

ELEMENT **4**



INSTALLATION MANUAL

SKY B SERIES - BIOETHANOL





DO NOT USE THIS PRODUCT AS A PRIMARY HEAT SOURCE

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

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1 CE STATEMENT

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

Product:

Local spaceheater on bioethanol

Models:

E4-16

- Sky b L F
- Sky b L T

E4-24

- Sky b M F
- Sky b M T

E4-34 RF

- Sky b S F
- Sky b S T

E4-36

- Sky b L RD

E4-37

- Sky b RD

E4-38

- Sky b S RD

E4-40

- Sky SQ F

Applicable harmonized norms:

- BS EN 16647:2015.

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



J. Kempers

CEO

2 IMPORTANT INFORMATION

2.1 SAFETY INFORMATION

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.

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

This device may not be used a primary heat source!

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 for use with Bioethanol of up to 96.6%.

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

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 50 centimetres 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.

2.2 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 WARRANTY

NB: Should a problem occur, that you are not able to fix yourself with the help of the support in **APPENDIX A to C**, please contact your installer or dealer.

The Element4 devices on which this warranty is applicable are made of high quality materials. Should any problem or defects still occur the following provision are in effect;

1. Before any installation, the installer will ensure himself of the good quality and operation of the flue channel. The gas fireplaces are to be installed by a competent installer, according to the rules and regulations that are applicable in the country (or even region) of installation and those as described in this manual.
2. There is a warranty period of two years for all Element4 devices, starting from the moment of purchase. The date of purchase should be mentioned clearly on the purchase invoice.
3. The ceramic glass is not included in the warranty, as are the physical or chemical outside influences during transport, storage or montage.
4. If a malfunction should occur during warranty period that is a consequence of an assembly error or material defect, Element4 will provide a free replacement part to the installer, without compensation for disassembly or montage.
5. In case the installer is not able to fix the problem himself, a request can be made to Element4 to do it for him, as long as the service can be done within the borders of the Benelux.
6. Only after consultation up front, the device or loose parts can be sent for check up or replacement. These goods should be sent with the necessary warranty documents and the date of purchase.
7. When a house visit should occur for service purposes by Element4 (within the borders of the Benelux) during warranty period, the right documentation (i.e. this page and a proof of purchase) should be available.

For a house visit for service, outside the warranty period, the following costs are being charged:

- Material costs
- Working hours
- Call-out costs

The warranty is not applicable in the following cases:

1. When one of the previous points is not met
2. When changes are made, of which Element4 is not made aware of / has approved of upfront
3. When device is not installed and/or used properly according to the installation manual.
4. When other than the prescribed decoration material is used.
5. When the device is installed (partially or fully) with other materials than prescribed in this manual.

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.

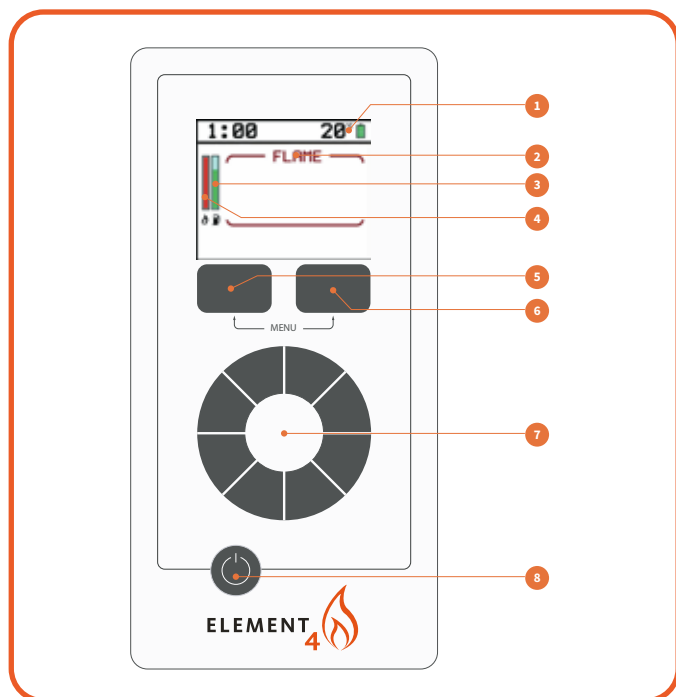


Figure 4.1 Remote control

1. Room temperature and battery level of remote control
2. Mode
3. Tank level
4. Flame height
5. Left menu button
6. Right menu button
7. Touch dial
8. 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 the power outlet.
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.

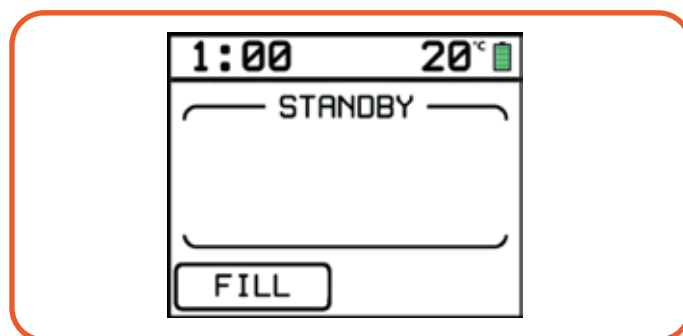


Figure 4.2 STANDBY mode

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

CAUTION: If the fire has burned or burned shortly before and has not yet cooled down sufficiently, the tank cannot be filled.



Figure 4.3 Quick coupling of filling hose extender

1. Make sure that the fireplace is connected to 230V mains 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.

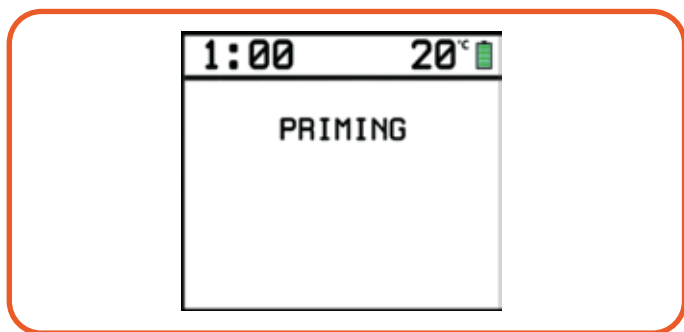


Figure. 4.4 Burner in PRIMING mode



Figure. 4.5 PRIMING: Fuel is going to be ignited

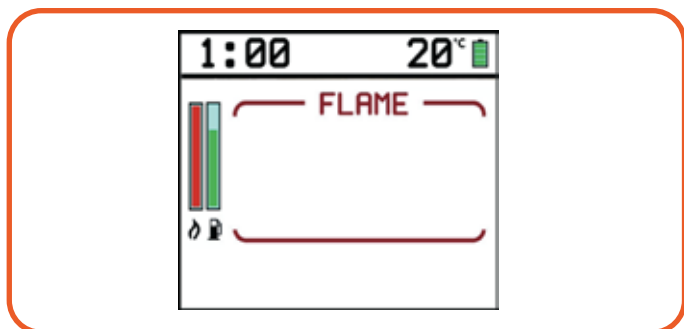


Figure. 4.6 FLAME-mode, burner is turned on

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 turn the touch dial clockwise.

To decrease the flame height, touch the ON button to activate the remote control and turn the touch dial counterclockwise.

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 fuel present will have to be burned up first.

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 a suitably qualified installer is used in the installation of this appliance. The installer can provide you with all the necessary information regarding the safety regulations of the installation.

5.1 FLUELESS OR BALANCED FLUE

This appliance can be installed either as a flueless fire (see [figure 5.1](#)) or as a closed appliance with a balanced flue concentric flue pipe (see [figure 5.2](#)). With a flueless installation, no flue is required. The chimney breast of the fireplace will require ventilation openings at the bottom and the top of at least 600cm² 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 balanced flue concentric option, then it is recommended that the home is a fully enclosed or mechanically ventilated home.

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.

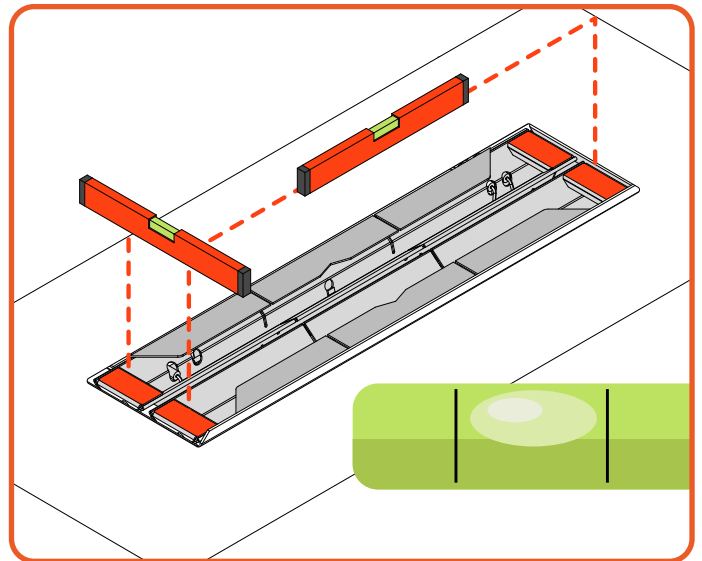


Figure 5.3 | Make sure the burner is level

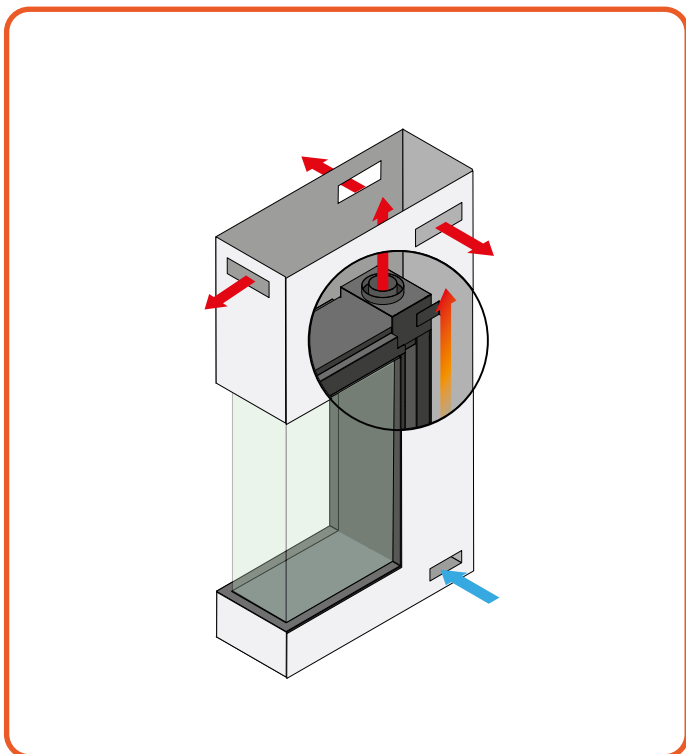


Figure 5.1 | Flueless installation

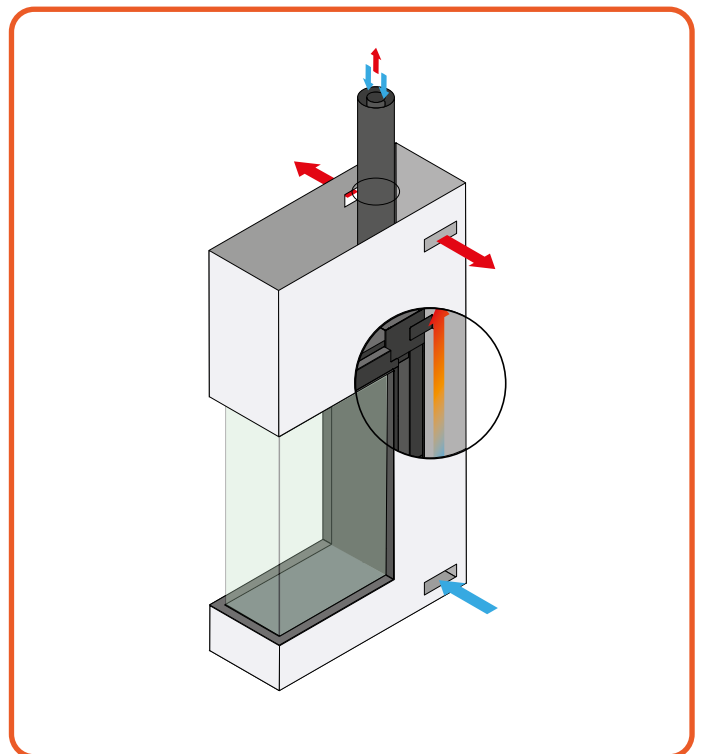


Figure 5.2 | Balanced flue installation

6 INSTALLATION INSTRUCTIONS

To install a 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 ROOMDIVIDER INSTALLATION GUIDELINES

The fireplace is supplied with a installation bracket. This bracket can 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.

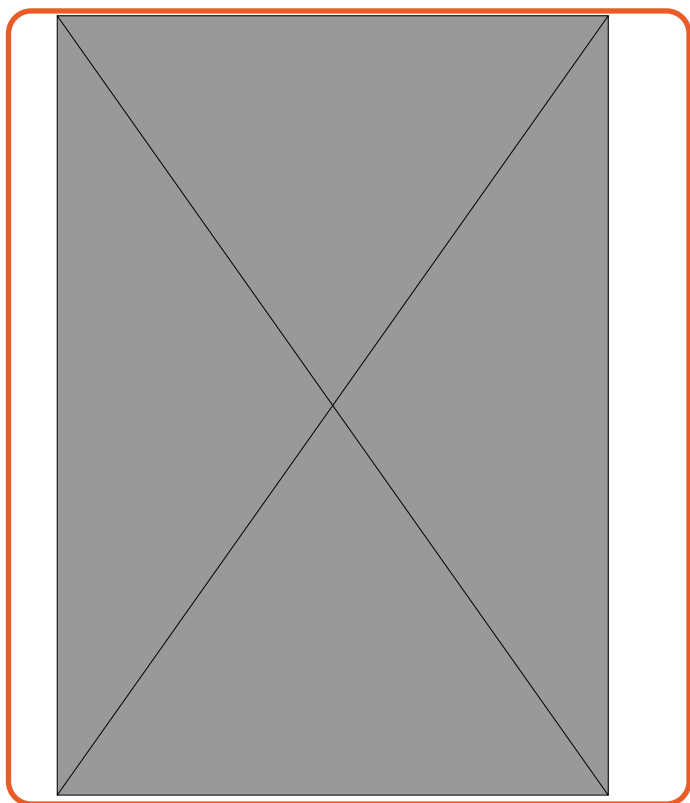


Figure 6.1 | Turnbuckles to mount fire to ceiling

6.2 FIRE SAFETY DEVICE SET-UP

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

Flammable materials, such as wood, can combust at a temperature of 85°C. At high temperatures this can happen within several minutes (over 200°C) or at lower temperatures (more than 85°C) this may occur over a period of weeks.

A gas fireplace can achieve temperatures of over 200°C. Therefore one should use only non-flammable materials around the fireplace and in the cove.

It is important to follow the installation regulations below carefully. If there are no regulations in the country of installation regarding aspects of fire safety then it is recommended to follow instructions according to NPR 3378-20:2010

6.2.1 PROTECTION OF WALL AND CEILING

There are two kinds of walls/ceilings that can be distinguished, respectively;

- Walls/ceilings made of flammable building materials or containing flammable building materials and all walls with flammable objects (e.g. built-in furniture, wooden panels) on the wall facing away from the fireplace.
- Walls/ceilings made of mineral building materials, such as aerated concrete, bricks, sand-lime brick, etc. thicker than 10 cm.

6.3 FIRE-SAFE ASSEMBLY REGULATIONS

6.3.1 GENERAL ASSEMBLY REGULATIONS

- Load-bearing walls and ceilings must be covered in a protective fire resistant plate.
- Never use flammable materials around the fireplace or cove. The minimal distance between the device and non-flammable materials must be at 50 mm to ensure a convection air flow. 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.

6.3.2 ASSEMBLY REGULATIONS FOR NON-FLAMMABLE MATERIALS

(Figure 6.3 | and Figure 6.4 |)

- Make sure there is a good air ventilation in the cove. The temperature that leaves through the ventilation grilles must not be higher than 85°C. Therefore one should always make sure there are enough ventilation grilles in the upper and lower parts of the cove.

6.3.3 ASSEMBLY REGULATIONS WITH FLAMMABLE MATERIALS

For reference see Figure 6.2 | and Figure 6.5 | on the next page.

- Cover the walls/ceilings with a non-flammable, fire resistant plate, according to EN 13501-1:A2
- Place a non-flammable, fire resistant plate in front of the first one at a distance of 20mm or more.
- Make sure that the two plates are not attached to each other by screws or nails. Due to their conductivity these metals can cause a heat bridge through which a fire may occur over time!

