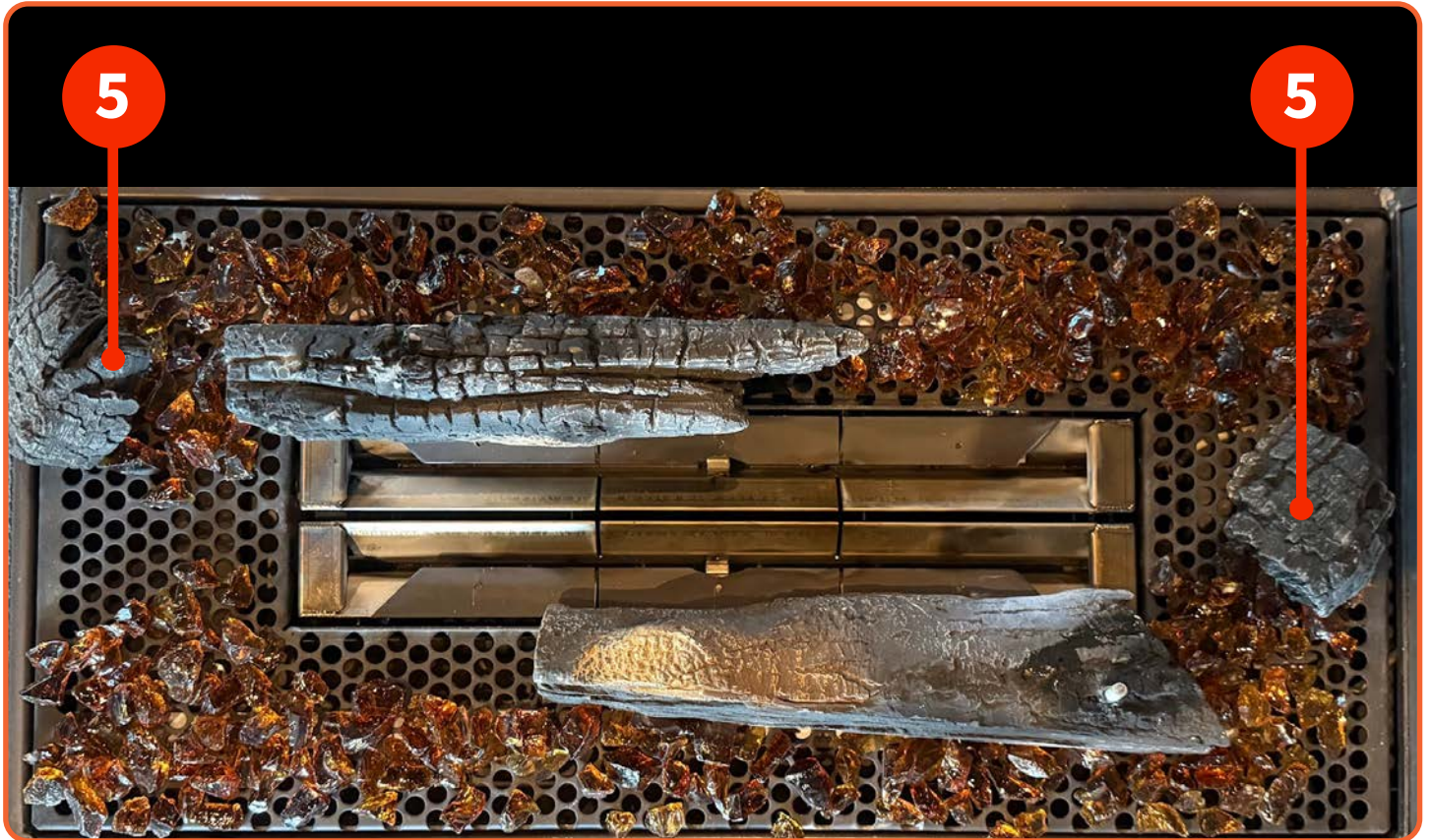
Lay log 1 and 2 with the slit at the bottom over the upright edge. Make sure that the (circled) pegs on the logs are on the correct side.

Figure 14.3 | Step 2



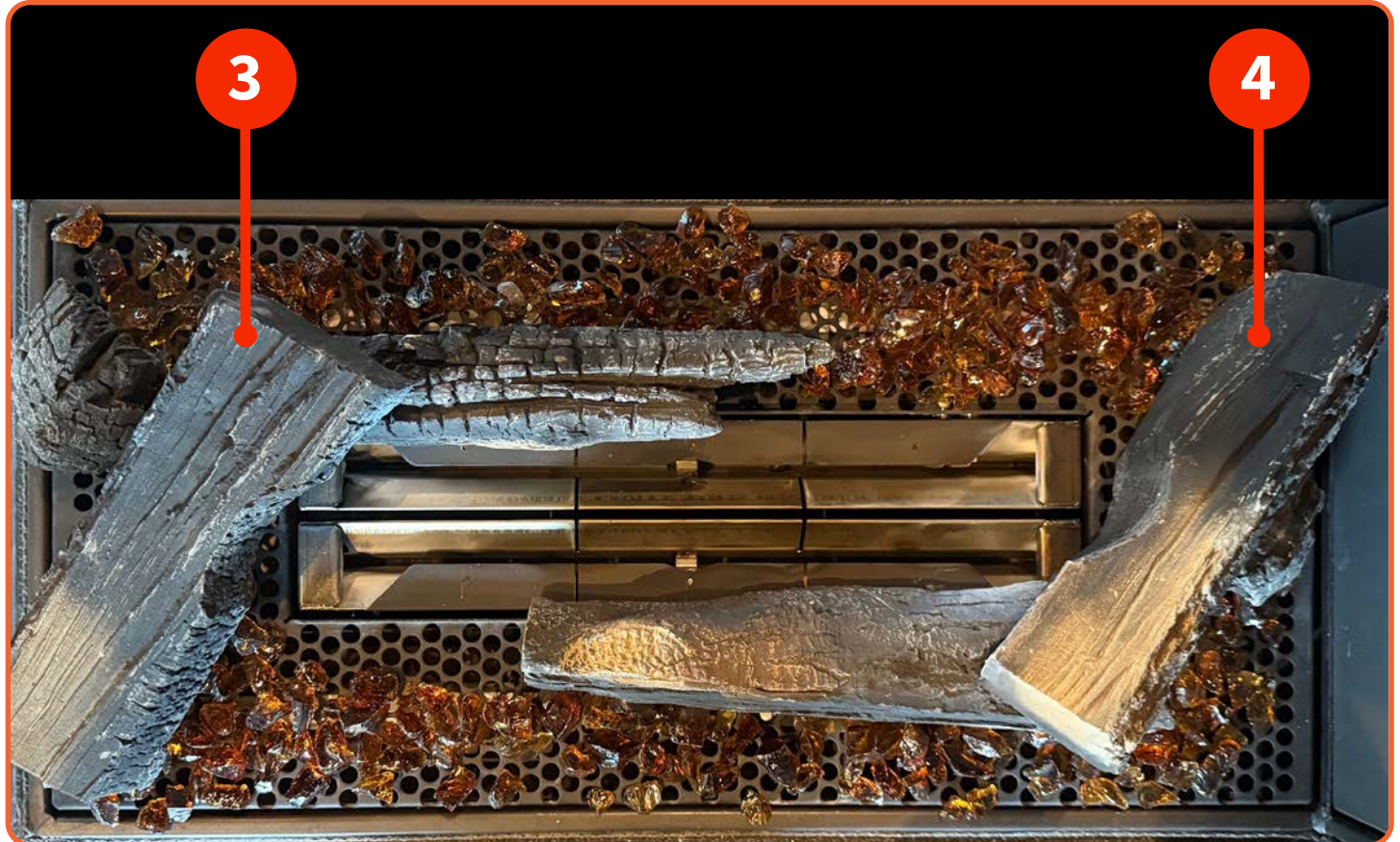
OPTIONAL: If your fireplace is equipped with LED lighting; spread the glass over the burner bed.