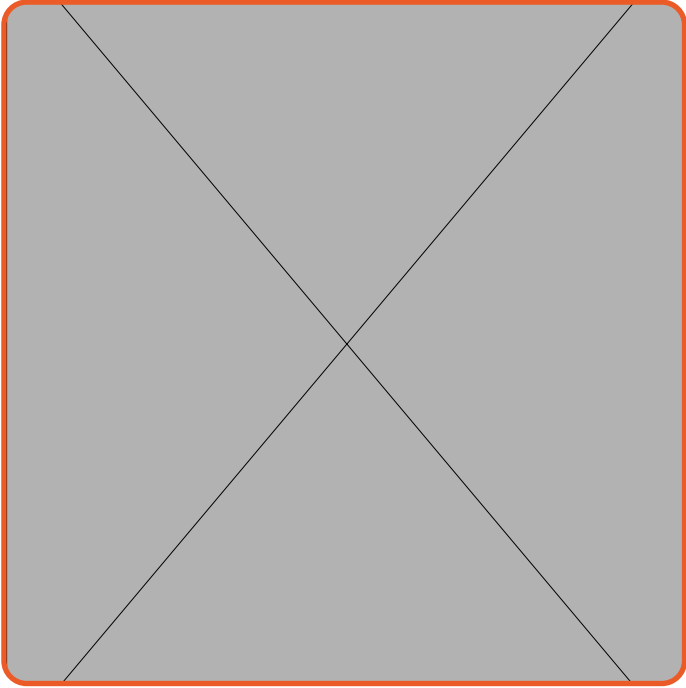


Figure 6.3 | C11: Flue situation Non-Flammable materials

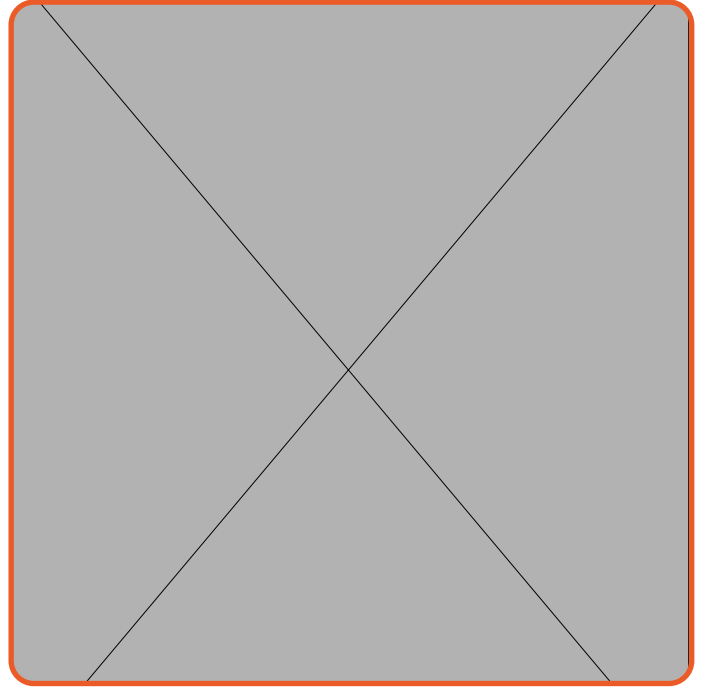


Figure 6.5 | C11: Flue situation Flammable materials

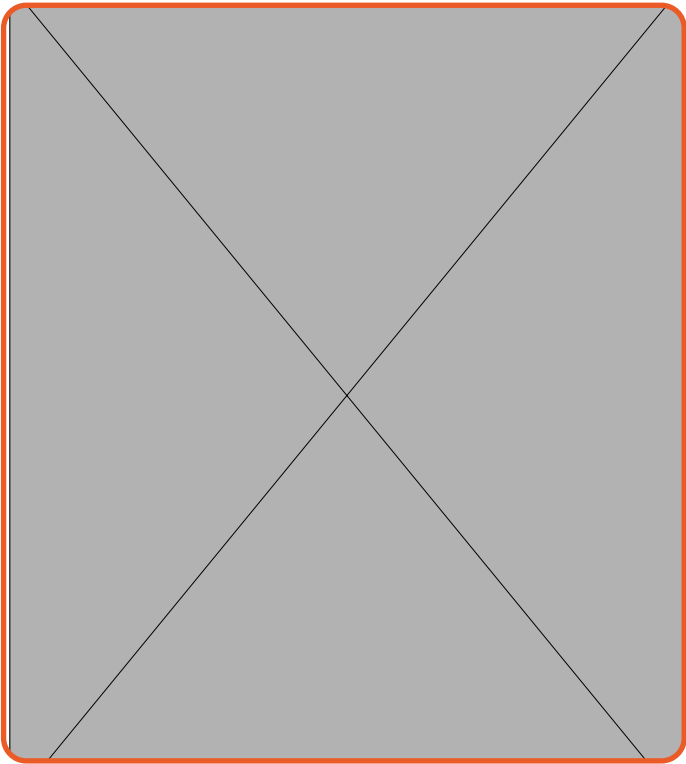


Figure 6.4 | C31: Flue situation Non-Flammable materials

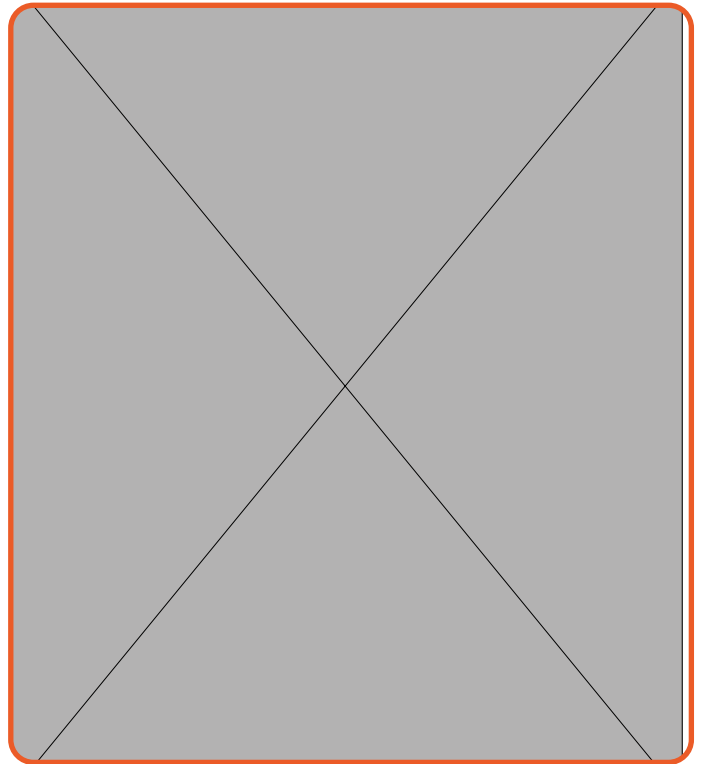


Figure 6.2 | C31: Flue situation Flammable materials

#	Description
A ₁	Non-Combustible Wall
A ₂	Combustible Wall
B	Fire resistant wall cover
C	Air pocket between fire resistant wall covers (≥20mm)
D	False ceiling
E ₁	Convection opening(s) top side (flueless: least 600cm ² , balanced flue: 300cm ²)
E ₂	Convection opening(s) bottom side (flueless: least 600cm ² , balanced flue: 300cm ²)
F	Casing of non flammable material

G	Glass exterior of fireplace <ul style="list-style-type: none"> • NB: Radiant distance to flammable objects ≥400mm • Outside of the fireplace (~200°C)
H	Fire resistant flue pipe cover
I	Non-flammable protective floorboard
d ₁	Distance ceiling to false ceiling (≥100mm)
d ₂	Distance fireplace to non flammable floor (≥100mm)
d ₃	Distance ceiling to convection openings (≥400mm)

Caution: Above images also apply to flueless installations

6.4 OTHER RULES REGARDING HEAT IN YOUR INSTALLATION

When igniting a fireplace three types of heat are emitted from it. These three types have different requirements to be taken into account.

6.4.1 RADIANT HEAT

Radiant heat is the pleasant warmth we all like when thinking about a fireplace.

When the fireplace is turned on, radiant heat will escape through the ceramic glass and metal exterior of the fireplace 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 40cm.

Floor protection

Between the device and the ground a minimal distance of 10cm is to be taken into account. The temperature of the floor under the device needs to be less than 85°C and the floor of the conversion around the fireplace is to be constructed of non-flammable materials. If necessary the floor is to be covered with an insulation layer to protect it from unauthorized temperatures.

It is also allowed to position the fireplace on an elevated platform. The platform also needs to meet the requirements for a safe installation.

6.4.2 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 an enclosure, most of the air surrounding the fireplace warmed up, is located inside the enclosure.

Hot air will rise up in the false chimney breast (see Figure 6.6) also between the wall panels as in Figure 6.5 and Figure 6.2. If the false

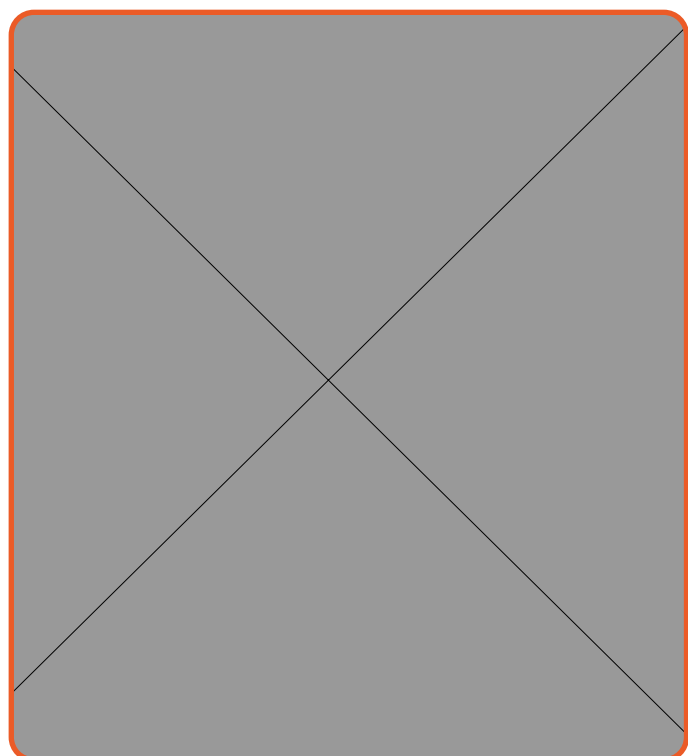


Figure 6.6 | Air flow between wall covers

chimney breast is not ventilated then the hot air could expand up to the point where the false chimney breast could crack or break. Therefore several precautions need to be taken into account,

Hot air outlets / ventilation grills

In order to vent the hot air from the top of the false chimney breast a ventilation grill is required (Figure 6.7). The ventilation grills are to be placed at a minimal distance of 20cm from the ceiling and 40cm from any built-in furniture from the side, any flammable material or load-bearing concrete parts.

False ceiling

To avoid heat accumulation in the cove a non-flammable false ceiling must be placed above the grilles. The ventilation grills need to be easy to clean at all times.

6.4.3 ELECTRICAL PIPES

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

6.4.4 ADDITIONAL PRECAUTIONS FOR FLUELESS INSTALLATIONS

Flueless appliances generate higher temperatures within the chimney breast than conventional flued installations. Ensure that all materials used in the construction of the chimney breast are suitable for continuous exposure to elevated temperatures. Standard plasterboard is not considered suitable unless adequately protected with approved non-combustible, heat-resistant insulation boards. Thin Ytong (AAC) block walls may also require additional thermal protection to prevent excessive heat transfer and potential cracking. Always use non-combustible construction materials and provide suitable insulation where necessary.

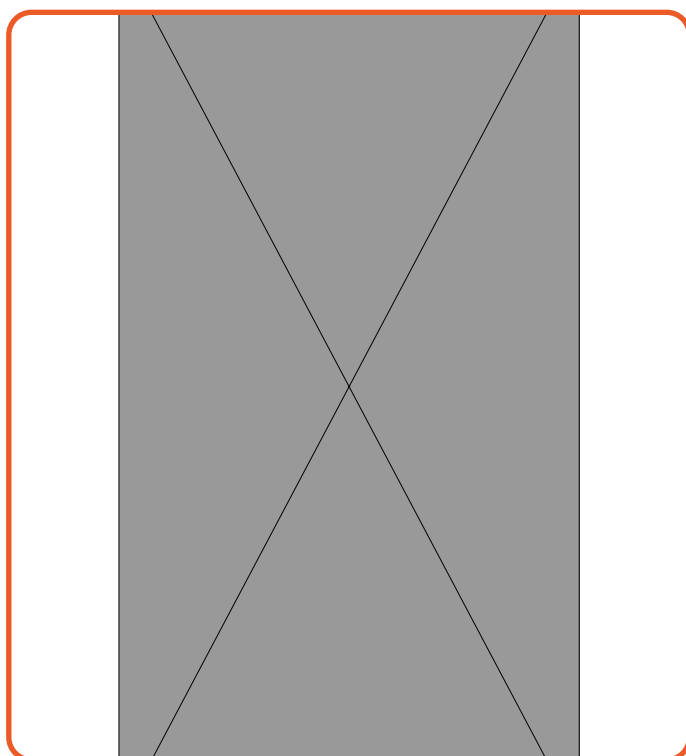


Figure 6.7 | Air exhausts

7 ATTENTION POINTS FLUE GAS EXTRACTION

To guarantee the fire safety regarding you flue gas configuration a casing is necessary. For this case non-combustible materials should be used. Make sure to 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.

For help with the flue see the flue calculation page on the Element4 website: <https://www.element4.nl/flue-calculation>

7.1 DETERMINING THE FLUE GAS EXTRACTION DIAMETER

The Sky series fireplaces have a flue diameter of 200/130. The maximal vertical length is 22m. There is no minimal start length for these fireplaces, which means that you can start with a bend directly on the fireplace.

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.

7.1.1 REFERENCE THE FLUE CALCULATION

In order to ascertain whether your intended flue run is suitable it is necessary to establish as to whether the flue run will end with either a roof terminal or a wall terminal (see **APPENDIX D**) This determines which calculation table to use.

Each category refers to a set of tables:

1. A table for horizontal outlet.
2. A table for vertical outlet

You must use the table applicable to you. You calculate your **total vertical section (TVS)** as well as your **total horizontal section (THS)**. In the table you will find advice; TVS on the vertical axis and THS on the horizontal axis.

7.2 BENDS

Be aware of the bends in your flue. They provide extra resistance in the system and must therefore be included in the TVS and THS.

There are 2 bend types as per the example in **Figure 7.2**:

- Type N bends: 45° and 90° bends from vertical to horizontal and vice versa.
- Type Q bends: 45° and 90° bends from horizontal to horizontal.

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

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

- 90° bend in the horizontal section counts as 2 horizontal meters in the THS.
- 45° bend in the horizontal section counts as 1 horizontal meter in the THS

Extraction sections in a 45° upward pipe:

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

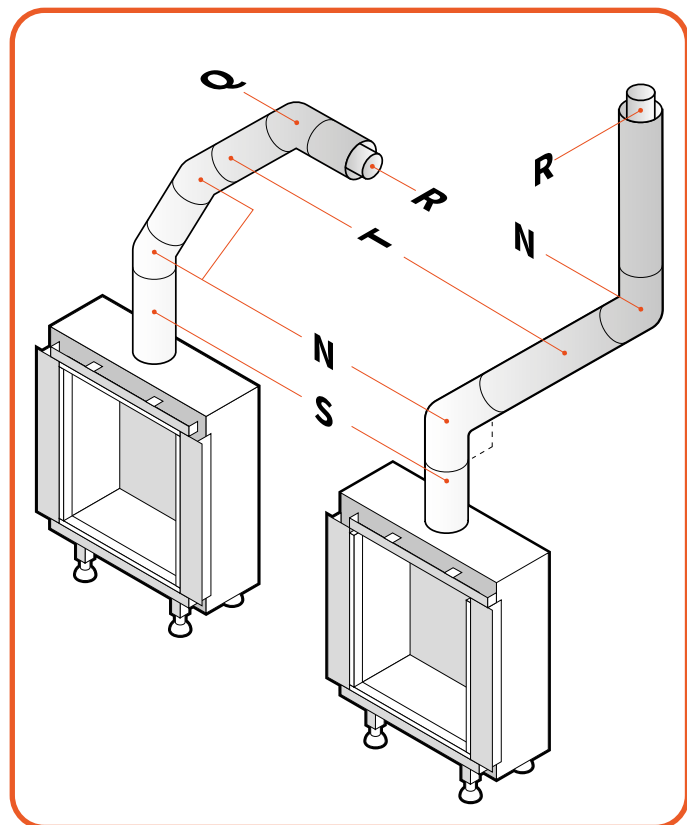


Figure 7.8 | Flue bends examples

R	Horizontal or vertical terminal
N	Bend 45° & 90° vertical to horizontal and vice versa
Q	Bend 45° & 90° horizontal to horizontal
T	Pipe section horizontal
S	Pipe section vertical

Table 7.1 |

7.2.1 CALCULATE FLUE LENGTH

Not all parts can be adjusted! To fit the drainage system correctly, you are to use an adjustable fitting. You can use an adjustable concentric pipe, wall or roof fitting. To get a sealed flue gasconnection, the inner pipe must always be 2 cm longer than the outer pipe. Always attach adjustable parts with a chuck parker.

For proper operation of the fireplace it is important that the flue pipe meets the requirements. To determine this, we prepared a chart. (See **APPENDIX E**)

The following outcomes can be found for each intersection of TVS and THS;

Result	Action
V	Suitable Flue
X	No good operation guaranteed

7.3 INSTALLATION OF FLUE MATERIAL

Follow the following instructions for the installation of flue materials;

- Drill a hole of 210 mm for a flue with a diameter of 200 m.
- In a situation of non-combustible materials keep a distance of at least 50 mm between the outside of the concentric pipes and the wall or ceiling.
- 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.
- Build up the system from the fireplace.
- Assemble pipes in the correct direction! The inner pipe goes into and the outer pipe goes over the fireplace connection.
- Make sure the tubes are sufficiently braced, so the weight of the tubes are not supported on the fireplace.
- The concentric 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.
- The horizontal flue sections must be fitted sloping to the fireplace.
- In case of long horizontal stretches, it is advised to install a tap point into the flue, at its lowest point, to be able to drain the condensation formed during burning of gas.

8 SAFETY

The Element4 bioethanol fireplace has several safety systems to ensure that it can be used in the safest way. Nevertheless, a few things must be taken into account:

- Never cover your fireplace;
- Keep flammable materials away from flames and sources of ignition;
- Keep children and animals away from the fireplace;
- In case of bioethanol spillage, wipe it up with a dry soft paper or cloth and avoid open flames nearby.
- Please note: the fireplace gets hot during use, so do not touch it for 15 minutes after the flame has completely extinguished.
- Do not fill the fuel tank while the burner is still hot, wait for it to cool down;
- Never pour bioethanol over active fire;
- After extinguishing the flames, wait at least 3 minutes before re-igniting;
- In case of uncontrolled flames, use a fire blanket or extinguisher.
- Do not use water to extinguish the fire;
- After extinguishing the fire, it takes a few minutes for the flames to be completely extinguished;
- In the event that bioethanol is spilled while filling the tank, all parts must be absorbed and dried before an ignition attempt is made;
- The construction elements above the appliance must be made of non-combustible material.
- Do not fill the device before installing it.

8.1 LEAK DETECTION SENSORS

There are leak detection sensors under the burner on the lowest part of the sump and also on the bottom pan below the pumps as shown in [Figure 8.1](#) and [Figure 8.2](#). If there is a leak, the fire will go out by itself. A strong beep sounds through the safety system on the device..

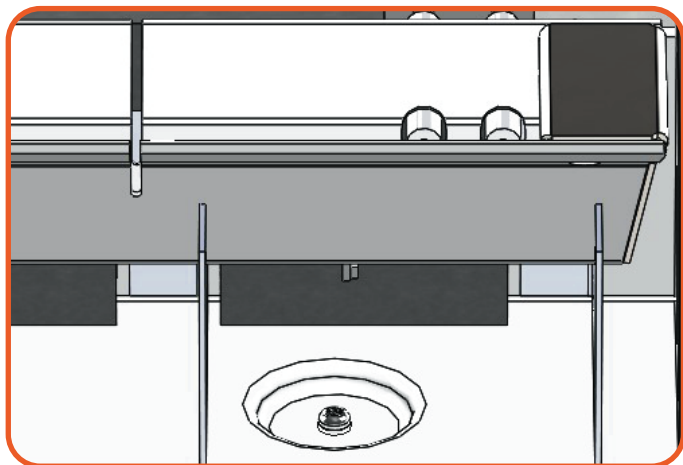


Figure 8.1 | Leak detection sensor underneath burner

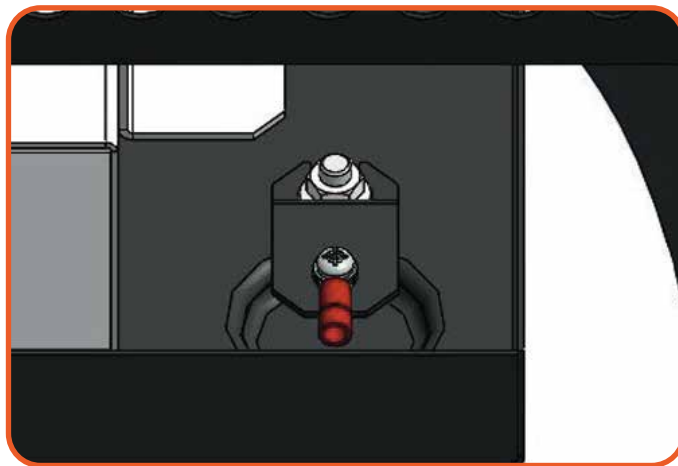


Figure 8.2 | Leak detection sensor on lowest point

8.2 OVERFLOW DETECTION SENSORS

The Bioethanol Fireplace is also equipped with overflow sensors designed to ensure user safety in the event of accidental damage to the pump or electronics. In the event that excess fuel is pumped into the burner, the sensor is activated to turn off the fire. The device will not light up until it is reset again by turning the main power source OFF and ON.

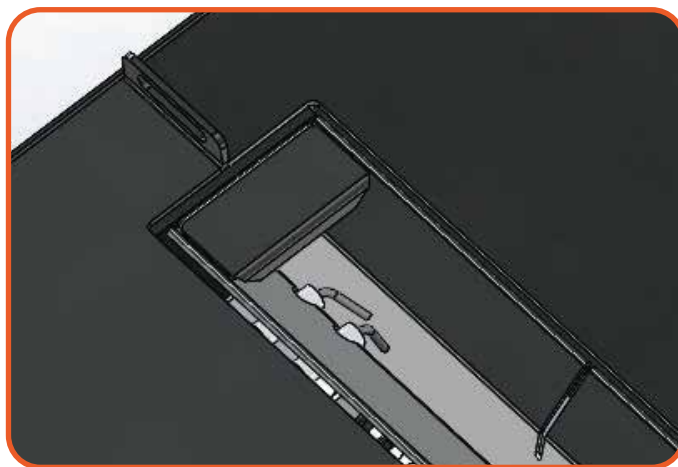


Figure 8.3 | Overflow detection sensor

9 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.

9.1 MAINTENANCE IN THE COMBUSTION CHAMBER

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

9.1.1 (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.

9.1.2 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.

9.2 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.

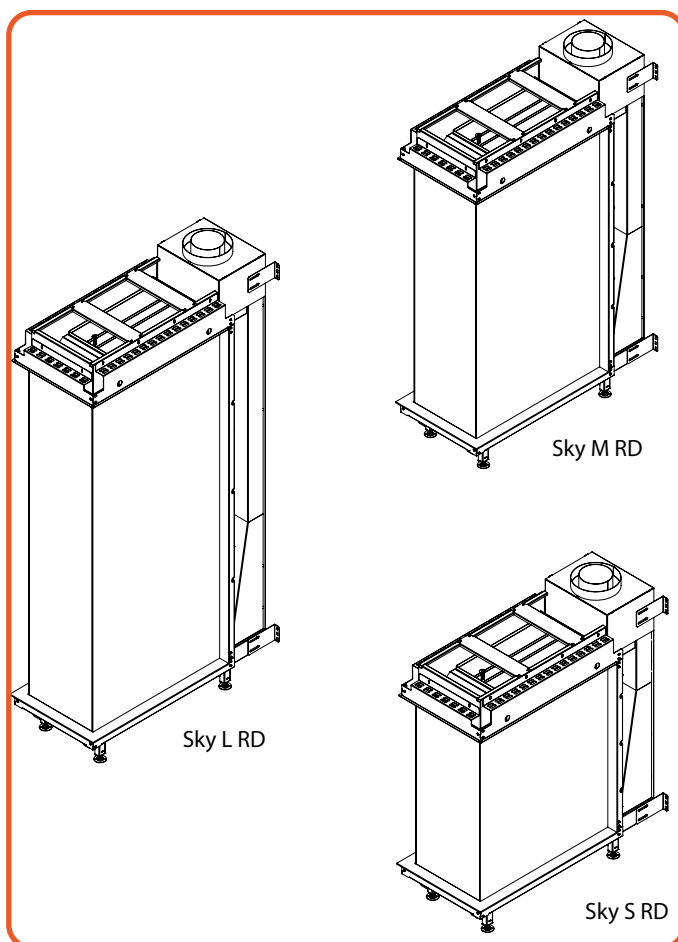


Figure 9.1 | Isometric view Sky L RD, M RD, S RD

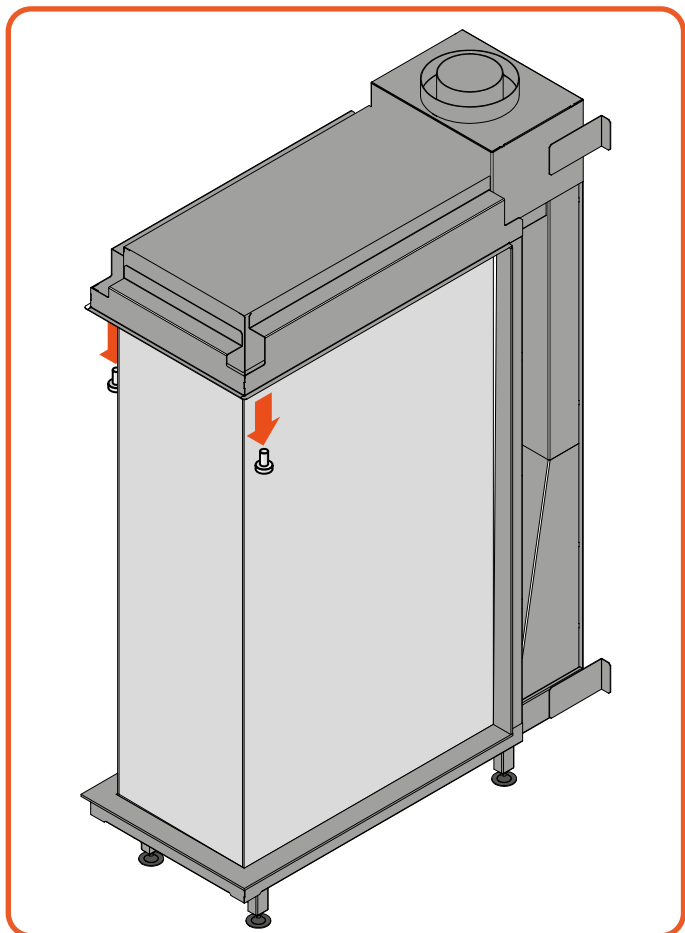


Figure 9.2 | Unscrew top trim

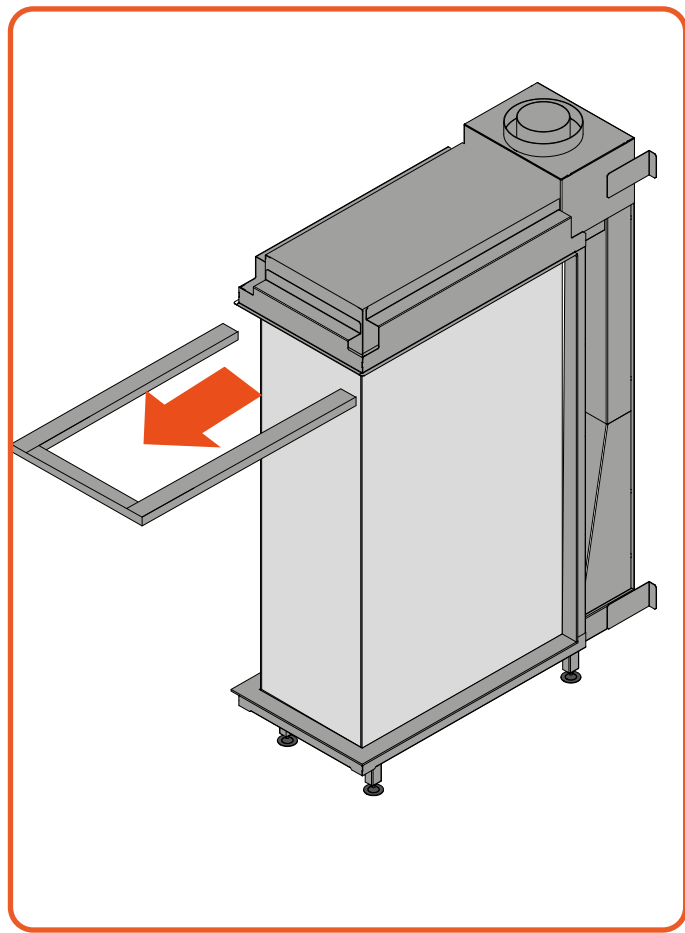


Figure 9.3 | Remove top trim

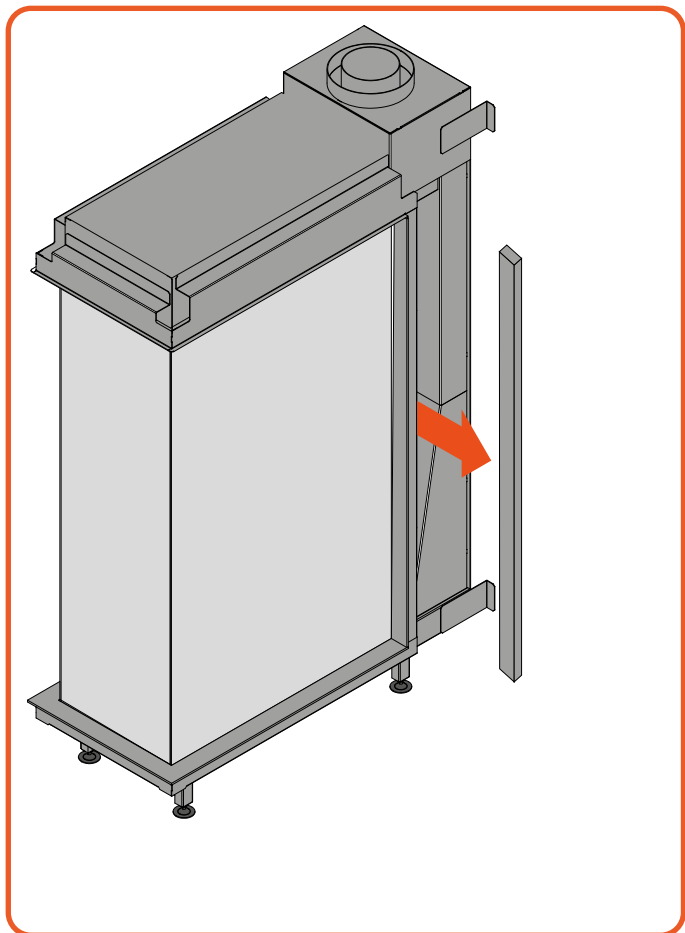


Figure 9.4 | Remove side trims

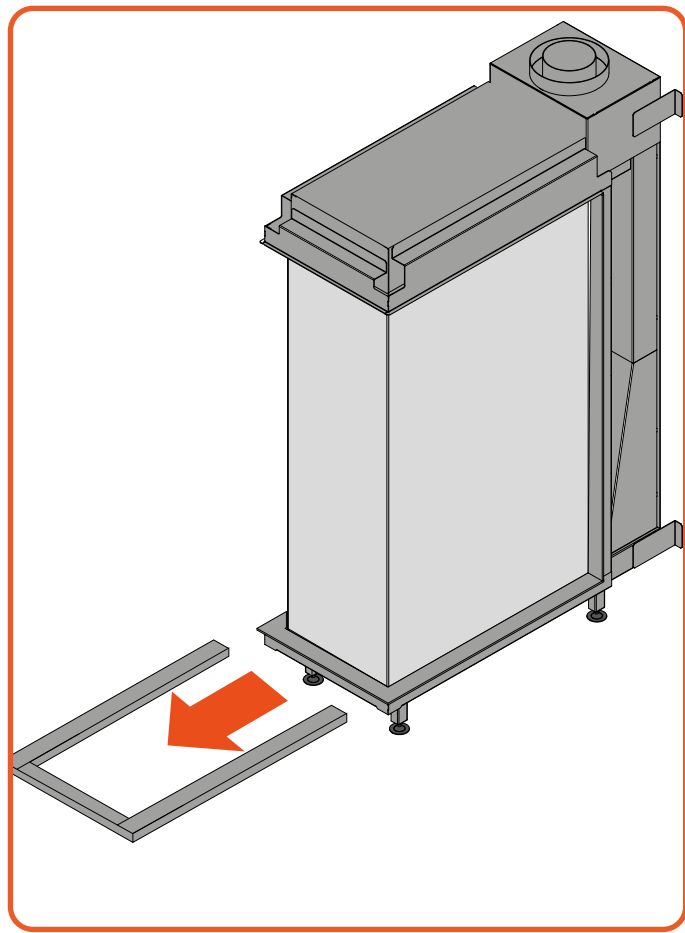


Figure 9.5 | Remove bottom trim

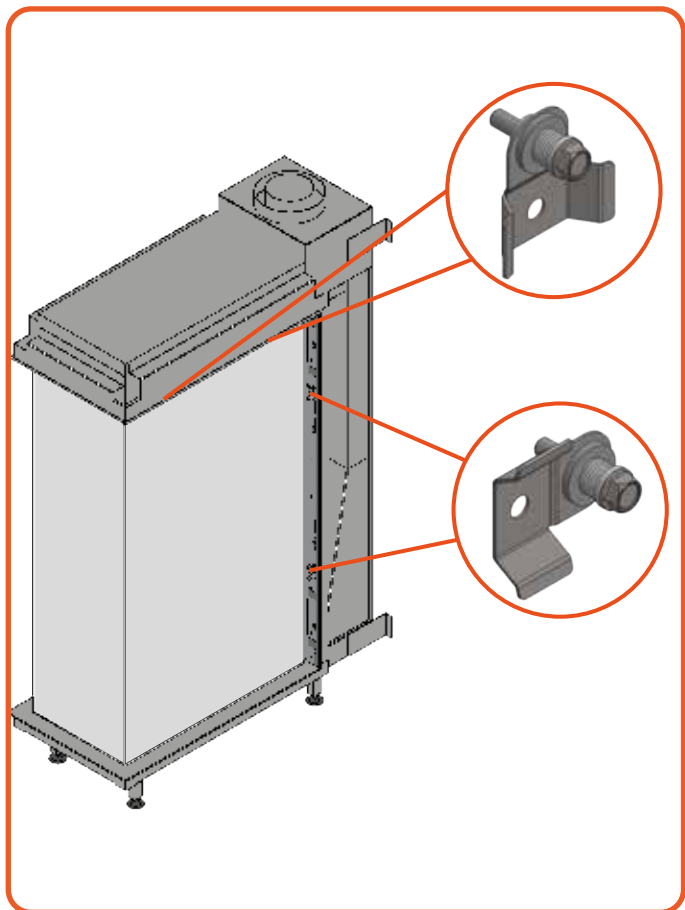


Figure 9.6 | Rotate glass clamps

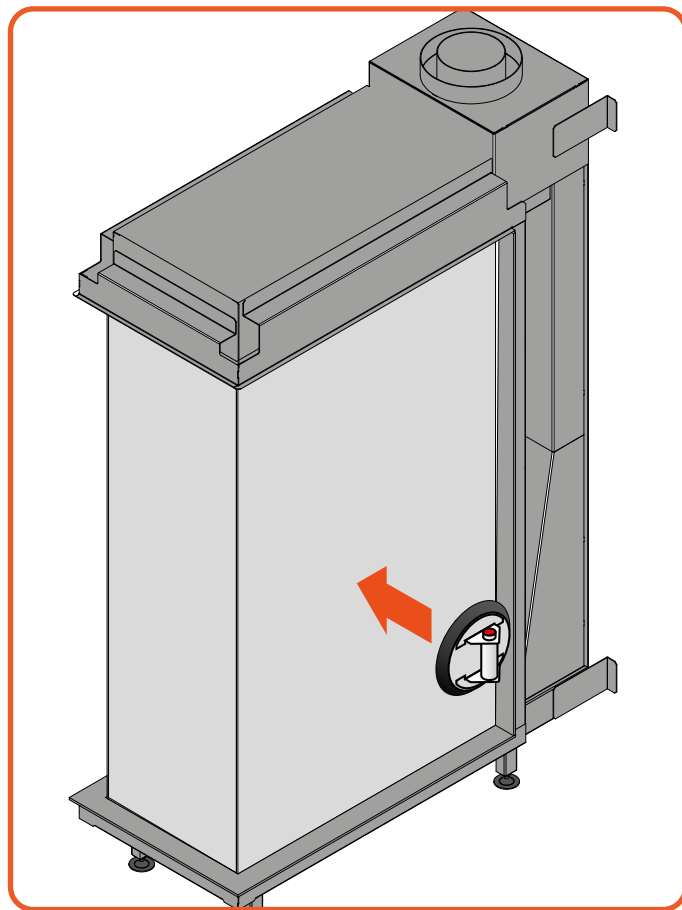


Figure 9.8 | Place Suction cup on the glass

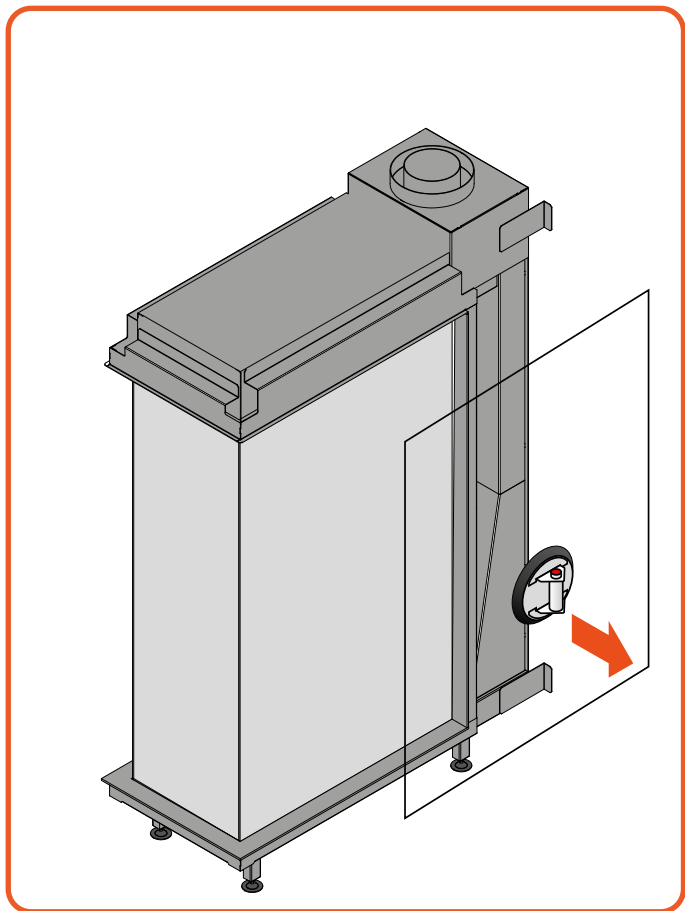


Figure 9.7 | Carefully lift the glass out of the fireplace

10 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.

10.1 MAINTENANCE IN THE COMBUSTION CHAMBER

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

10.1.1 (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.

10.1.2 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.

10.2 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.