Figure 14.4 | Step 3



Place the coals (5) in the designated places.

Figure 14.5 | Step 4



Place logs 3 and 4 with the hole at the bottom on the pegs of previously laid logs 1 and 2

Figure 14.6 | Step 5



Place the logs 6 and 7.

Figure 14.7 | Step 6



Fill the rest with black and gray chips. Make sure that the burner grate remains open enough so that air can be sucked in through it.

Figure 14.8 | Step 7

15 OPERATING THE FIREPLACE

15.1 BEFORE THE FIRST FIRE

1. Make certain that all construction materials have been removed from inside and around the fireplace and the fireplace has been cleaned of any construction dust.
2. Clean the glass BEFORE and AFTER the first fire on both sides of the glass.
3. Properly place, clamp and seal the glass panels.
4. Place the four (4) AAA batteries into the remote control and confirm that it will communicate with the receiver by pressing the ON/OFF button.
5. Check the starter and thermocouple for obstructions
6. Check the air tightness of the system.

15.2 THE FIRST FIRE

See **CHAPTER 4** for more information about the remote control and ignition. When the fireplace is fired for the first time, one should check the behaviour of the fireplace to see if all is functioning well.

Should any problems occur during first firing a troubleshooter can be found in **APPENDIX A** for the gas parts and **APPENDIX B** provides an overview of possible error codes in the remote control.

15.3 SENSORY CHECKS

15.3.1 VISUAL CHECKS

Flames and soot

Examine the logs for sooting. Too yellow (near orange) flames indicate a problem with the combustion air. Clear black soot may then settle on the decoration material. When this is the case, you may contact your dealer.

This fireplace has a thermocouple safety system, which senses the burner flame. The system will turn itself off if the system does not sense the thermocouple output.

Coating

When firing up the device for the first time, make sure the device burns for several hours on the highest level, to ensure the lacquer to harden. If an enclosure has not yet been constructed, these fumes may also be visible around the fireplace.

Caution: Because a fireplace is a heat source, natural convection will occur around it. Solid particles in the circulating air may burn and settle down on cold surfaces, causing discoloration. Discoloration is an annoying problem and it is difficult to solve once happened.

These particles can come from construction moisture or cigarette smoke, but also they might be volatile components in paint, construction materials or carpeting. For newly constructed chimneys or after a big reconstruction, it is advised to wait a minimum of six weeks before firing a fireplace. After this burn-off period, turn off the fireplace and let it cool completely to room temperature and once again clean both sides of the glass as well as the interior panels.

15.3.2 SMELL CHECK

When the fireplace is first heated, an odour may be given off by the hot metal. Make sure the device and enclosure are ventilated enough, so the possible released fumes are being abducted. The fumes are the result of the 'burn off' of the lubricants and sealants used when manufacturing the fireplace.

We advice to be as little in the room as possible during this process. It is recommended that you open the nearby windows for extra ventilation and then operate the fireplace for at least four hours.

15.3.3 SOUND CHECK

Since the product is a metal fireplace, the heat-up and cool-down cycles may produce some (initial) noises caused by the expansion and contraction of these metals. These are normal but should not be audible at more than a meter distance from the fireplace.

A TROUBLESHOOTER

A.A FIRST AID FOR MALFUNCTION

Below you will find an overview of the possible cause and solution in the event of a failure.

Problem	Possible Cause	Solution
A There is smoke or a strange smell coming from the burner during burning	1 Waste may be burning that is not supposed to be in the burner.	Remove the waste
	2 You are using the wrong fuel (it is essential that you use ONLY prescribed bioethanol).	Check whether you have used the correct bioethanol, if in doubt contact your dealer.
	3 You have placed something around/above the flame that is not approved or recommended.	Remove the object placed in the flame
	4 If the burner is empty (the flame goes out) or you have just turned the fire OFF, this is normal. Like extinguishing candles.	-
B When I try to ignite the burner, it will not start.	5 The quality of the bioethanol you use is not good enough.	Check whether you have used the correct bioethanol, if in doubt contact your dealer.
	1 You have not put enough fuel in the burner.	Fill the tank with bioethanol
	2 You have not used the correct fuel (it is imperative that you ONLY use bioethanol).	Check whether you have used the correct bioethanol, if in doubt contact your dealer.
	3 The air opening of the burner is clogged, there must be sufficient ventilation for the flame to develop.	Check that the flue gas outlet and air supply are not blocked.
C The remote control does not respond to touch	4 The bioethanol is cold and needs time to ignite.	Repeat the starting procedure. In case of structural occurrence, please contact your dealer.
	5 One of the two burners has not ignited, causing the safety system to be activated.	Repeat the starting procedure. In case of structural occurrence, please contact your dealer.
	1 Batteries are empty	Replace the batteries
	2 Your finger is wet	Dry your finger and try again
D When I turn off the fireplace, the fire does not stop immediately	3 You touch the ON button too short.	Try touching the ON button longer.
	1 This is normal, the bioethanol already present must first burn up. The flames will extinguish on their own.	Check plug connections Repair the wiring if necessary
E When I want to fill the tank, the pump does not turn on	1 Tank is already full	-
	2 The fireplace is still in FLAME mode	The fireplace can only be filled in STANDBY mode (See figure 4.6)
	3 The sensor in the tank is defective	Contact your dealer
F When I fill the tank, the pump does not stop automatically when the tank is full	1 You have not used the correct bioethanol	DO NOT START THE FIRE! Use a cloth to clean up the overflowing Bioethanol and contact your dealer.
	2 Sensor is defective	DO NOT START THE FIRE! Use a cloth to clean up the overflowing Bioethanol and contact your dealer.

A.B NECESSARY TOOLS

To help out the installers, mechanics and others who need to do work on our fireplaces e.g. during maintenance, a list is compiled of tools Element4 expects are being carried during said services.

When all these tools are available during service, Element4 guarantees all problems, apart from part failure can be solved.