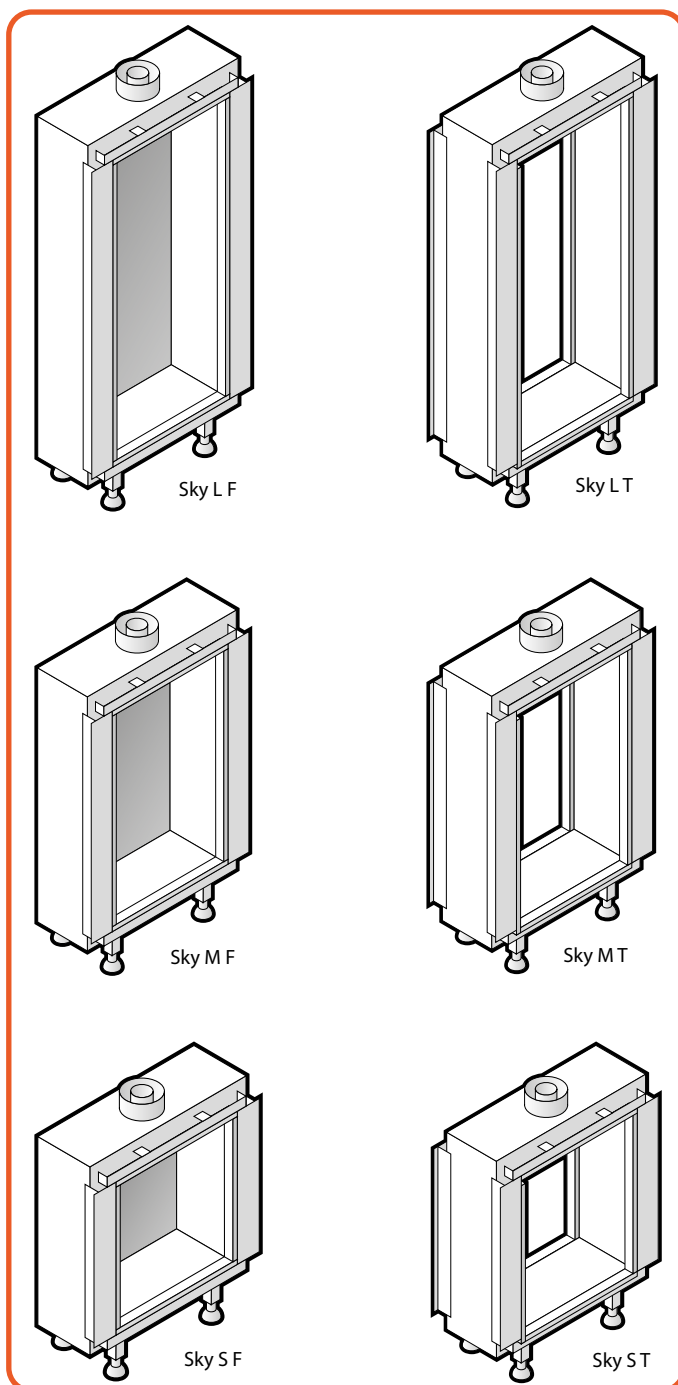


Figure 10.1 | Isometric view Sky Models

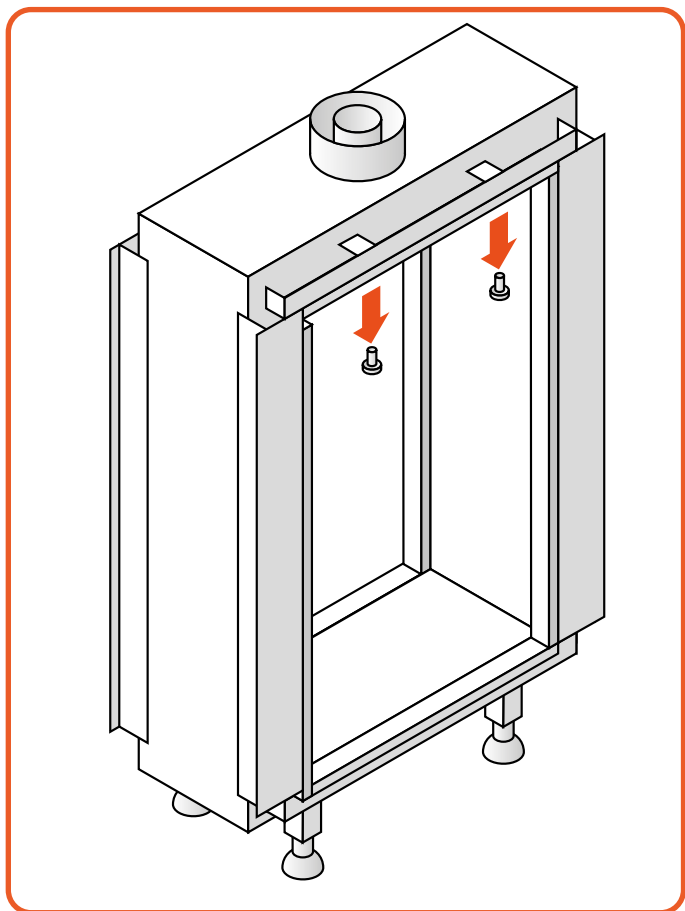


Figure 10.2 | Remove screws upper trim

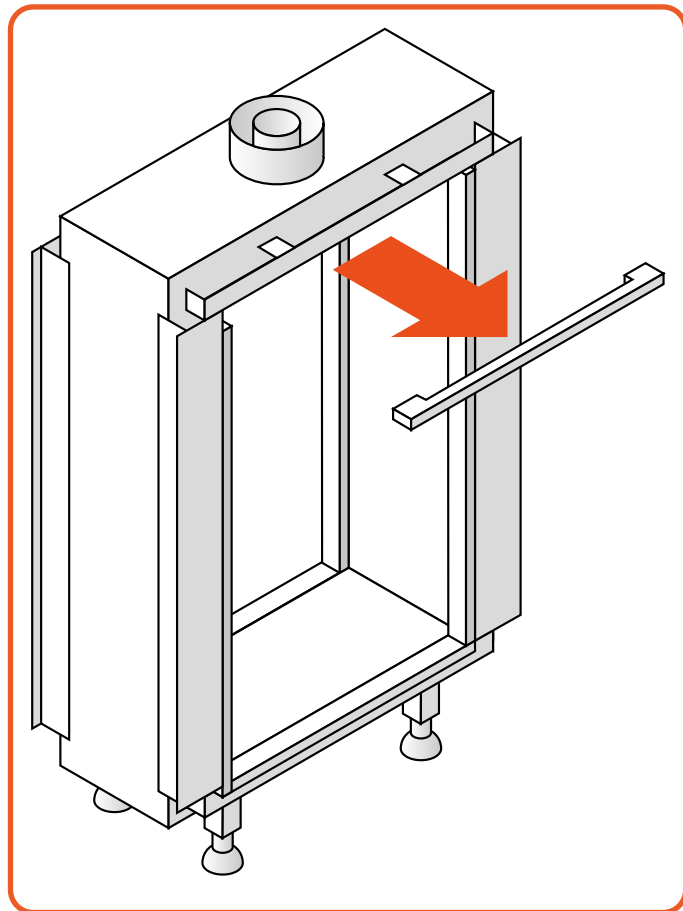


Figure 10.3 | Remove upper trim

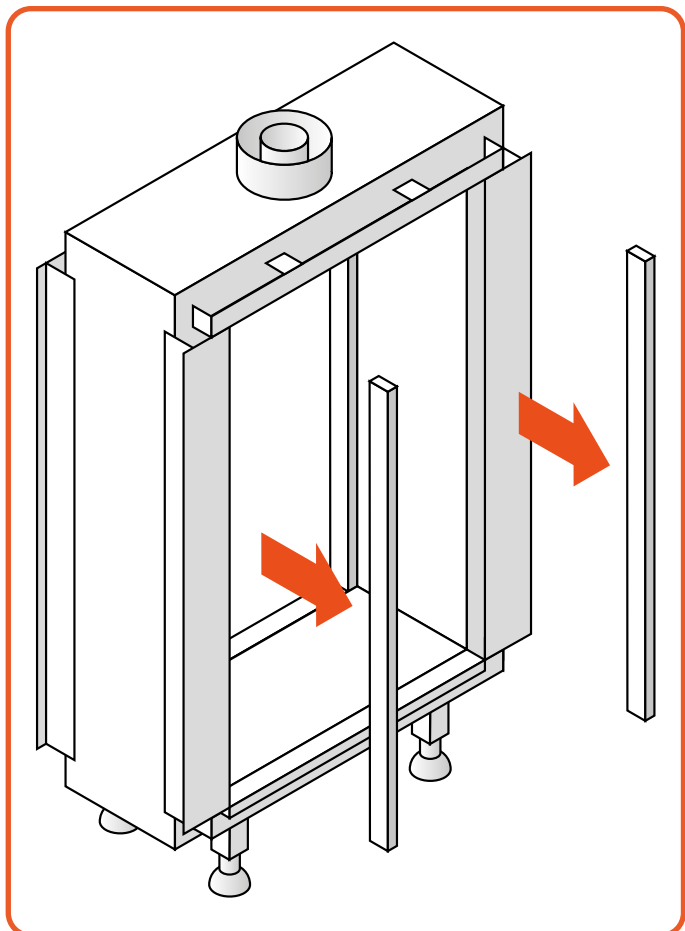


Figure 10.4 | Remove side trims

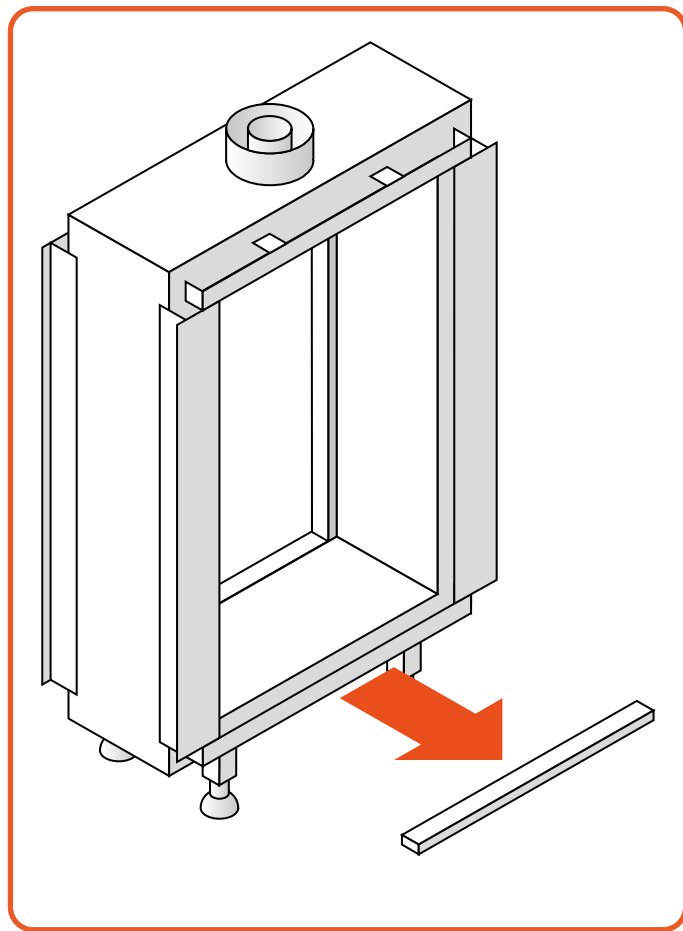


Figure 10.5 | Remove bottom trim

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

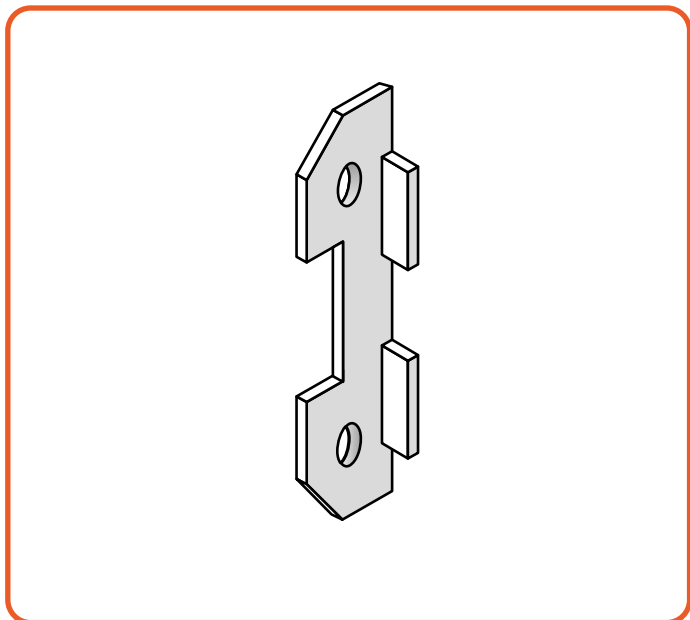


Figure 10.6 | Screwed glass brackets

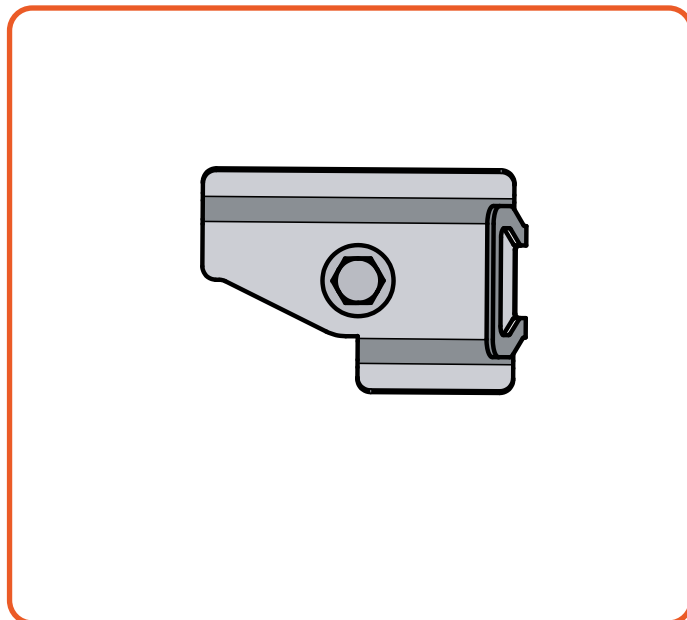


Figure 10.7 | Spring loaded glass clamps

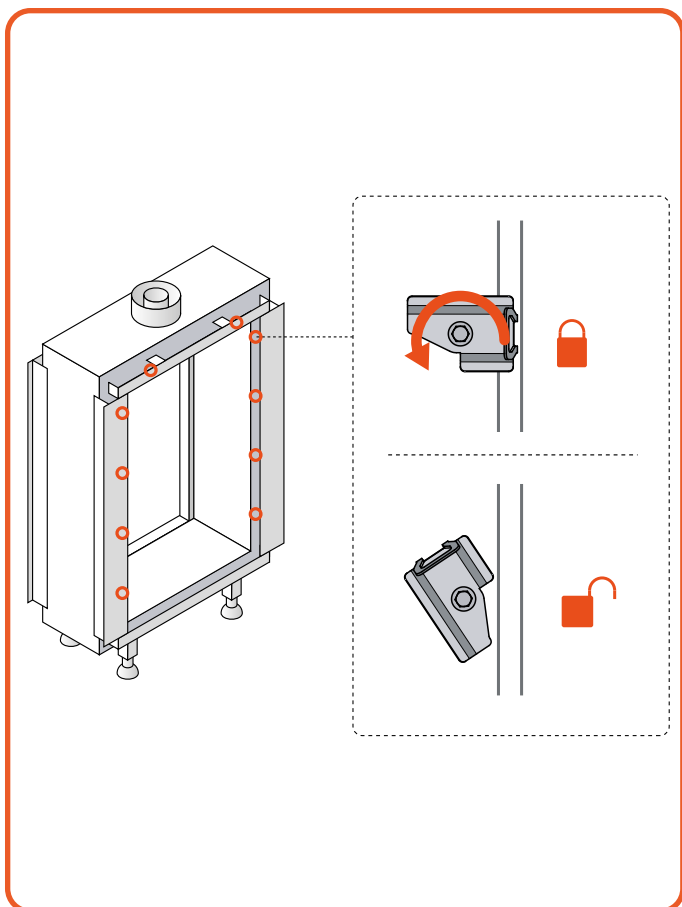


Figure 10.8 | Turn glass clamps to release glass

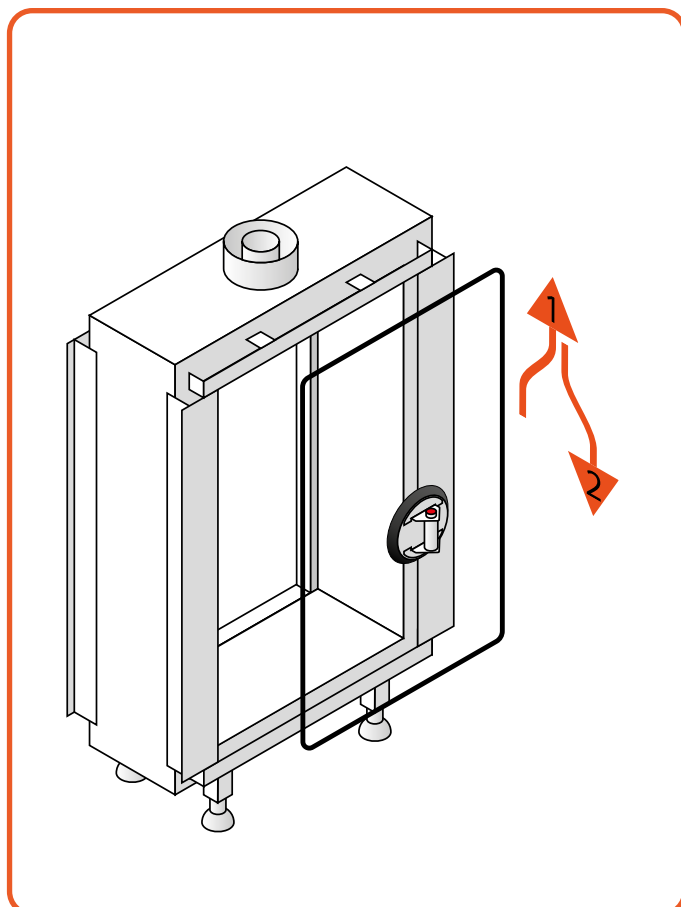


Figure 10.9 | Carefully lift the glass out of the fireplace

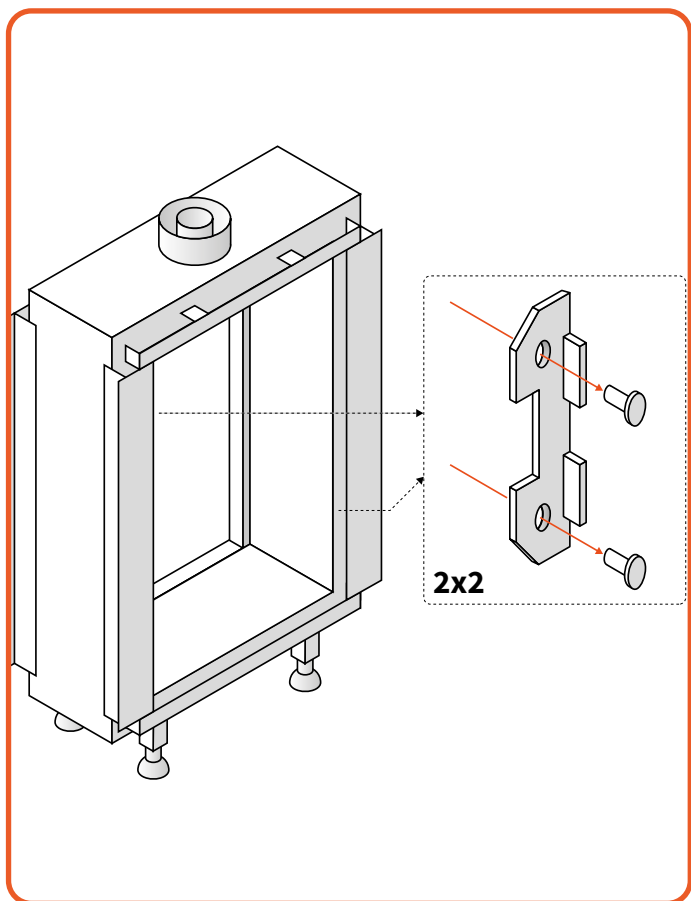


Figure 10.10 | Remove glass brackets

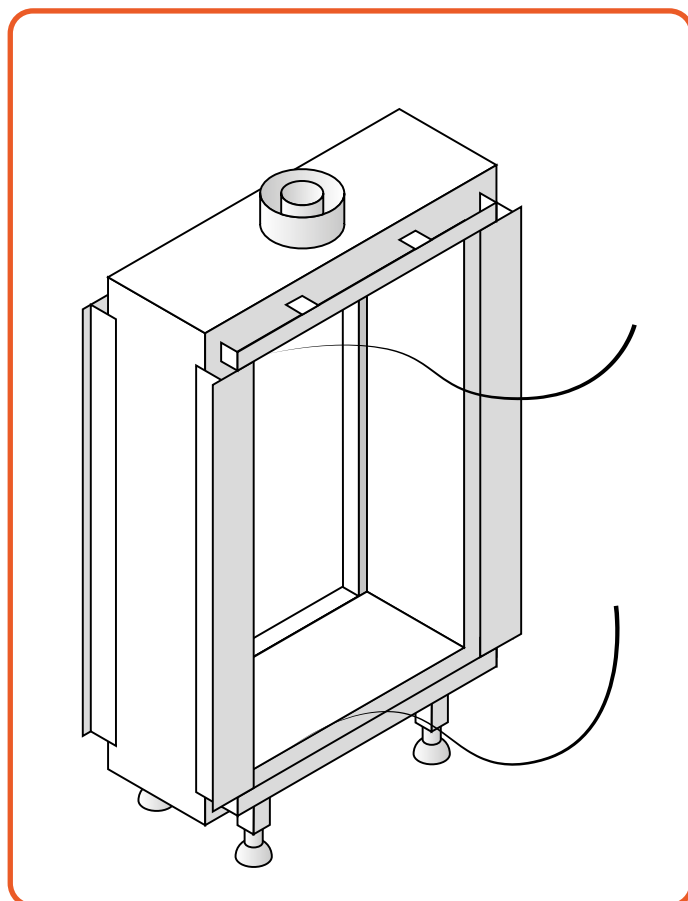


Figure 10.11 | Remove glass rope

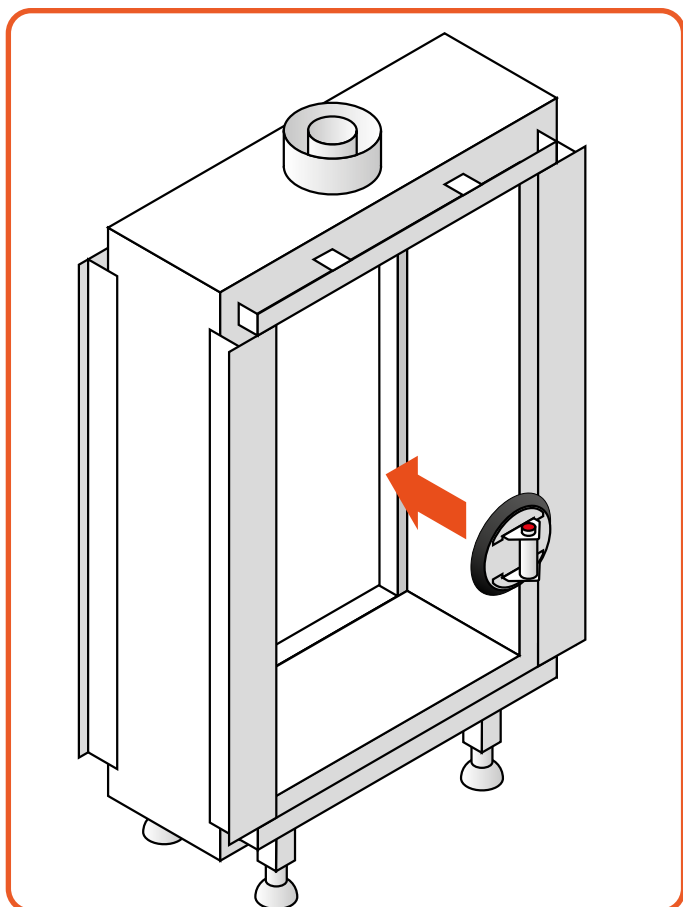


Figure 10.12 | Place suction cup on the glass

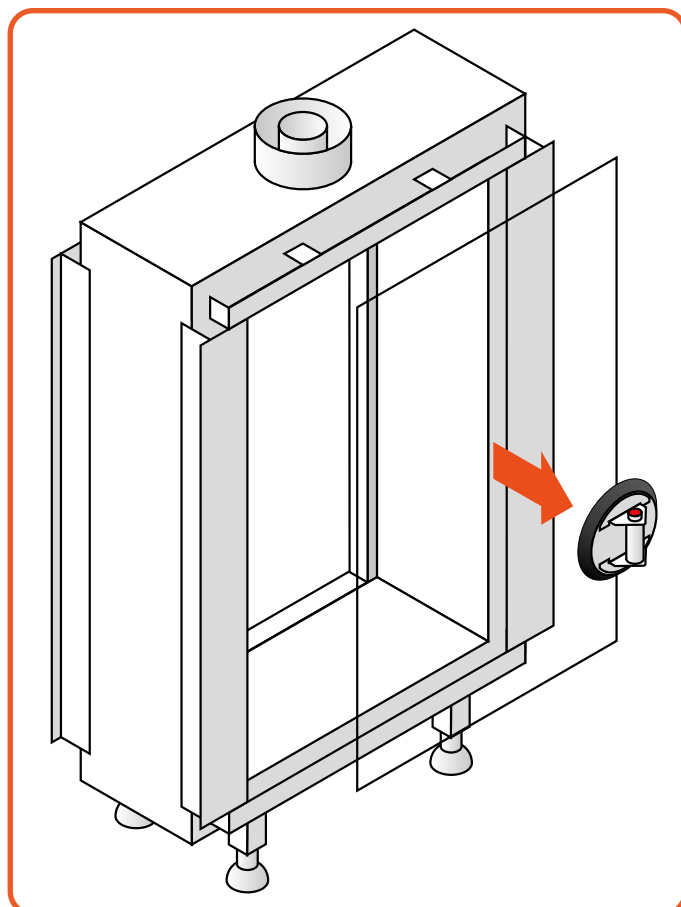


Figure 10.13 | Carefully lift the glass out of the fireplace

7 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 7.6 |

7.2.1 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.

7.2.2 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.

7.2.3 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.

7.2.4 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.

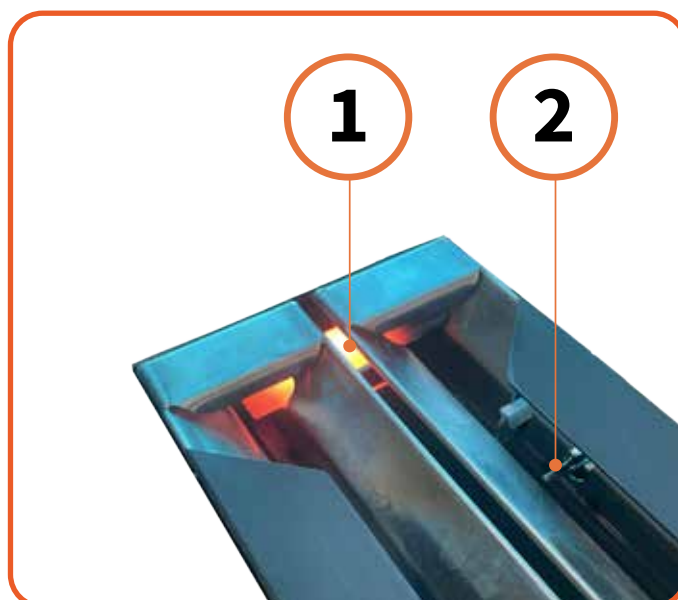


Figure 7.1 | Location of starter and thermocouple

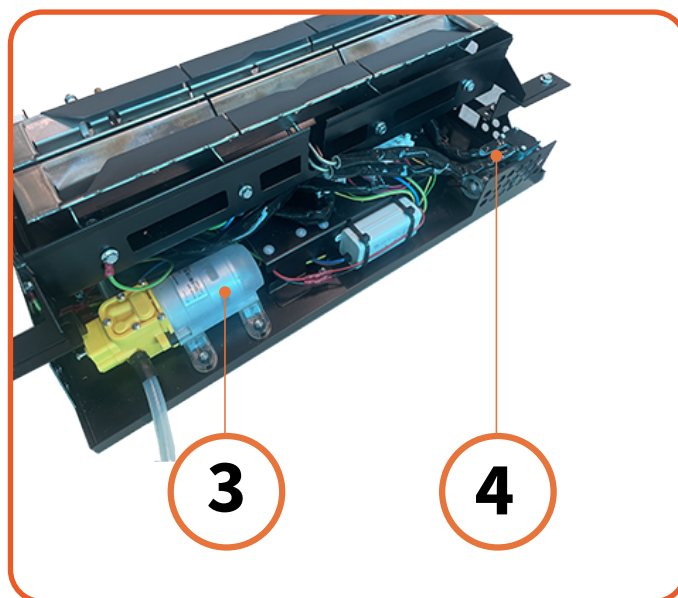


Figure 7.2 | Location of fill pump en fuel pump

12 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.

12.1 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 in.

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

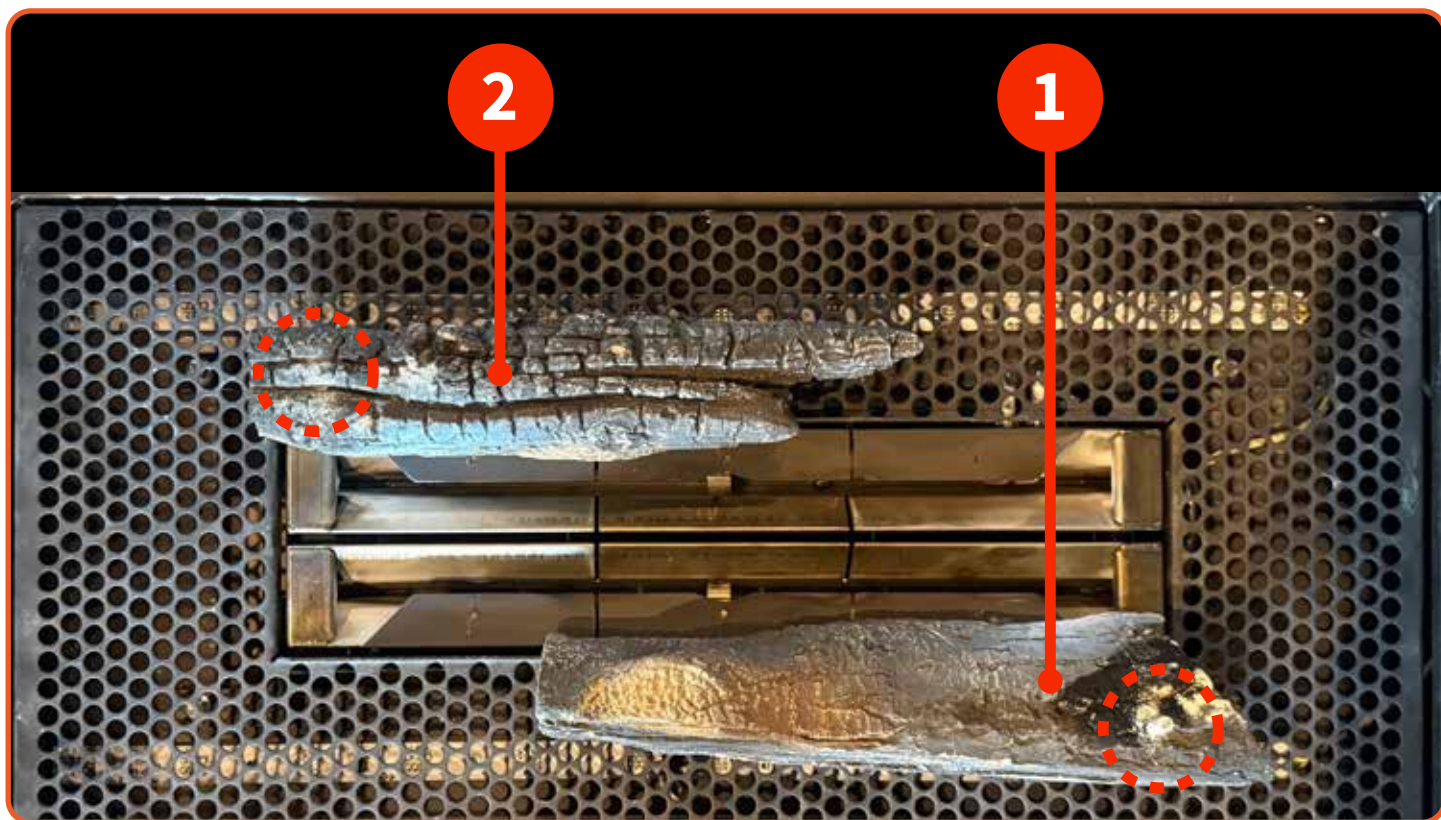


Figure 12.1 | Logset Sky Bioethanol series



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 12.2 | Step 1



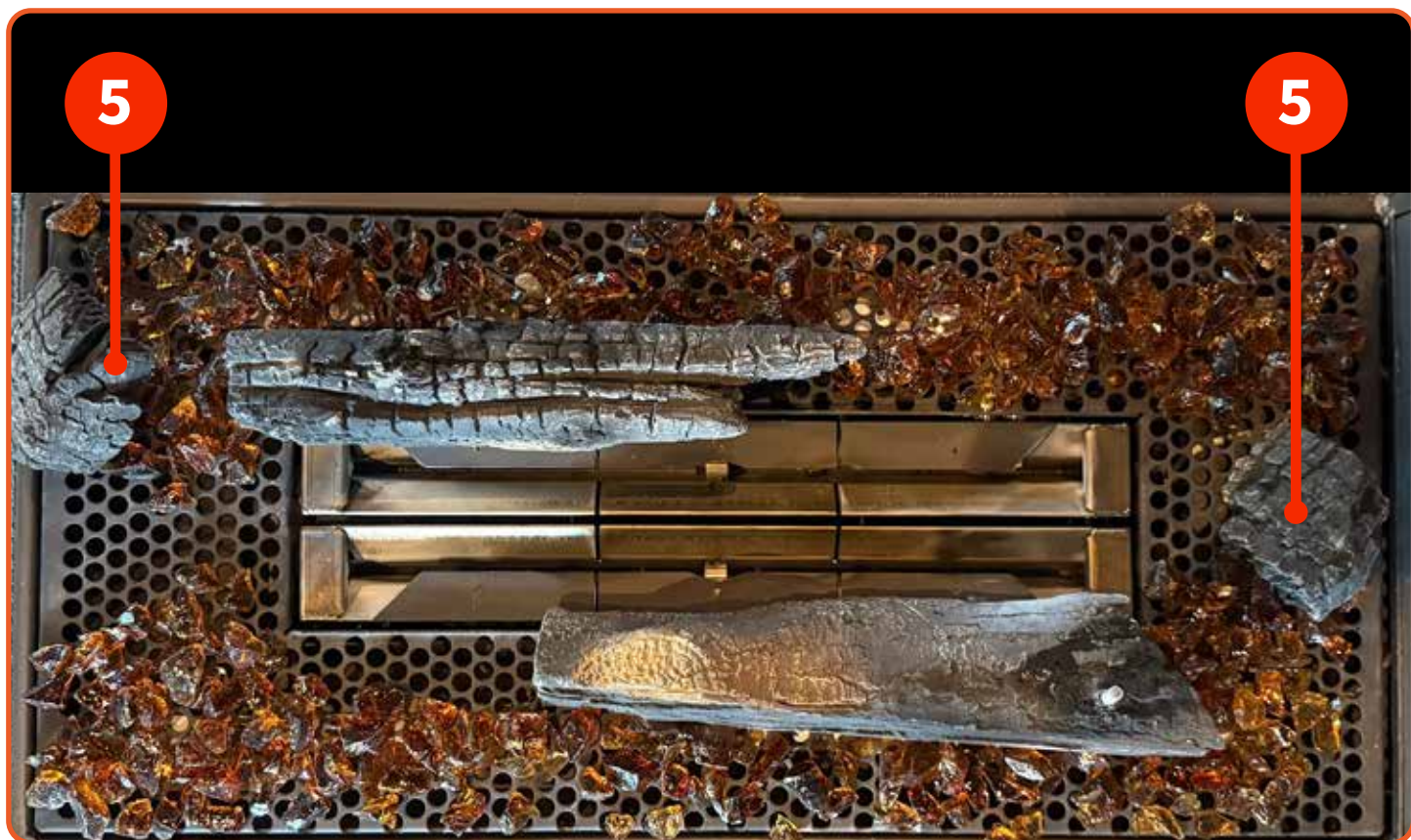
Lay log 1 and 2 with the slit at the bottom over the upright edge. Make sure that the (circled) pegs on the logs are on the correct side.

Figure 12.3 | Step 2



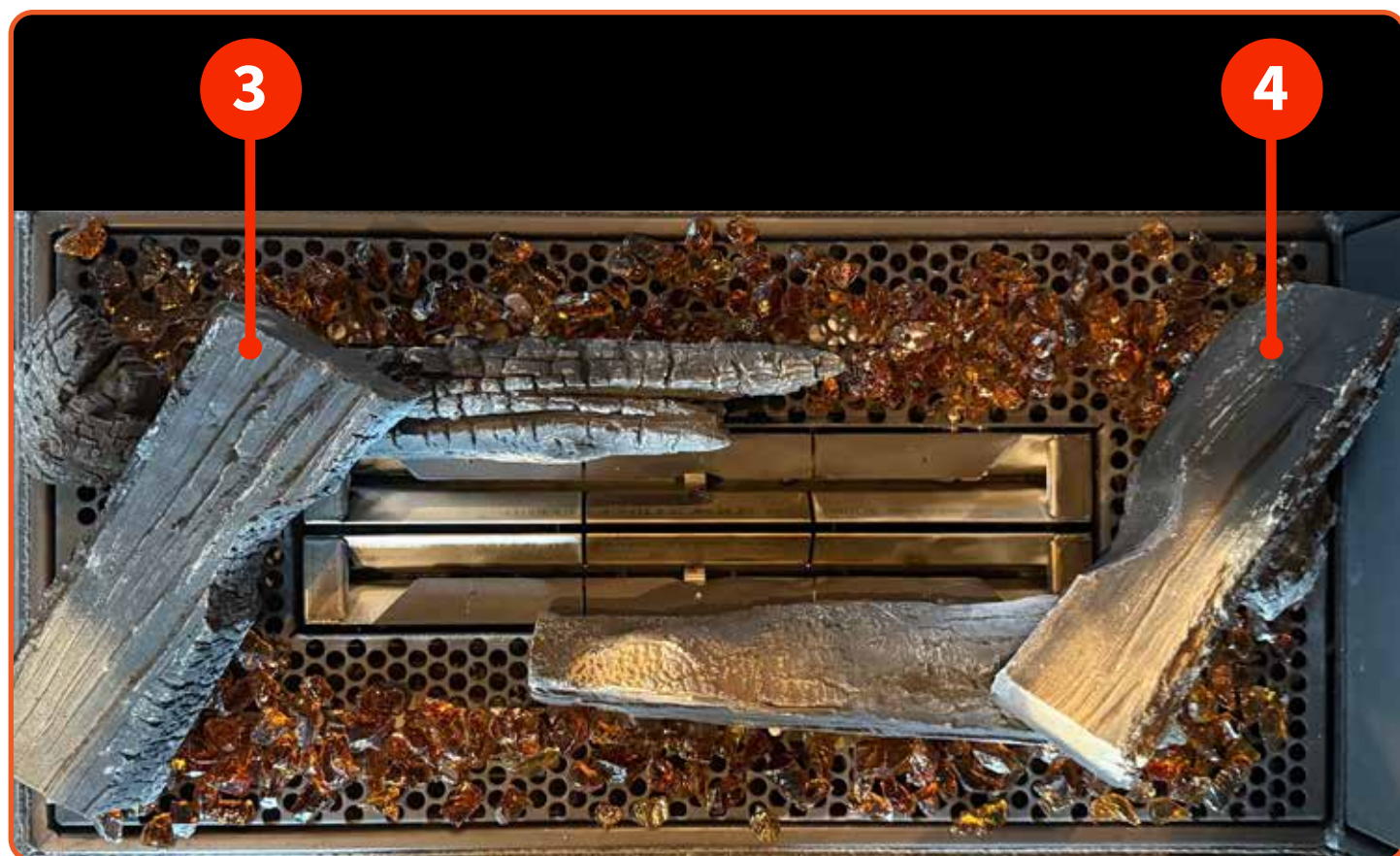
OPTIONAL: If your fireplace is equipped with LED lighting; spread the glass over the burner bed.

Figure 12.4 | Step 3



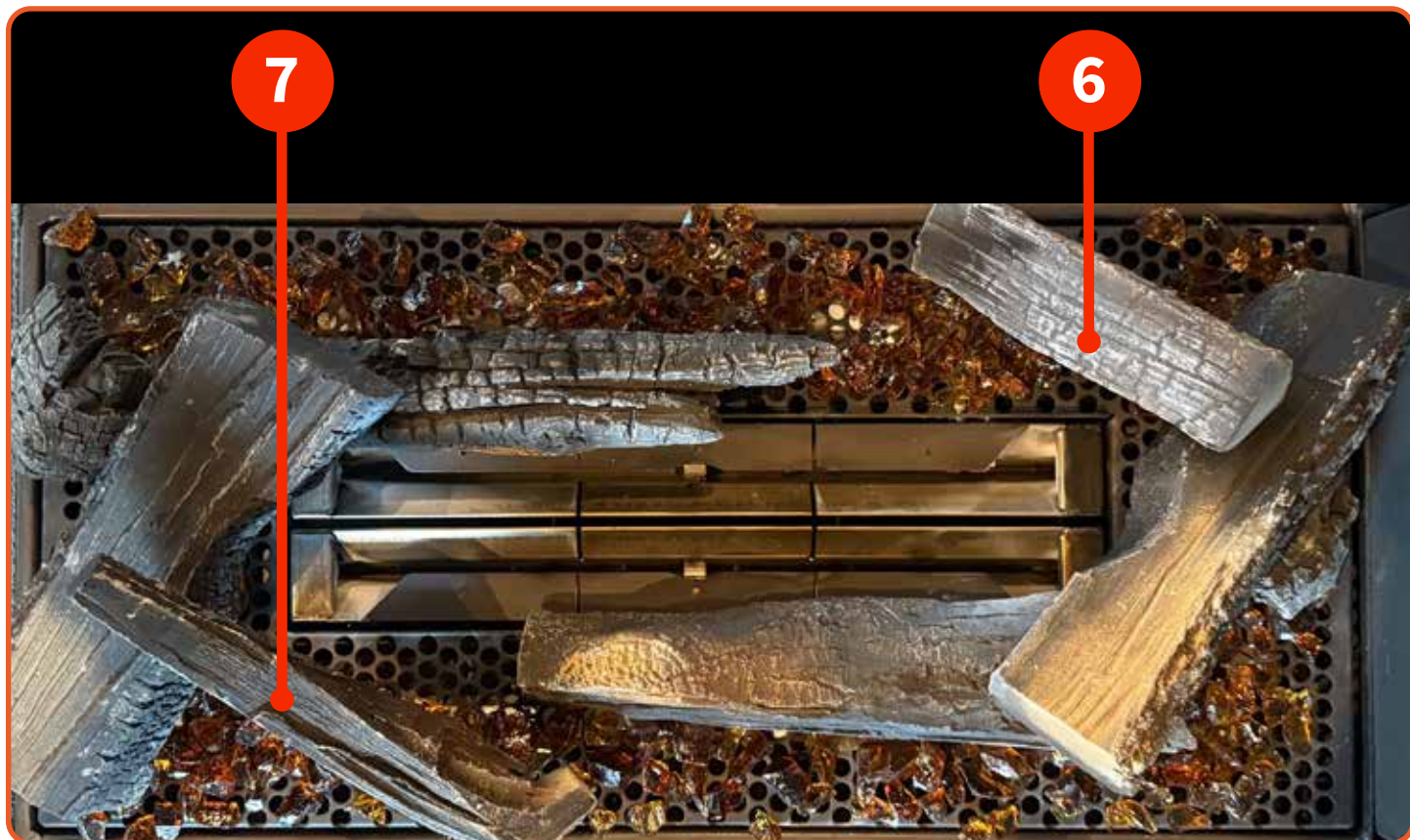
Place the coals (5) in the designated places.