Please note

If a problem is found, that cannot be solved on site, always contact your dealer or directly contact Element4 via our credentials which can be found on the back page of this manual.



Figure A.A | Tool overview for service

B ERROR CODES

B.A MESSAGES SHOWN ON REMOTE CONTROL

The installed software will give an error/stop code if the bioethanol fire has stopped or not started for any reason. When the bioethanol fire stops, a code is generated, which can be read on the remote control.

By means of the code number you can see in which phase of the ignition process or operation the error occurred.

To view this code, the following steps must be taken:

Open the menu by pressing both buttons below the display.

Select DEVICE

The display shows the version number and stop code as follows:

Display "Rxxx.Dxxx.SCx".

R = receiver software version number.

D = version number of the device software.

SC= stop code in hexadecimal format (as shown opposite).



Figure 15.9 | Error code is displayed on remote control

Foutcode	Omschrijving	Mogelijke redenen	Mogelijke oplossing
SC2	Bioethanol does not reach tank sensor (ignition process)	- Too little bioethanol in tank - Sensor defective - Wrong fuel in tank	- Fill tank - Replace or reconnect sensor - Extract wrong fuel from tank
SC3	Thermocouple hot - HOT TRAY (ignition process)	Fire was recently put out	Wait a few minutes before trying again
SC4	Two minute safety break (ignition process)	The thermocouple has not warmed up sufficiently during the ignition process	Wait two minutes before trying again
SC5	Low level sensor not reached, pump timed out	- Bioethanol is running out and can no longer reach the low level sensor. - Fuel line is clogged or leaking - Pump is defective	- Fill tank - Check for blockages or leaks. If this is the case, please contact your dealer - Check the operation of the pump, contact your dealer if the pump appears to be defective.
SC6	High level sensor not reached, pump timed out	- Bioethanol is running out and can no longer reach the high level sensor. - Fuel line is clogged or leaking - Pump is defective	- Fill tank - Check for blockages or leaks. If this is the case, please contact your dealer - Check the operation of the pump, contact your dealer if the pump appears to be defective.
SC7	Timeout, waiting for fuel at low level sensor (ignition process)	- Bioethanol is running out and can no longer reach the low level sensor. - Fuel line is clogged or leaking - Pump is defective	- Fill tank - Check for blockages or leaks. If this is the case, please contact your dealer - Check the operation of the pump, contact your dealer if the pump appears to be defective.
SC8	Timeout, waiting for fuel at high level sensor (ignition process)	- Bioethanol is running out and can no longer reach the low level sensor. - Fuel line is clogged or leaking - Pump is defective	- Fill tank - Check for blockages or leaks. If this is the case, please contact your dealer - Check the operation of the pump, contact your dealer if the pump appears to be defective.
SC9	Time out, waiting for flame	Thermocouple was insufficiently heated during the ignition process because the flame could not reach the thermocouple.	- Fill tank - Check for blockages or leaks. If this is the case, please contact your dealer - Check the operation of the pump, contact your dealer if the pump appears to be defective.

Erro code	Description	Possible causes	Possible solutions
SCA	Time out, waiting for high level after flame.	The fuel did not reach the high sensor in the burner after the flame lit during the ignition process..	Fill the tank
SCB	Flame off	- The flame has gone out for external reasons. - Thermocouple is defective	- Rule out any possibilities that affect the flame. - Try to restart the fireplace. If this does not work, contact your dealer
SCC	Ignition program failed	Software problem, the program has become corrupted.	Contact your dealer.
SCD	Stop-command received	Normal situation, the user has switched off the fire with the remote control	Restart fireplace with remote control
SCE	Bioethanol does not reach tank level sensor	Insufficient fuel in tank to sustain flame.	Fill the tank

C TECHNICAL DATA

The values below depend on the type of Bioethanol used and the way in which the fire is built in.

Note: Always use Bioethanol with 85% to 96.6% alcohol. If in doubt, contact your dealer.

Values for Sky b - all models

GROSS output on HIGH* ¹	24000	Btu/hr
Maximum consumption on HIGH	0,52	gal/hr
GROSS output on MEDIUM	22000	Btu/hr
Maximum consumption on MEDIUM	0,50	gal/hr
GROSS output on LOW	14000	Btu/hr
Maximum consumption on LOW	0,48	gal/hr
Max tank capacity	1.32	gal
Minimal room volume	88	yd ³
Air renewal rate	1 room vol. per hour	
Rated supply voltage	120	V
Maximum rated power consumption* ²	1500	W