Figure 12.5 | Step 4



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

Figure 12.6 | Step 5



Place the logs 6 and 7.

Figure 12.7 | 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 12.8 | Step 7

13 OPERATING THE FIREPLACE

13.1 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.

13.2 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.

13.3 SENSORY CHECKS

13.3.1 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 lacker 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.

13.3.2 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.

13.3.3 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
D When I turn off the fireplace, the fire does not stop immediately	2 Your finger is wet	Dry your finger and try again
	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.

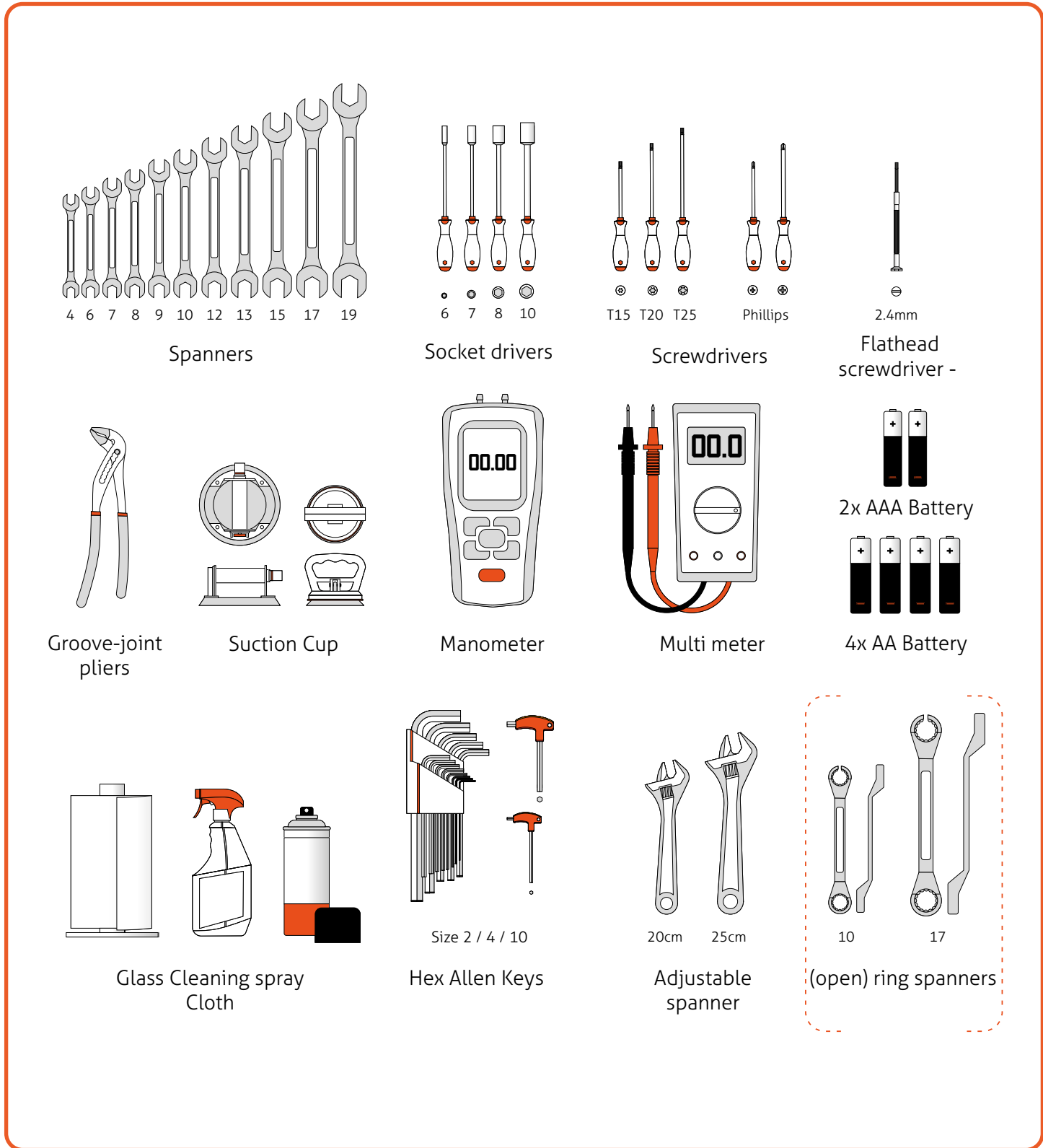


Figure A.A | Tool overview for service

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).

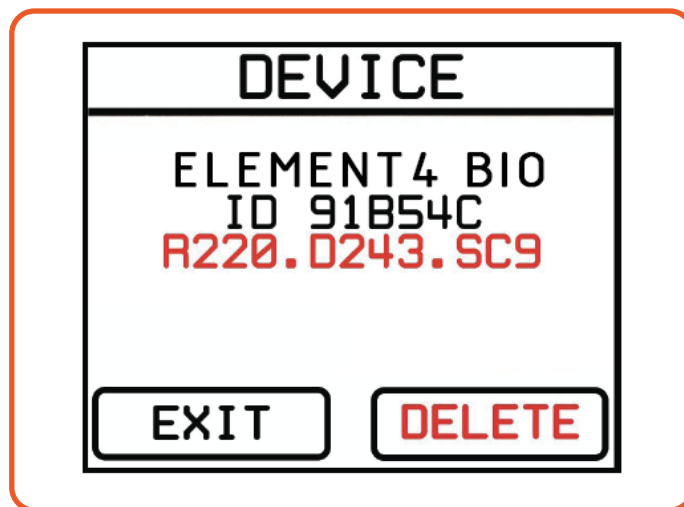


Figure 13.9 | Error code is displayed on remote control

Foutcode	Omschrijving	Mogelijke redenen	Mogelijke oplossing
SC2	Bioethanol does not reach tank sensor (ignition process)	<ul style="list-style-type: none"> • Too little bioethanol in tank • Sensor defective • Wrong fuel in tank 	<ul style="list-style-type: none"> • Fill tank • Replace or reconnect sensor • Extract wrong fuel from tank
SC3	Thermocouple hot - HOT TRAY (ignition process)	<ul style="list-style-type: none"> • Fire was recently put out 	<ul style="list-style-type: none"> • Wait a few minutes before trying again
SC4	Two minute safety break (ignition process)	<ul style="list-style-type: none"> • The thermocouple has not warmed up sufficiently during the ignition process 	<ul style="list-style-type: none"> • Wait two minutes before trying again
SC5	Low level sensor not reached, pump timed out	<ul style="list-style-type: none"> • Bioethanol is running out and can no longer reach the low level sensor. • Fuel line is clogged or leaking • Pump is defective 	<ul style="list-style-type: none"> • 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	<ul style="list-style-type: none"> • Bioethanol is running out and can no longer reach the high level sensor. • Fuel line is clogged or leaking • Pump is defective 	<ul style="list-style-type: none"> • 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)	<ul style="list-style-type: none"> • Bioethanol is running out and can no longer reach the low level sensor. • Fuel line is clogged or leaking • Pump is defective 	<ul style="list-style-type: none"> • 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)	<ul style="list-style-type: none"> • Bioethanol is running out and can no longer reach the low level sensor. • Fuel line is clogged or leaking • Pump is defective 	<ul style="list-style-type: none"> • 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.	<ul style="list-style-type: none"> The fuel did not reach the high sensor in the burner after the flame lit during the ignition process.. 	<ul style="list-style-type: none"> Fill the tank
SCB	Flame off	<ul style="list-style-type: none"> The flame has gone out for external reasons. Thermocouple is defective 	<ul style="list-style-type: none"> 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	<ul style="list-style-type: none"> Software problem, the program has become corrupted. 	<ul style="list-style-type: none"> Contact your dealer.
SCD	Stop-command received	<ul style="list-style-type: none"> Normal situation, the user has switched off the fire with the remote control 	<ul style="list-style-type: none"> Restart fireplace with remote control
SCE	Bioethanol does not reach tank level sensor	<ul style="list-style-type: none"> Insufficient fuel in tank to sustain flame. 	<ul style="list-style-type: none"> Fill the tank

C TERMINAL LOCATION

C.A TERMINAL LOCATION WITH VERTICAL EXHAUST (C11)

Distance	Exhaust 1,2 of 3	
At the same roof level	> 6m	*
At a different roof level	> 3m	* & **
On a lower wall	> 2m	*
On a higher sloping surface	> 6m	***

"Distance" = minimum distance required to position the exhaust in order to prevent adverse effects in relation to;

1. A ventilation opening of a used room, toilet or bathroom
2. Supply of heated air when the supply flows through a used room.
3. A window that can be opened and located in the vicinity of a used room, toilet or bathroom.

* If the required distance is not feasible, the rules regarding the exit position have priority.

** If the exhaust is placed at least one meter higher than the inlet opening, or a window that can be opened.

*** If the required distance is not feasible, the exhaust must be placed at least one meter above the highest façade / roof.

(4) The terminal may not be placed closer than 300 mm to an opening in the building such as a window frame.

C.B TERMINAL LOCATION WITH HORIZONTAL EXHAUST (C31)

	Position terminal	dist. (mm)
A*	Directly below an opening, ventilation stone, casement window etc.	600
B	Above an opening, ventilation stone, casement window etc.	300
C	In addition to an opening, ventilation stone, casement window etc.	400
D	Under gutters or drain pipes	300
E	Under eaves	300
F	Under balconies or roofs of open garages	600
G	From a vertical drain pipe	300
H	From an inside or outside corner	600
I	Above ground roof or balcony level	300
J	From a surface opposite the tip	600
K	From an end opposite the tip	600
L	From an opening in the open garage (e.g. door, window in the house)	1200
M	Vertically from one end to the same wall	1500
N	Horizontally from one end to the same wall	300
P	From a vertical structure on the roof	600
Q	Above the intersection with the roof	150

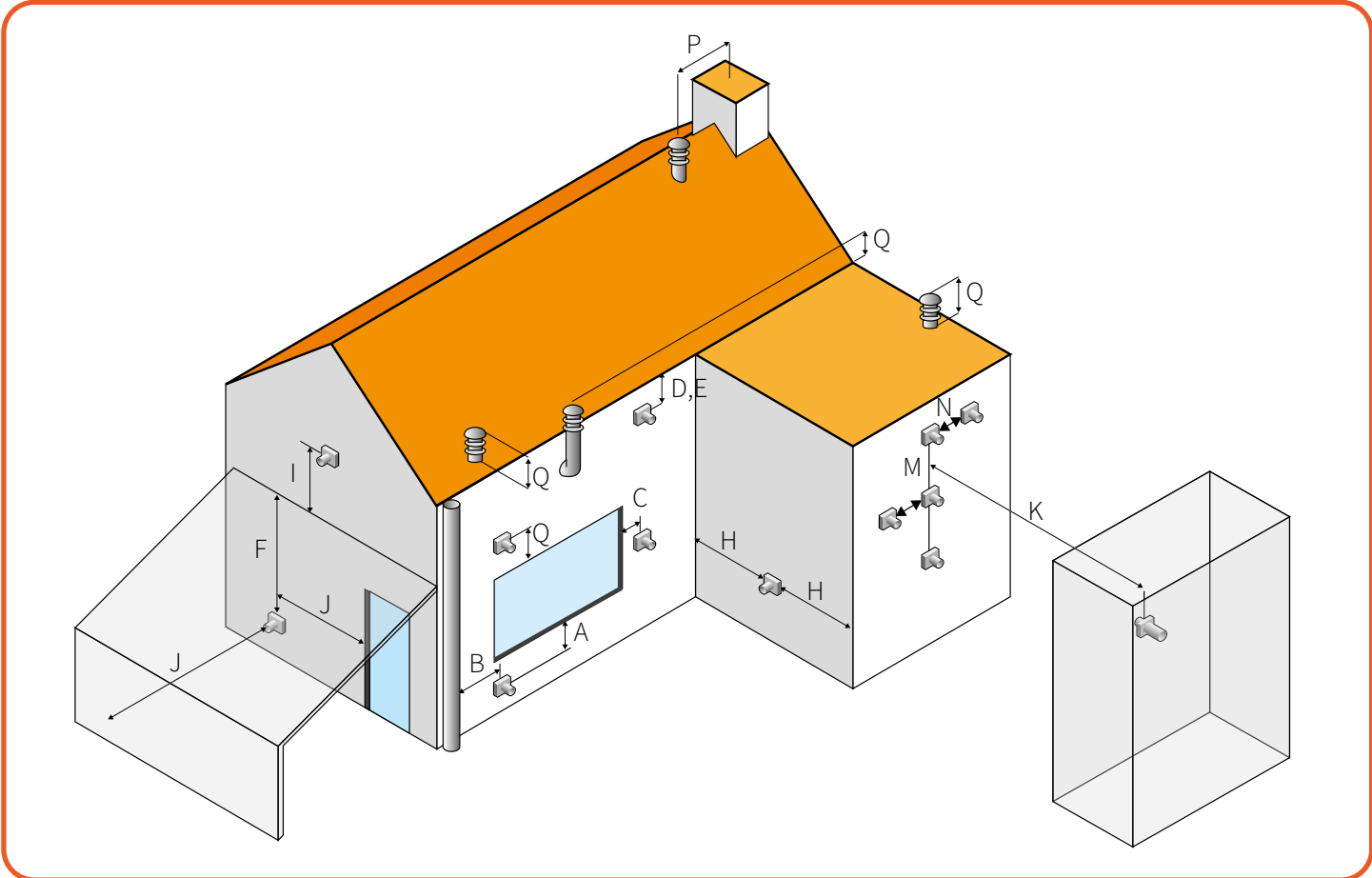


Figure C.A | Terminal Location

D CALCULATION TABLES FLUEGAS RESTRICTION

The calculation table shows when you need to place a flue gas restrictor

This fireplace has no minimal starting length. the flue can start with a bend directly from the top of the fireplace.

Result	Action
✓	No restrictor needed
✗	No good operation guaranteed*

D.A HORIZONTAL TERMINAL FLUE DIAMETER 200/130

Total vertical Section	0	0.5	1	2	2.5	3.5	4	4.5	5	6
10	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓
9	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓
8	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓
7	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓
6	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓
5	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓
4	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓
3.5	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓
3	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓
2.5	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓
2	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓
1.5	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓
1	✓	✓	✓	✓	✓	✓	✓	✓	✓	✗
0.5	✓	✓	✓	✓	✓	✓	✓	✗	✗	✗
0	✓	✓	✓	✓	✗	✗	✗	✗	✗	✗

D.B VERTICAL TERMINAL FLUE DIAMETER 200/130

Total vertical Section	0	0.5	1	2	2.5	3.5	4	4.5	5	6
23	✗	✗	✗	✗	✗	✗	✗	✗	✗	✗
22	✓	✗	✗	✗	✗	✗	✗	✗	✗	✗
21	✓	✓	✓	✗	✗	✗	✗	✗	✗	✗
20	✓	✓	✓	✓	✗	✗	✗	✗	✗	✗
19	✓	✓	✓	✓	✓	✗	✗	✗	✗	✗
18	✓	✓	✓	✓	✓	✓	✓	✗	✗	✗
17	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓
16	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓
15	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓
14	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓
13	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓
12	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓
11	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓
10	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓
9	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓
8	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓
7	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓
6	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓
5	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓
4	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓
3.5	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓
3	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓
2.5	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓
2	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓
1.5	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓
1	✓	✓	✓	✓	✓	✓	✓	✓	✓	✗
0.5	✓	✓	✓	✓	✓	✓	✓	✗	✗	✗
0	✓	✓	✓	✓	✗	✗	✗	✗	✗	✗

Attention: For fireplaces in this flue category it is possible to reduce the flue from a size 200/130 to a 150/100 flue, when the flue is exclusively vertical.

* The Sky b may also be used flueless. Make sure that there is a sufficient supply of fresh air in the installation room.

E 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 Bio-Ethanol with 85% to 96.6% alcohol. If in doubt, contact your dealer.

Values for Sky b - all models

GROSS output on HIGH*1	7	kW
Maximum consumption on HIGH	1,95	L/u
GROSS output on MEDIUM	6,5	kW
Maximum consumption on MEDIUM	1,9	L/u
GROSS output on LOW	4	kW
Maximum consumption on LOW	1,85	L/u
Minimal room volume	67	m ³
Air renewal rate	1 room vol. per hour	
Rated supply voltage	230	V
Maximum rated power consumption*2	800	W

Glass dimensions

- E4-36 Front 720 x 1619 x 4 mm
Side 352 x 1619 x 5 mm
- E4-37 Front 720 x 1219 x 4 mm
Side 352 x 1219 x 5 mm
- E4-38 Front 720 x 819 x 4 mm
Side 352 x 819 x 5 mm
- E4-16 722 x 1622 x 4
- E4-24 722 x 1222 x 4 mm
- E4-34 722 x 822 x 4 mm

F ECODESIGN

Since 1 January 2018 every fireplace has been provided with an ecolabel which is always supplied with the fireplace. The ecolabel shows which category the fireplace belongs to.

F.A ECOLABELS

Below are the ecolabels for the Sky Bio connected in different ways, respectively flueless and balanced flue.