Figure D.A | Technical drawing of Sky S RD

SKY M RD

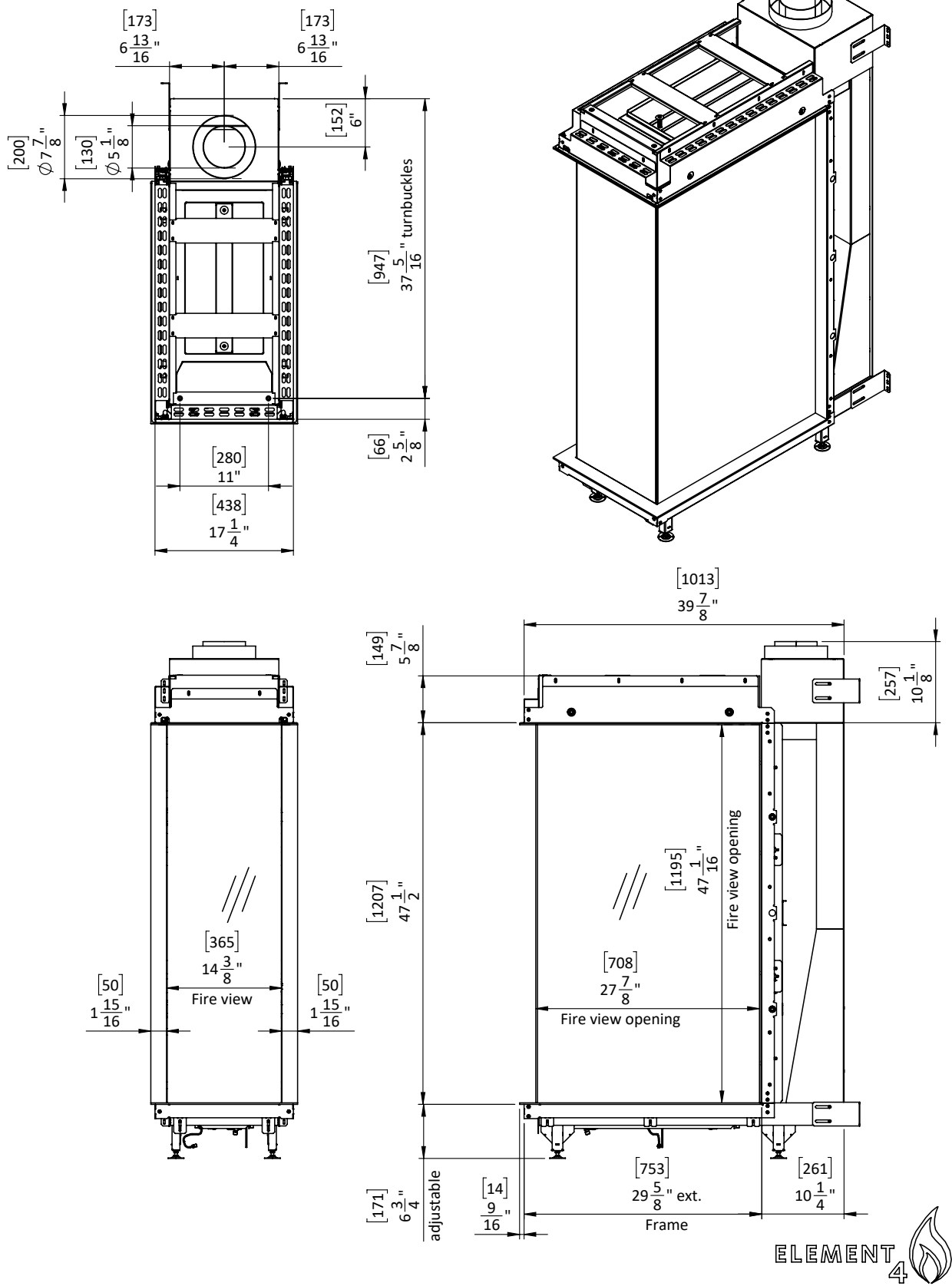


Figure D.B | Technical drawing of Sky M RD

SKY L RD

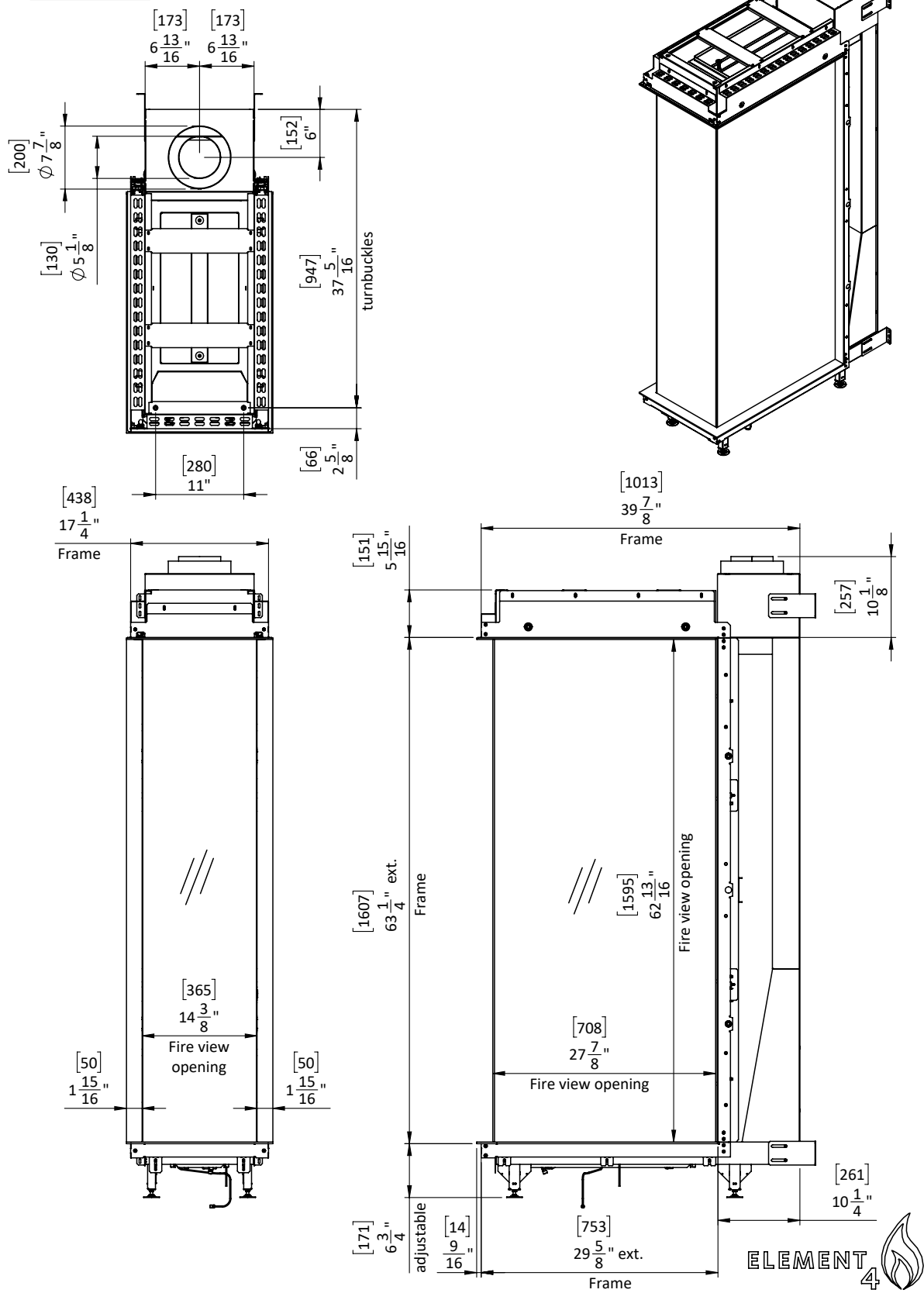


Figure D.C | Technical drawing of Sky L RD

E DIMENSIONAL DRAWINGS

On this page you will find the dimensional drawings of the Fireplace with some of the important dimensions that you have to take into account when installing and installing your fireplace.

SKY LARGE F

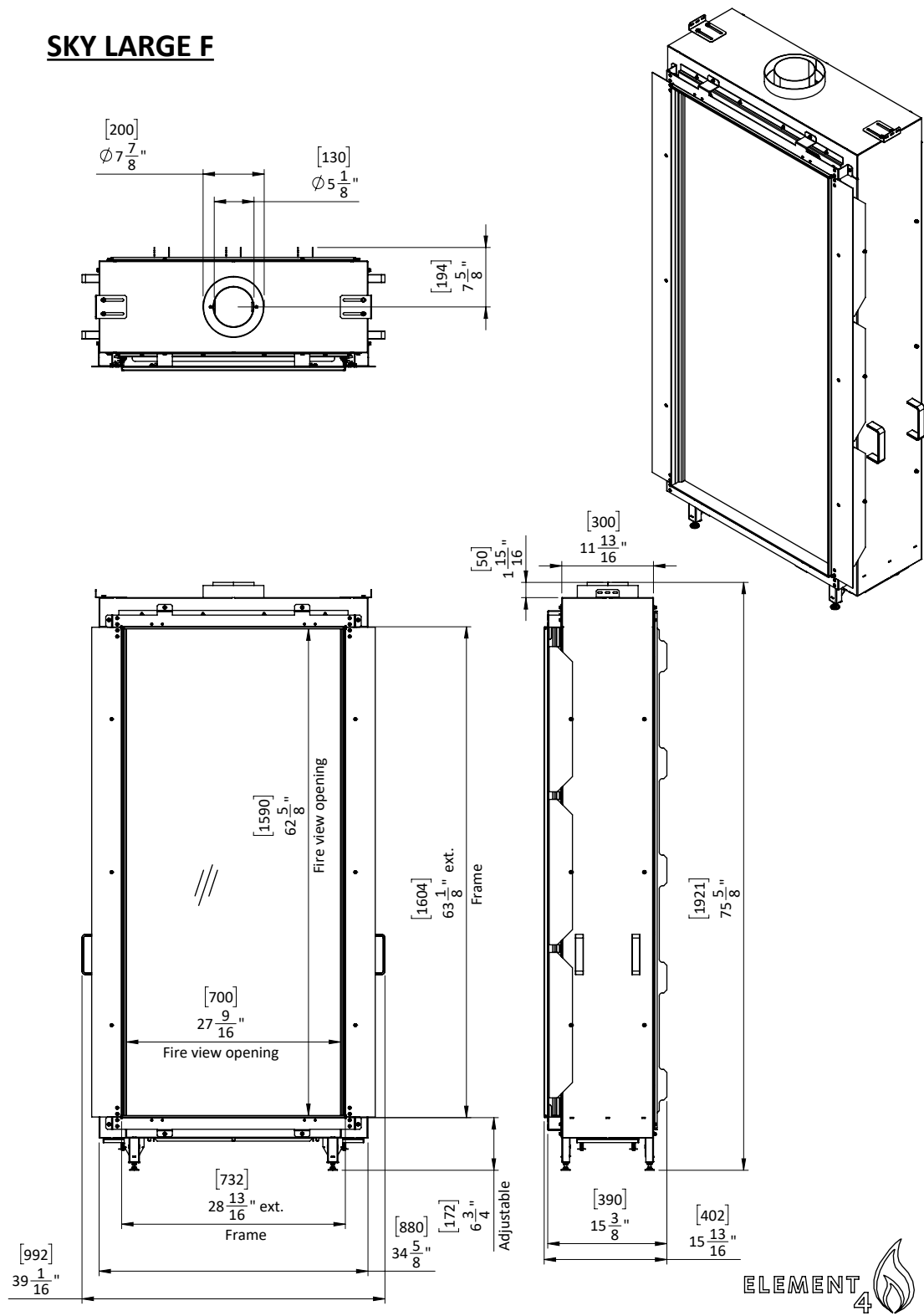


Figure E.A | Technical drawing of Sky L F

SKY L T

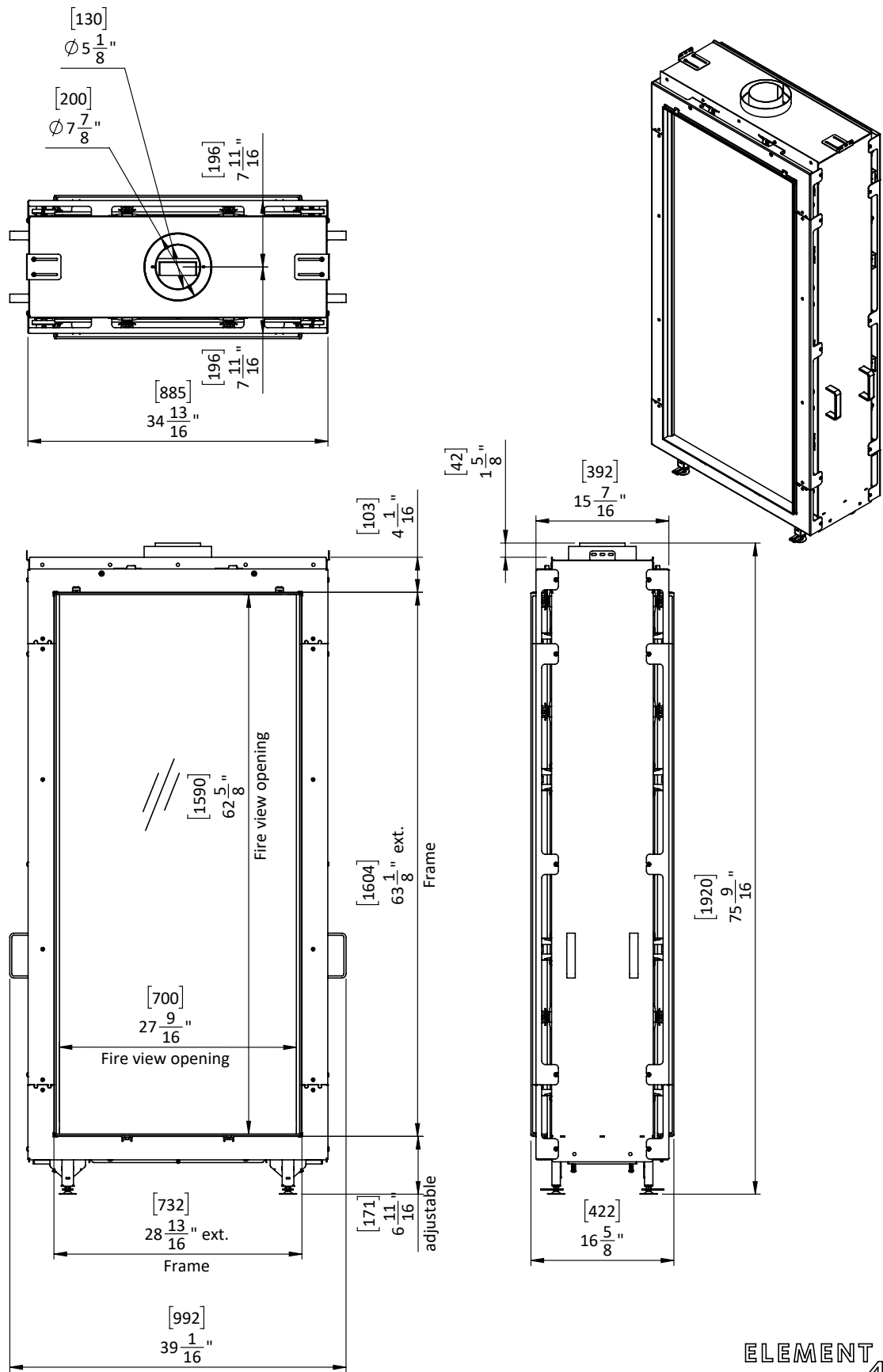
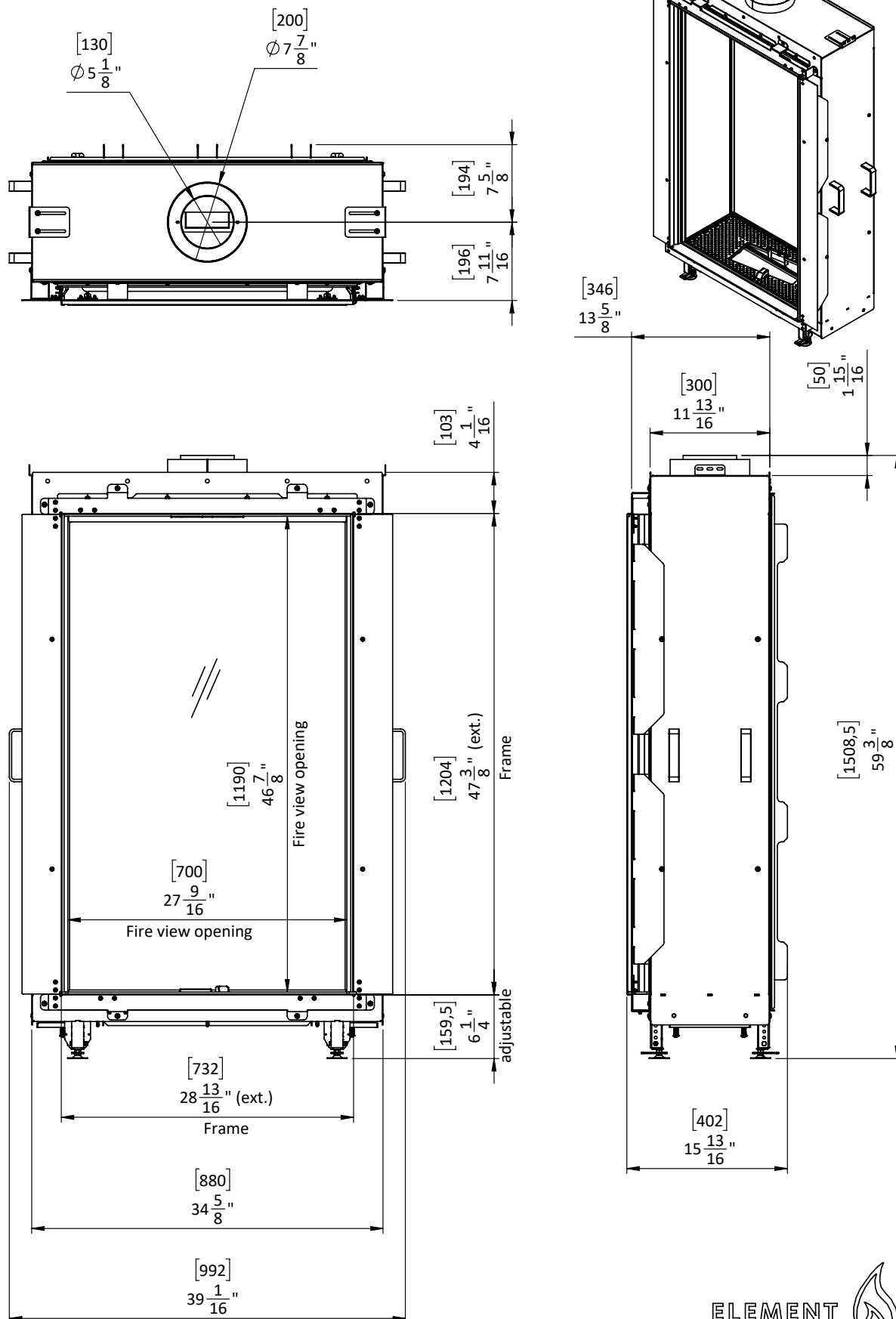