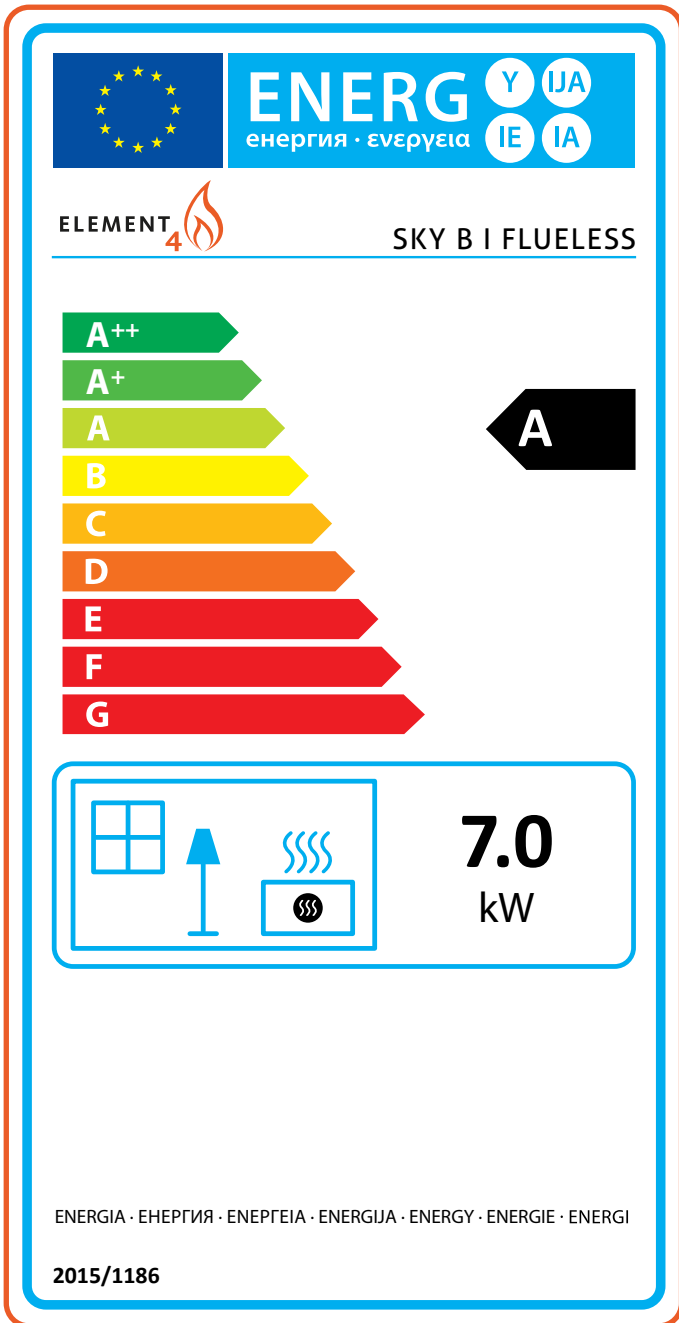


Figure 13.1 | Ecolabel flueless

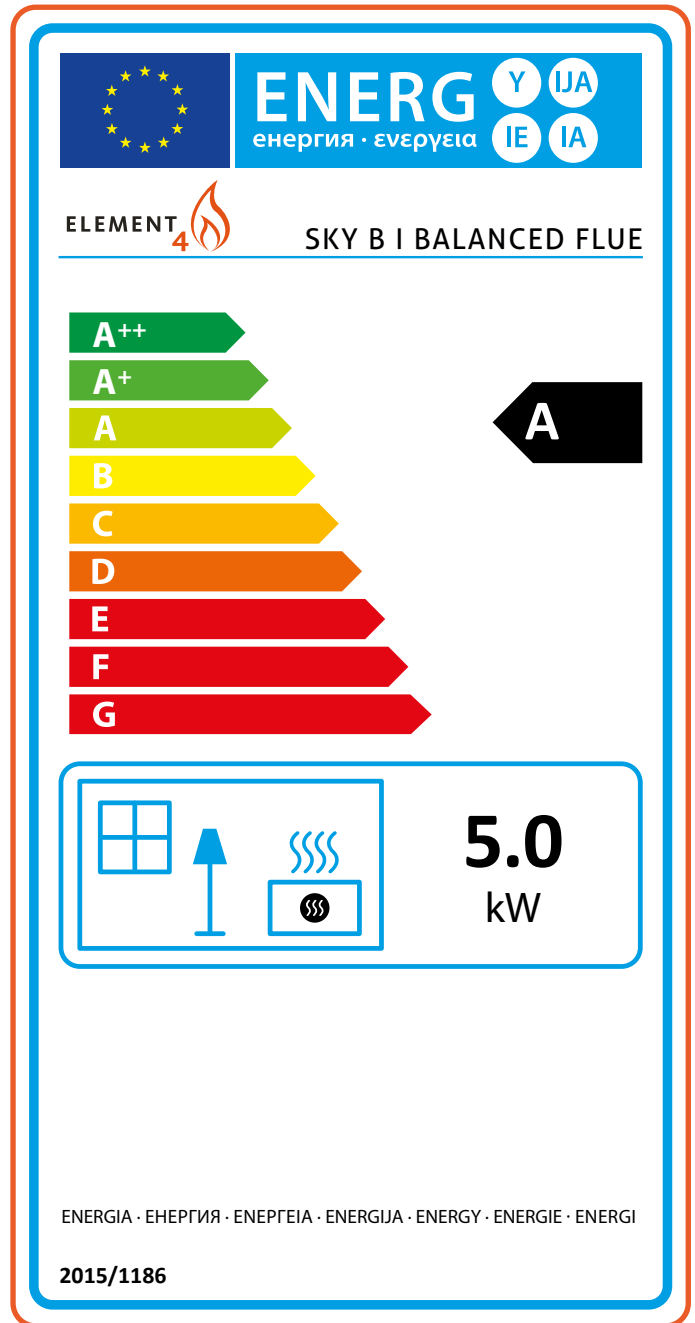


Figure 13.2 | Ecolabel balanced flue

G 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.

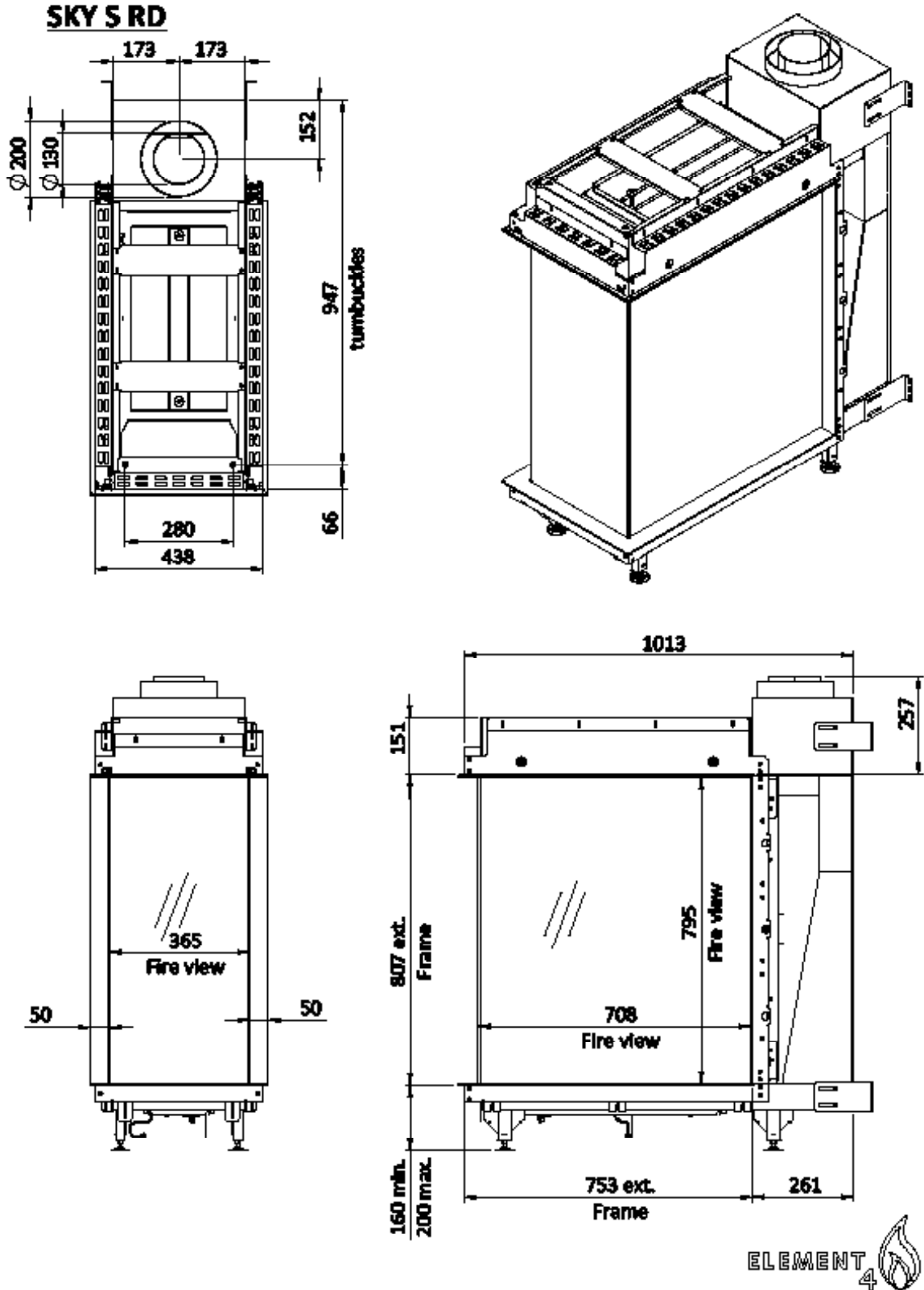


Figure G.A | Technical drawing of Sky S RD

SKY M RD

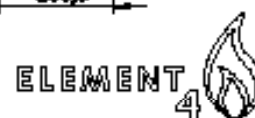
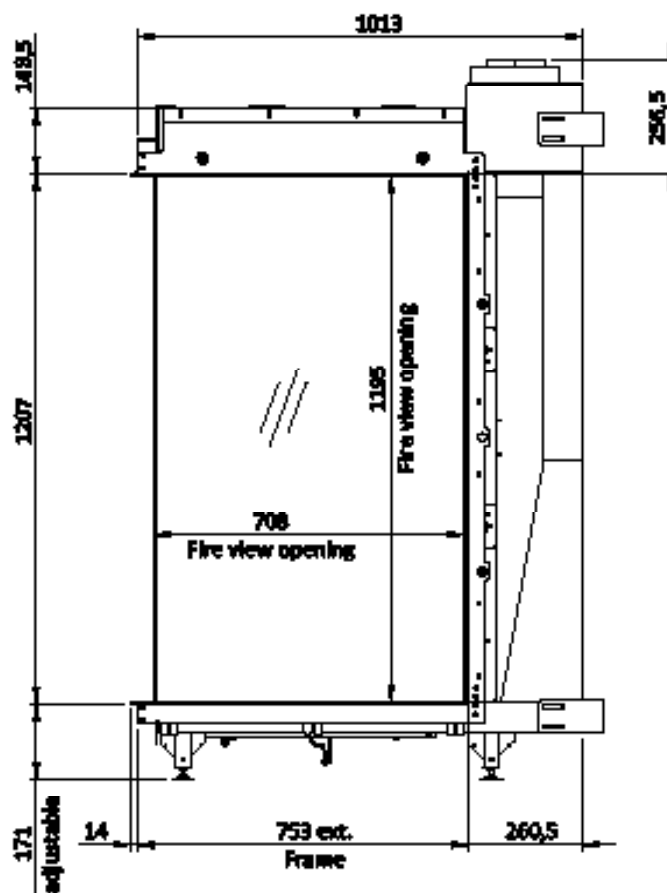
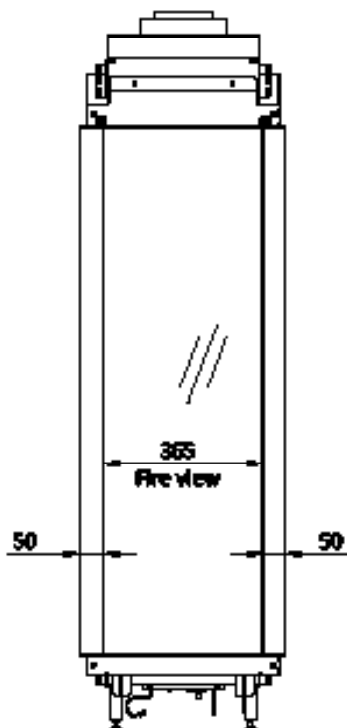
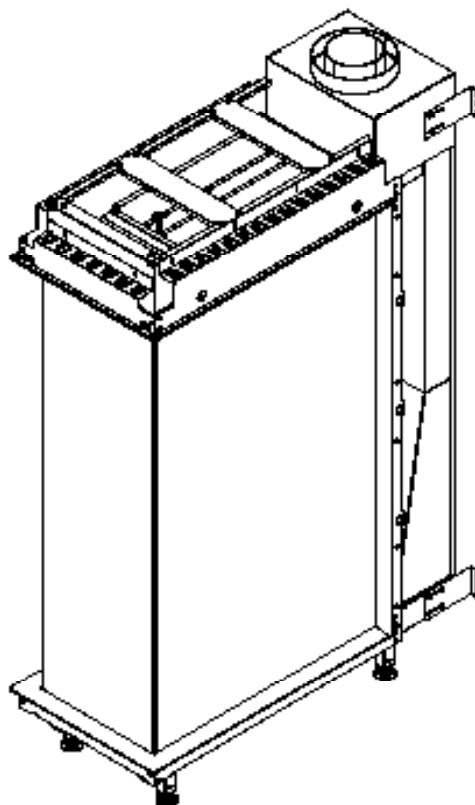
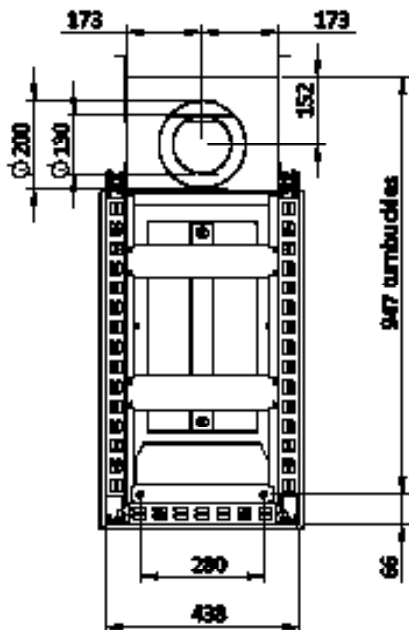


Figure G.B | Technical drawing of Sky M RD

SKY L RD

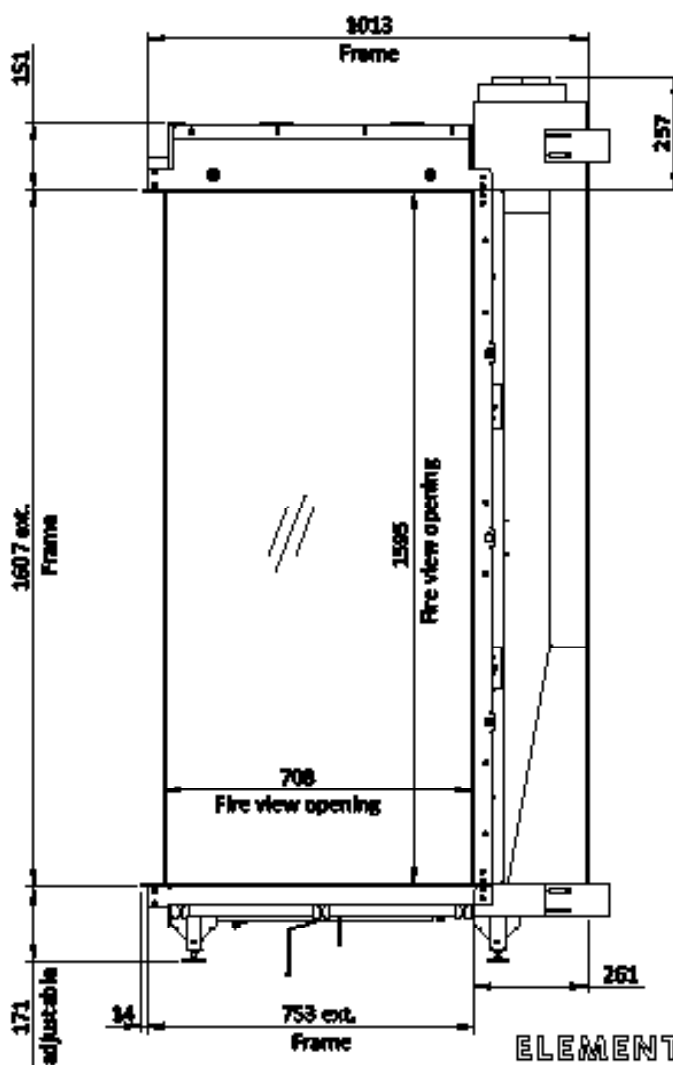
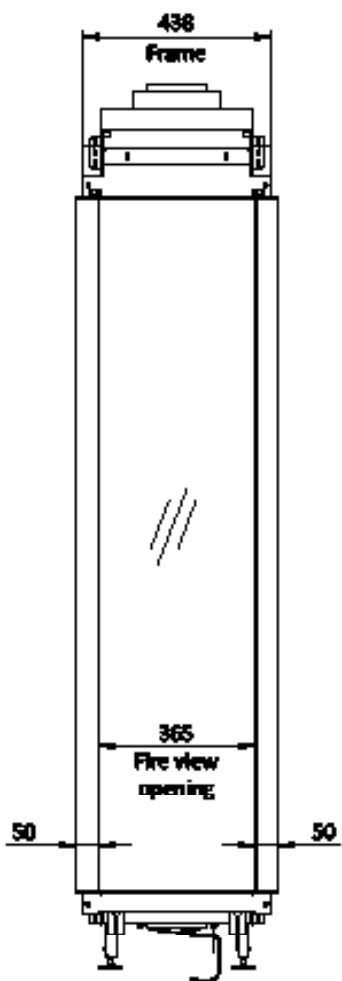
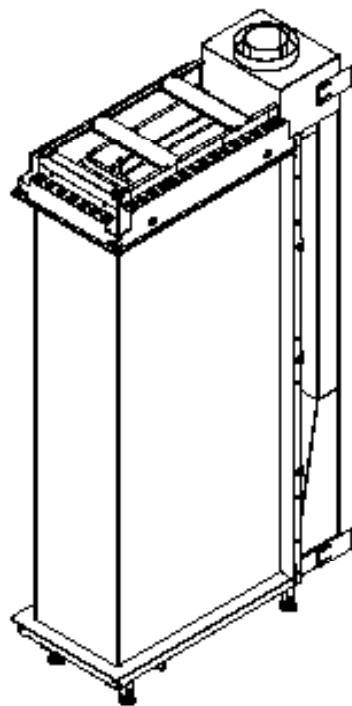
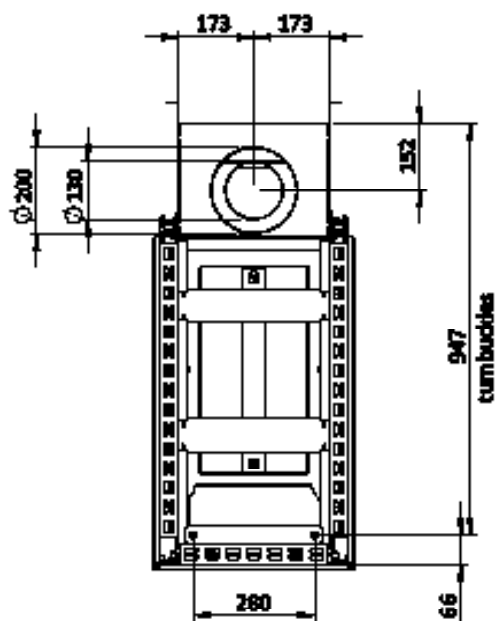