Figure E.B | Technical drawing of Sky L T

SKY MEDIUM F



ELEMENT 

Figure E.C | Technical drawing of Sky M F

Technical drawing of a fire-rated door assembly, showing front and side views with dimensions in inches.

Front View Dimensions:

- Overall width: $39 \frac{1}{16}$ " [992]
- Overall height: $47 \frac{3}{8}$ " ext. [1204]
- Fire view opening width: $27 \frac{1}{2}$ " [698]
- Fire view opening height: $46 \frac{7}{8}$ " [1190]
- Frame width: $28 \frac{13}{16}$ " ext. [732]
- Frame height: $34 \frac{5}{8}$ " [880]
- Adjustable height: $6 \frac{1}{4}$ " [160]

Side View Dimensions:

- Overall depth: $7 \frac{11}{16}$ " [196]
- Door thickness: $5 \frac{1}{8}$ " $\varnothing$ [130]
- Frame depth: $7 \frac{11}{16}$ " [196]

Other Labels:

- Fire view opening
- Frame
- adjustable

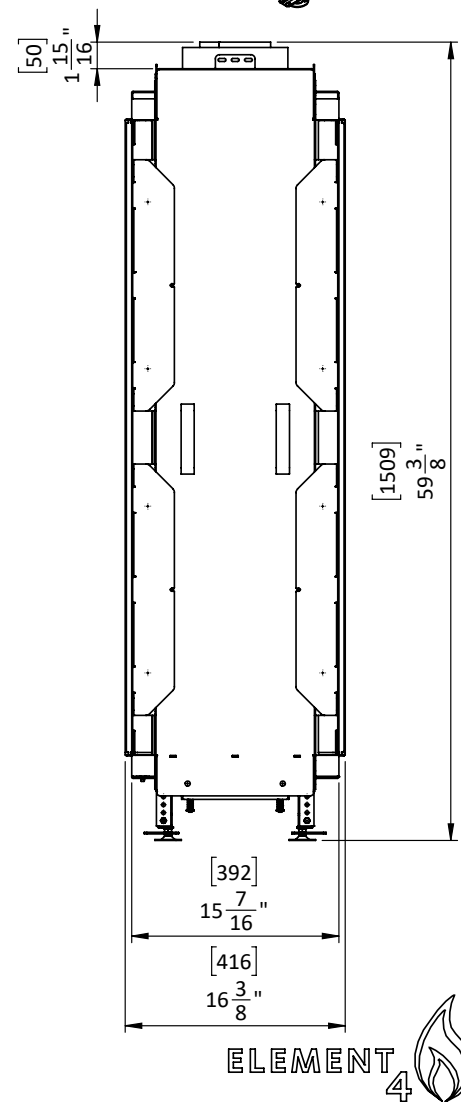
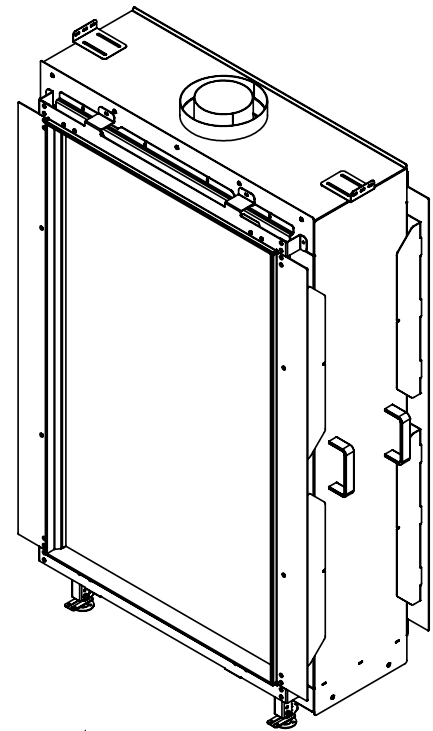


Figure E.D | Technical drawing of Sky M T

SKY S F

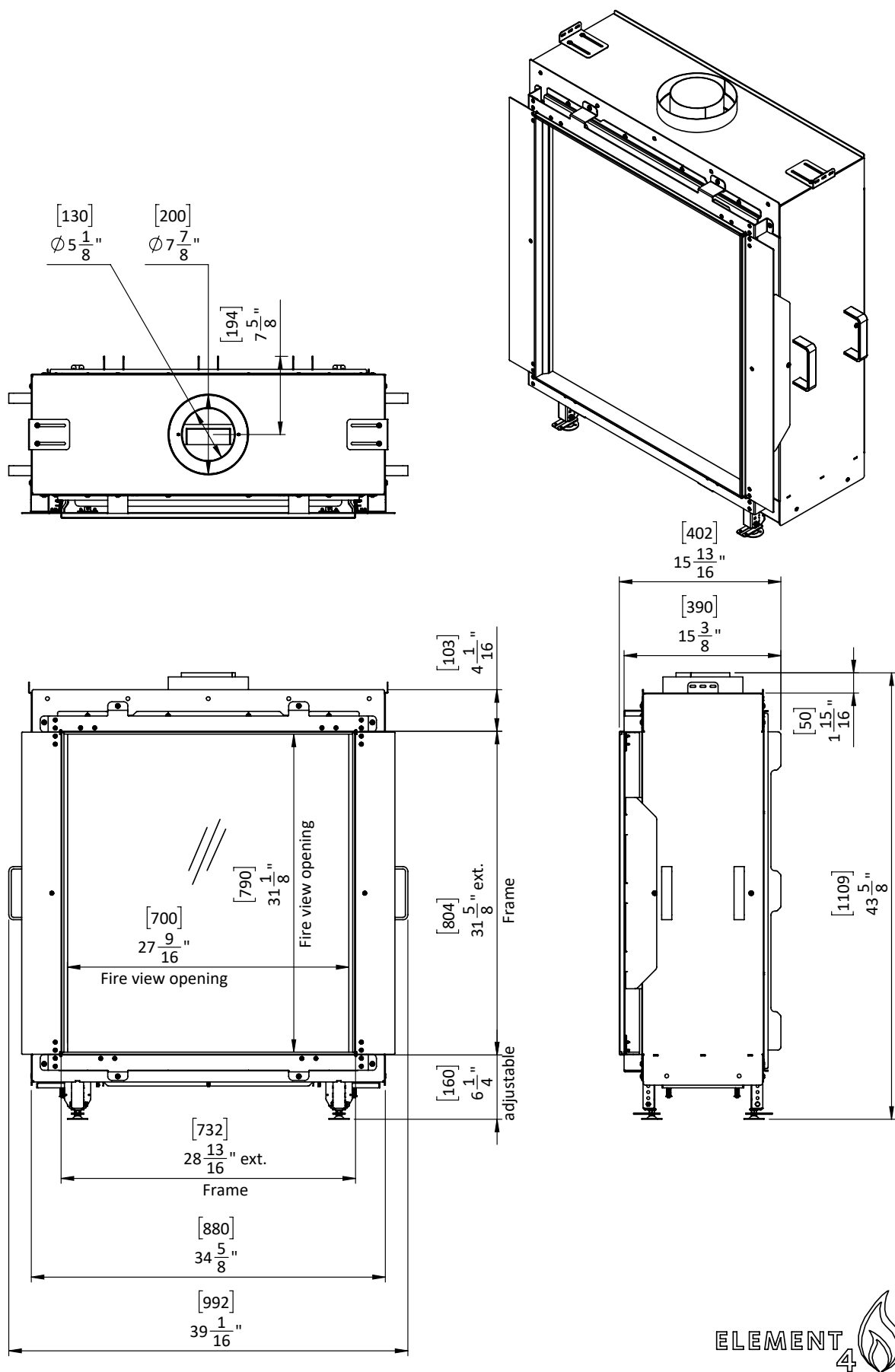


Figure E.E | Technical drawing of Sky S F

SKY S T

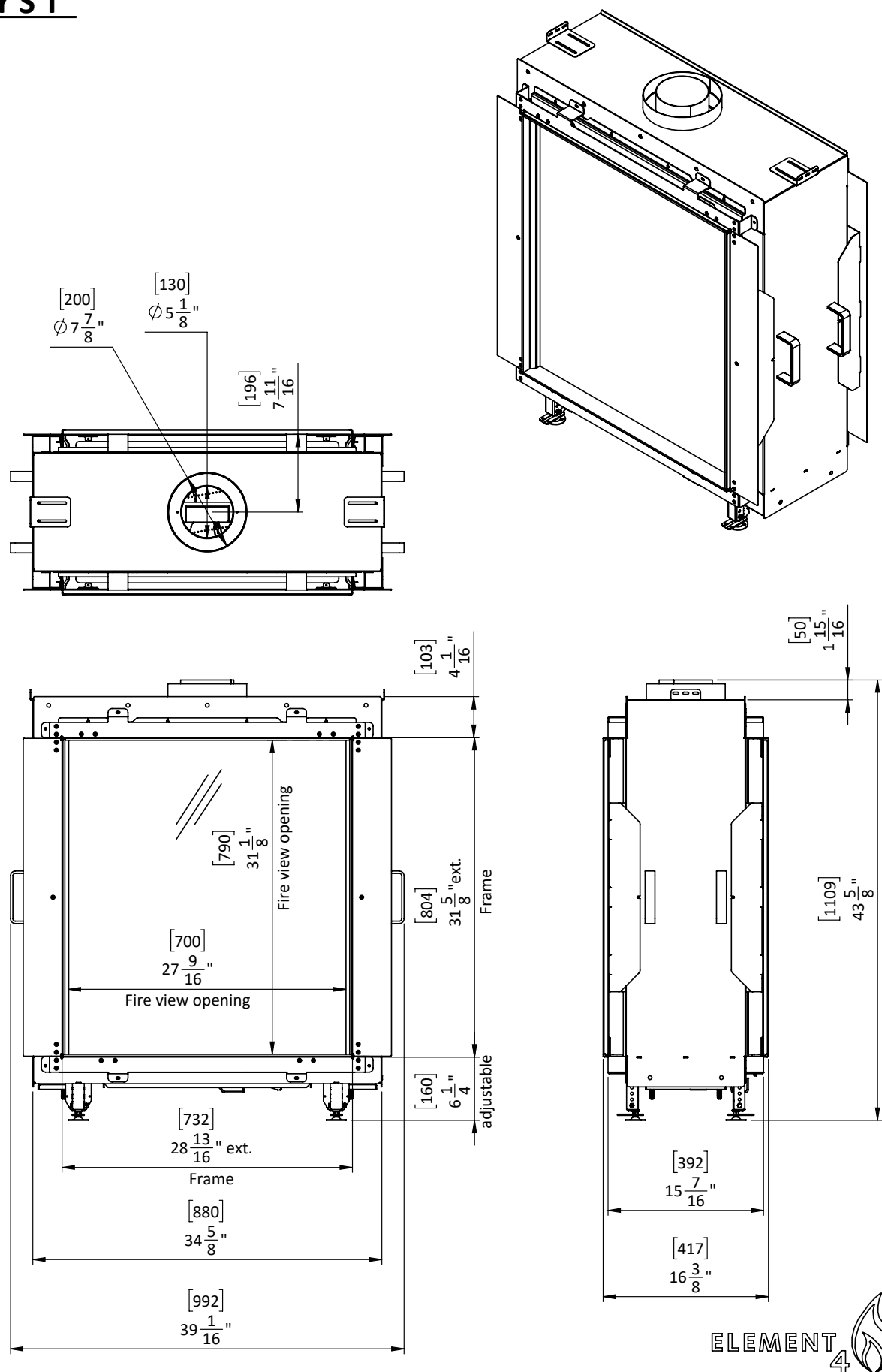
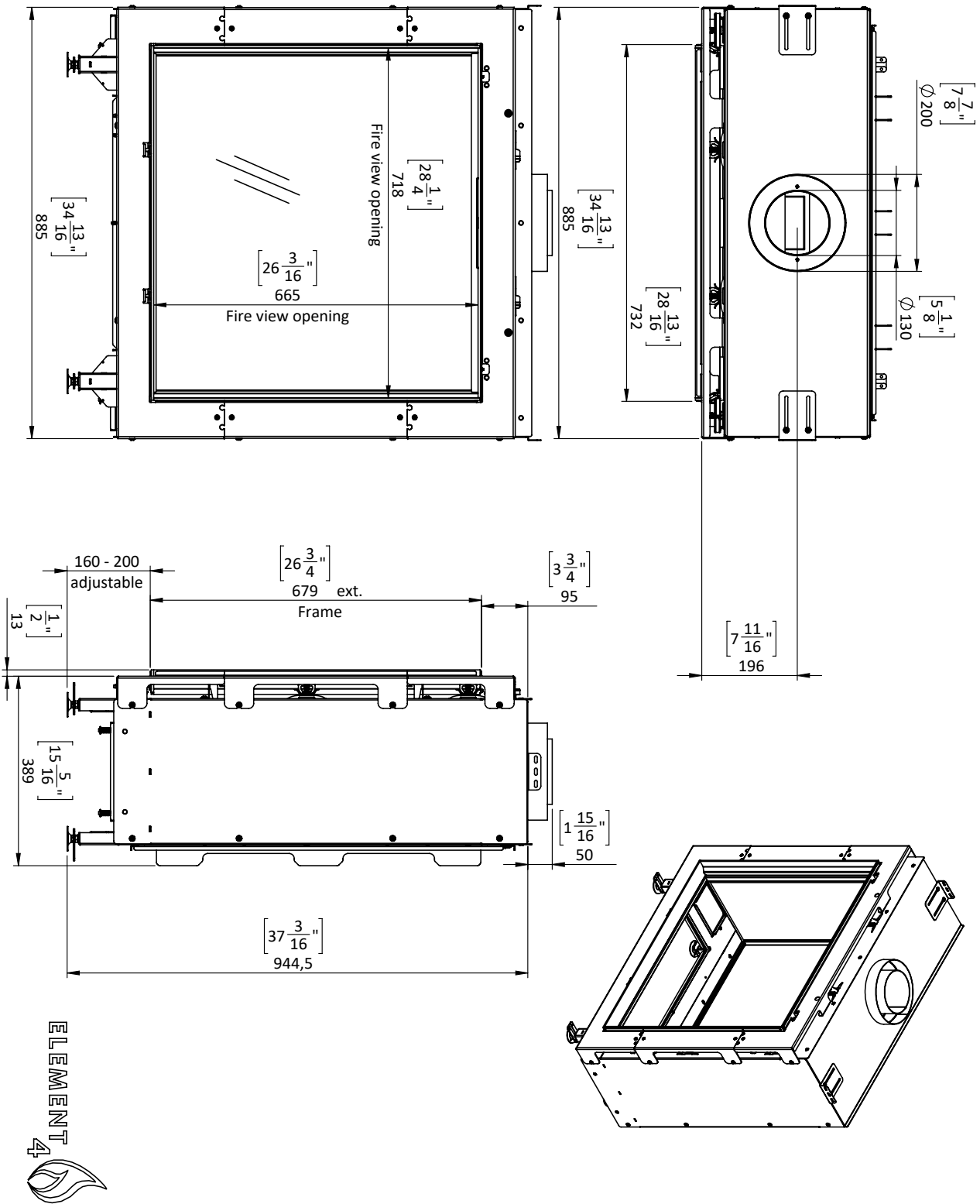


Figure E.F | Technical drawing of Sky S T

Sky SQ F



ELEMENT
4

Figure E.G | Technical drawing of Sky S T

F ELEMENT4 WARRANTY

Element4 Fireplace

Element4 warrants these gas fireplaces against defects in materials and workmanship for a period of TWO (2) YEARS from the date of original retail purchase. Glass is expressly NOT covered by this warranty.

If a defect exists, Element4 will, at its option, either (1) provide needed components using new or refurbished replacement parts or (2) exchange the product with one which is new or which has been manufactured from new or serviceable used parts and is at least functionally equivalent to the original product. A replacement product/part assumes the remaining warranty of the original product or ninety (90) days from the date of replacement or repair, whichever provides longer coverage for you.

When a product or part is exchanged, any replacement item becomes your property and the replaced item becomes the property of Element4. All warranty claims must be submitted through the dealer from which you purchased the product. Check with your dealer in advance for any costs to you when arranging a warranty call. Shipping and/or delivery charges for parts are not covered by this warranty.

Nothing in the above shall be deemed to imply that this warranty shall apply to work which has been abused or neglected or shows evidence of changes or modifications by others with or without permit, damages caused by the acts of God, building settlement or moving, fire or vandalism. In addition, installation of this product that varies from the requirements stated in the instruction manual will void the warranty.

PRODUCT INSTALLATION RECORD

Installer: Please complete this form.
Customer: Please retain this information.

Model (Check one)	☐ Sky LF b	☐ Sky MF b	☐ Sky SF b
	☐ Sky LT b	☐ Sky MT b	☐ Sky ST b
	☐ Sky LRD b	☐ Sky MRD b	☐ Sky SRD b
	☐ Bio 50i		
Purchased from			
Installed by			
Date of installation			
Fireplace serial number			
Total horizontal section (venting)			
Total vertical section (venting)			



Design & Assembly by:

ELEMENT 4 B.V.

Info@element4.nl

www.element4fires.com

RELEASE DATE | 06/11/25