Figure G.C | Technical drawing of Sky L RD

H 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

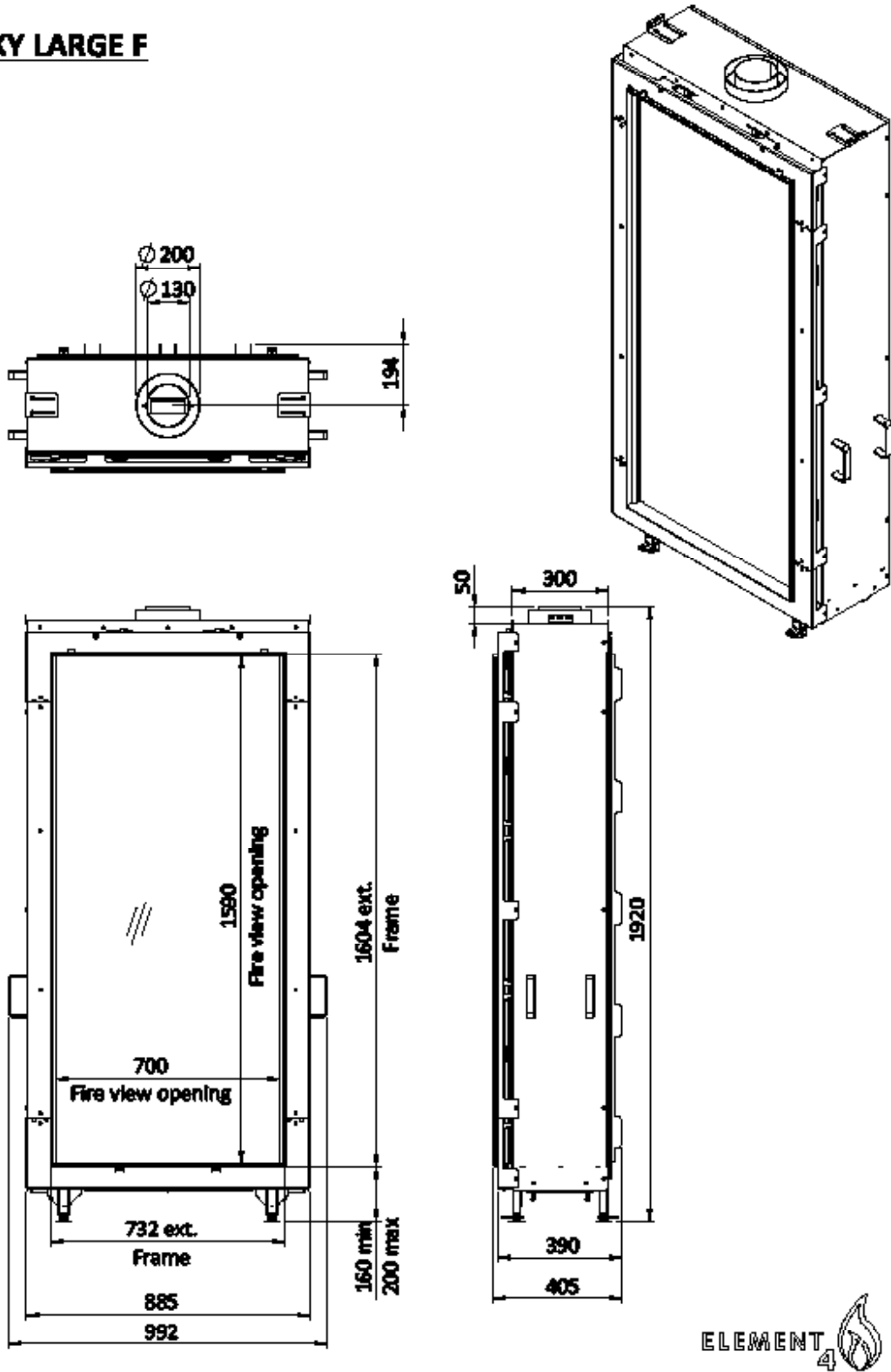


Figure H.A | Technical drawing of Sky L F

SKY L T

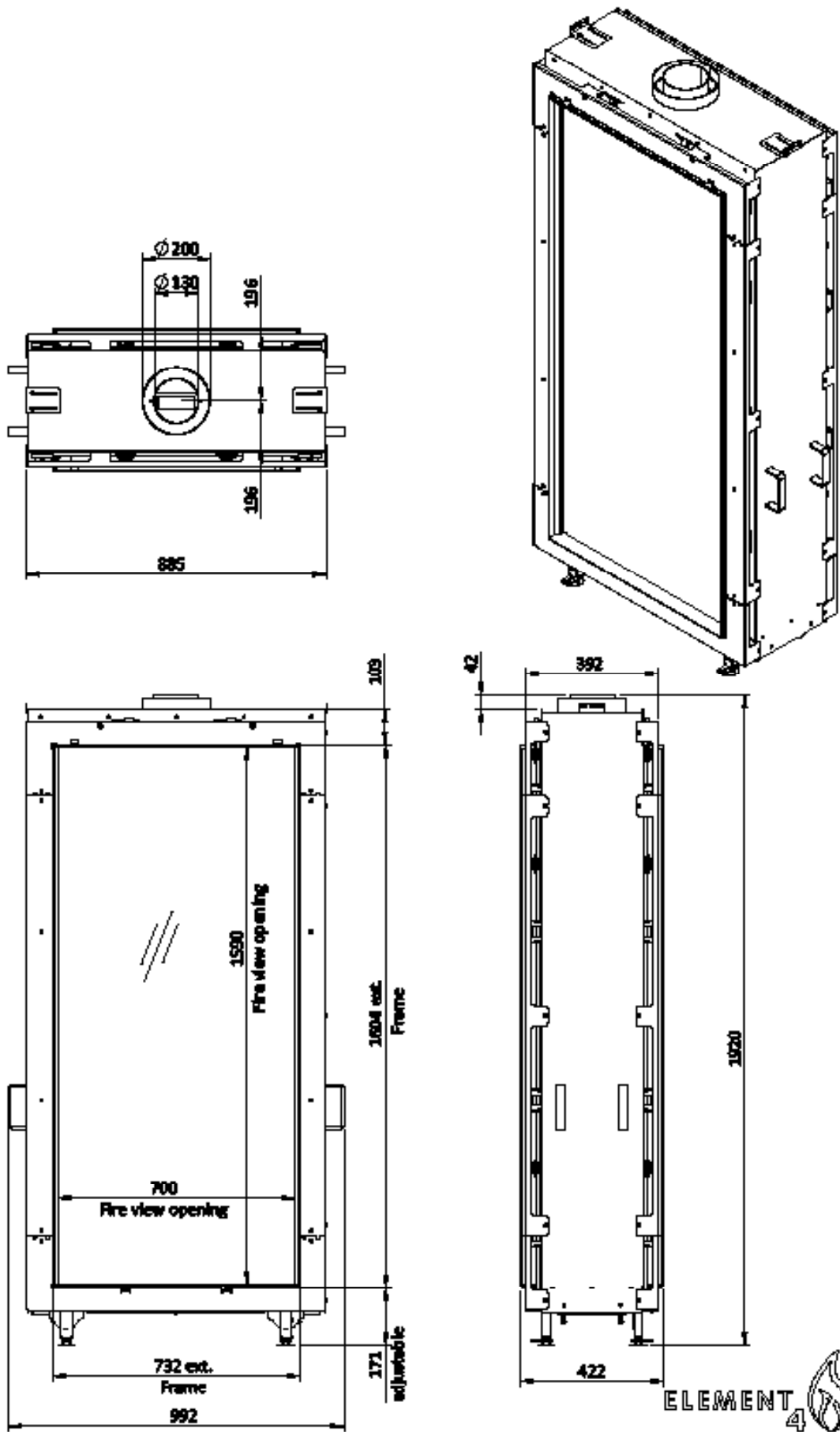


Figure H.B | Technical drawing of Sky L T

SKY MEDIUM F

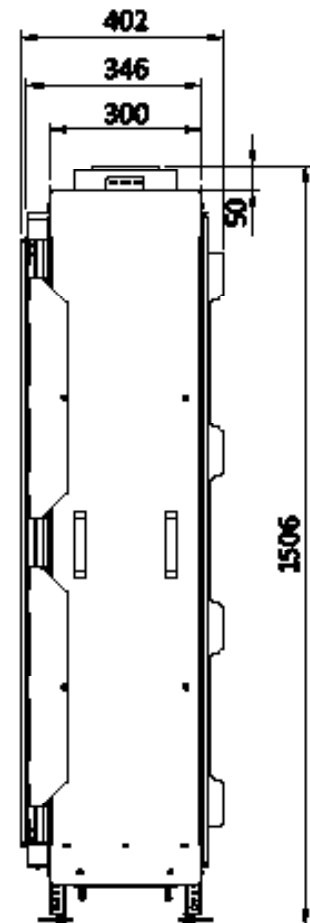
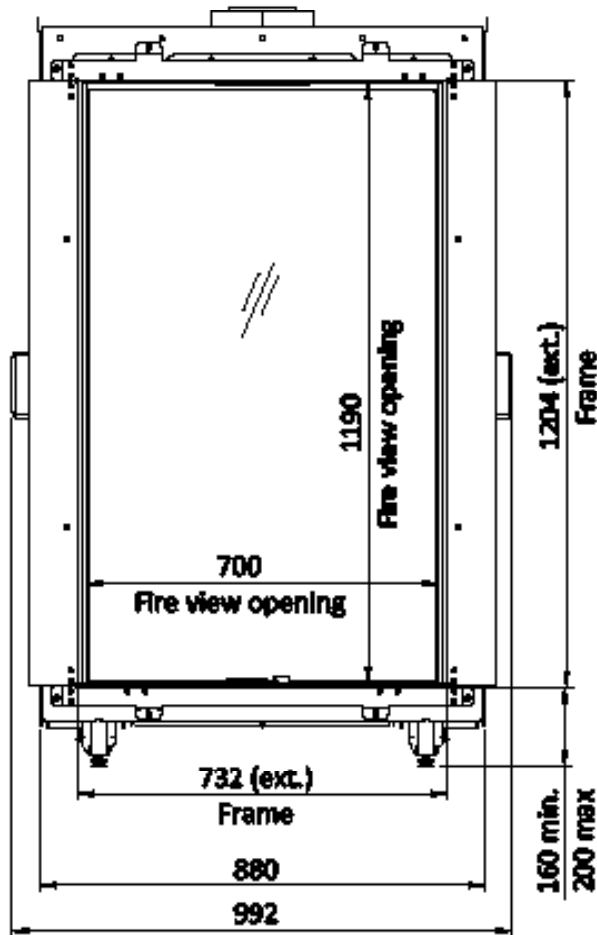
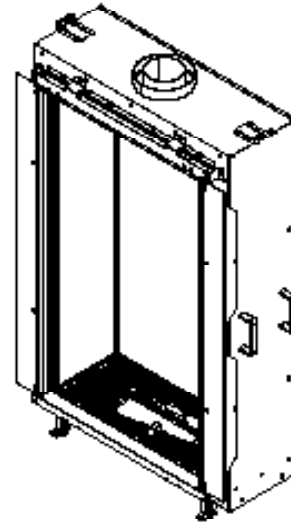
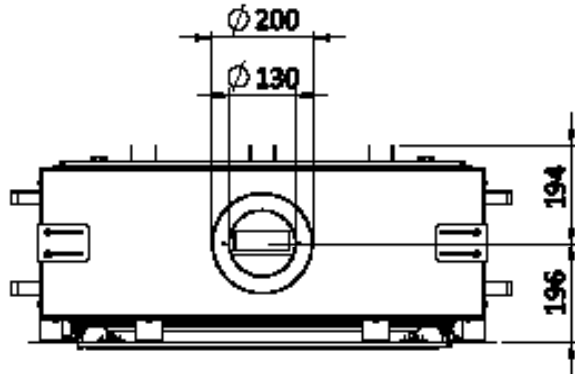


Figure H.C | Technical drawing of Sky M F

SKY MEDIUM T

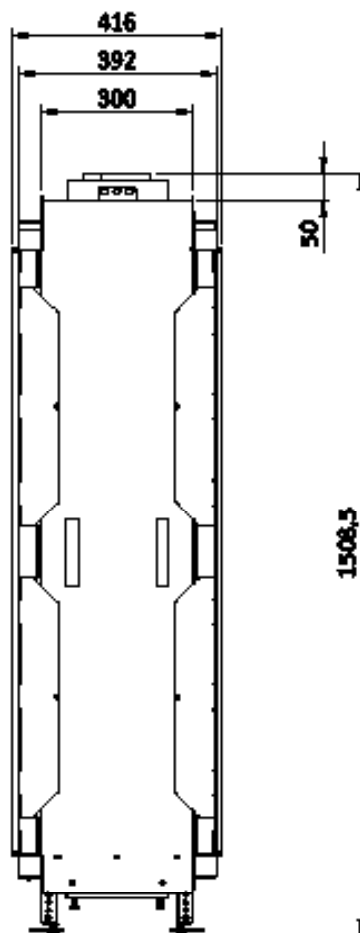
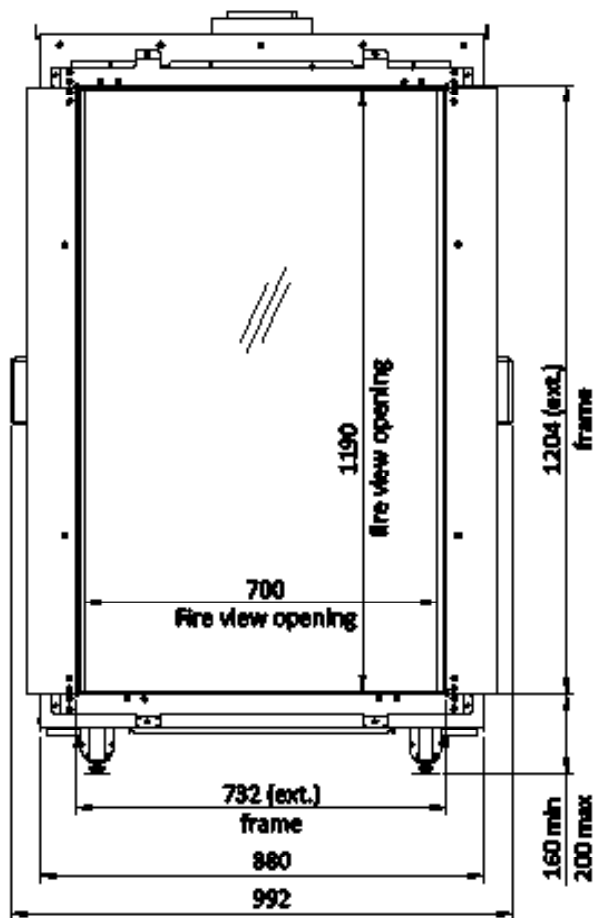
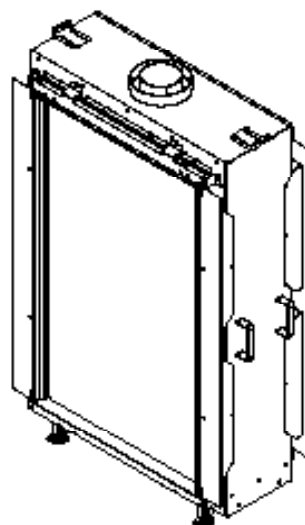
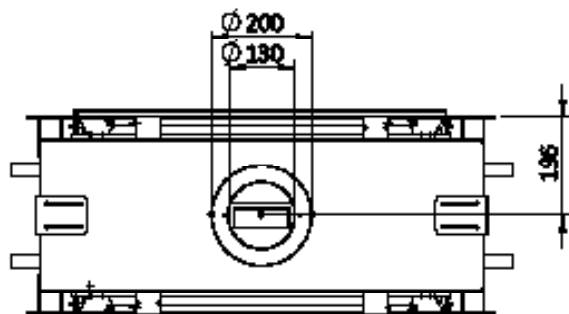


Figure H.D | Technical drawing of Sky M T

SKY SMALL F

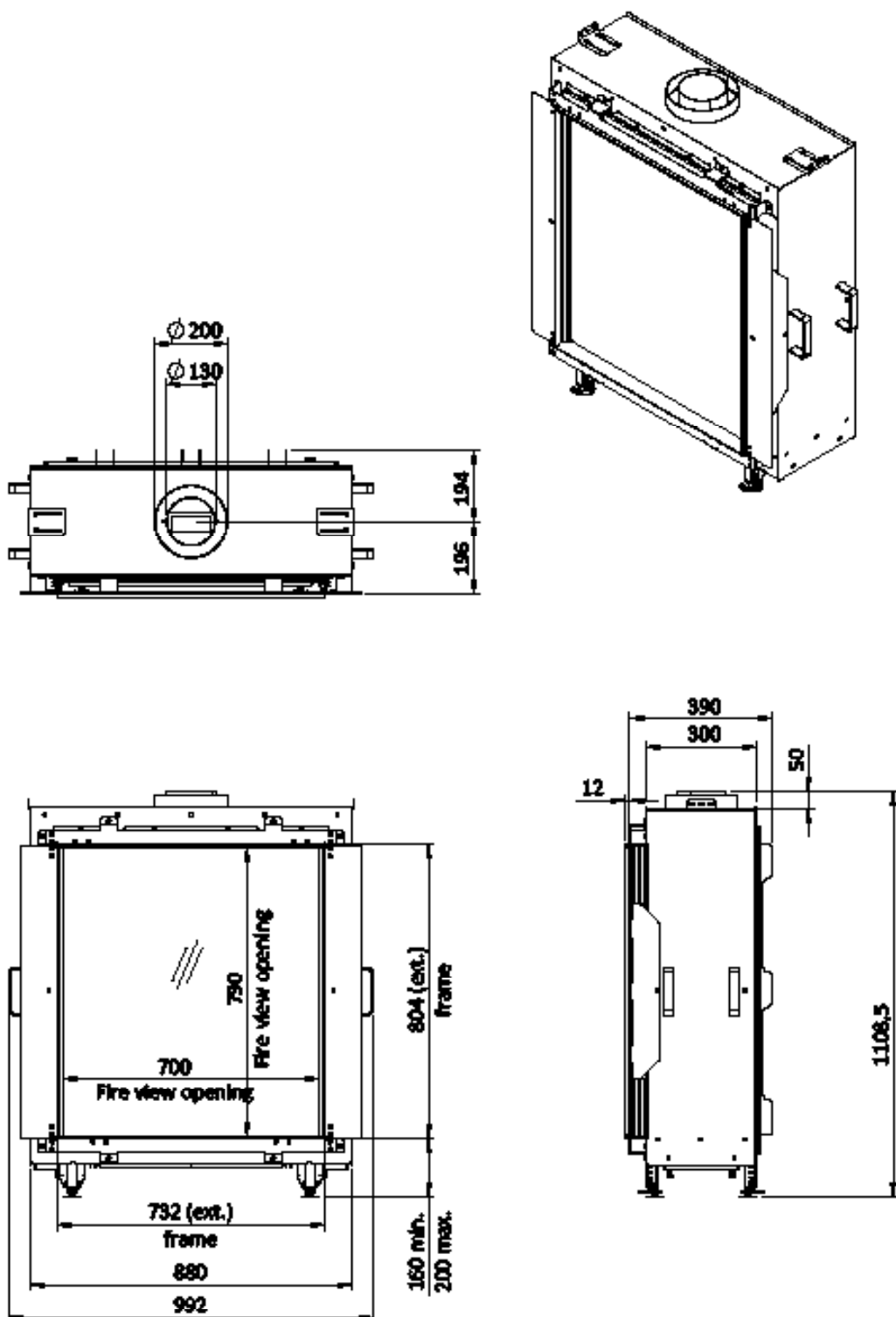


Figure H.E | Technical drawing of Sky S F

SKY SMALL T

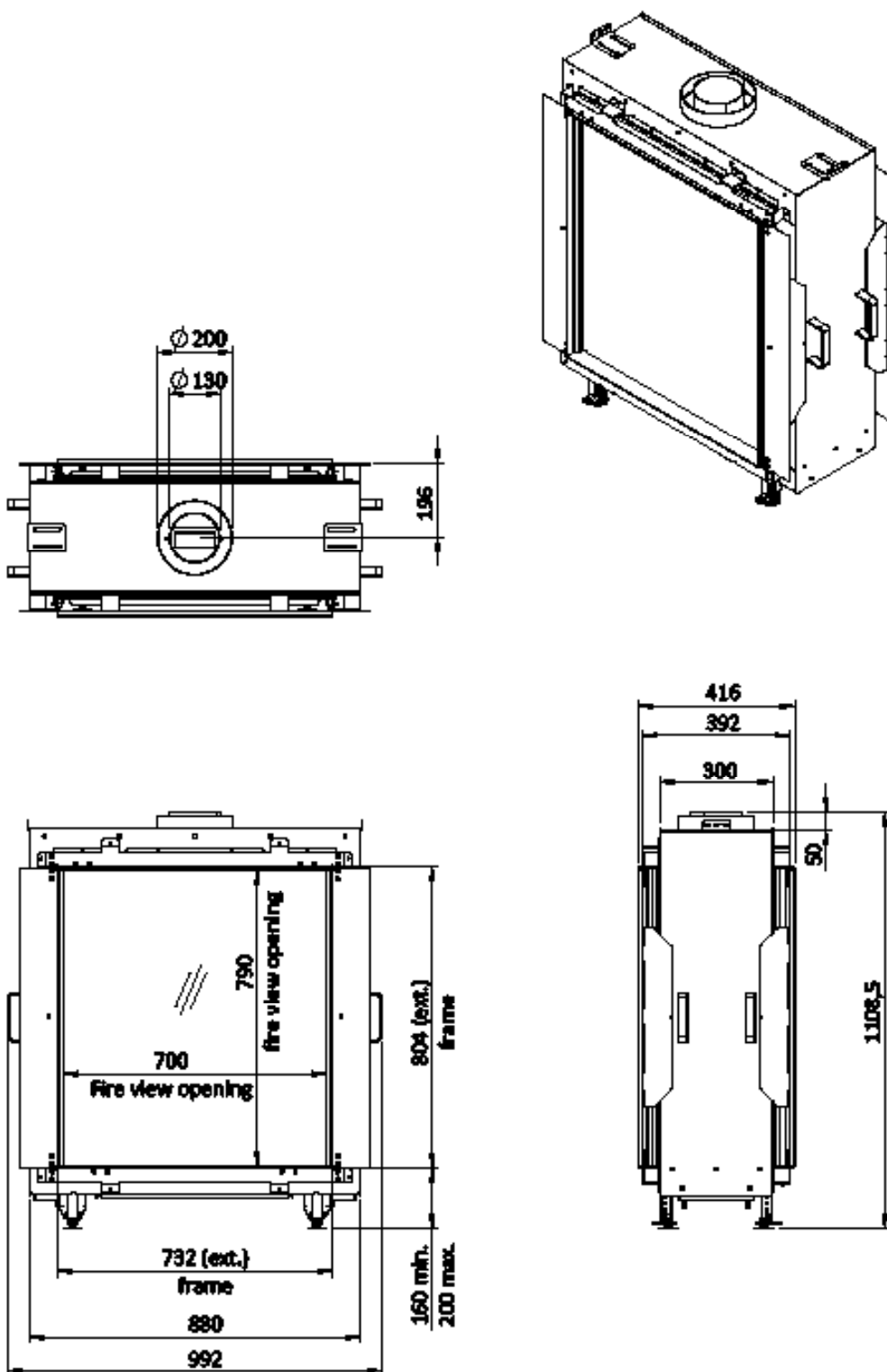
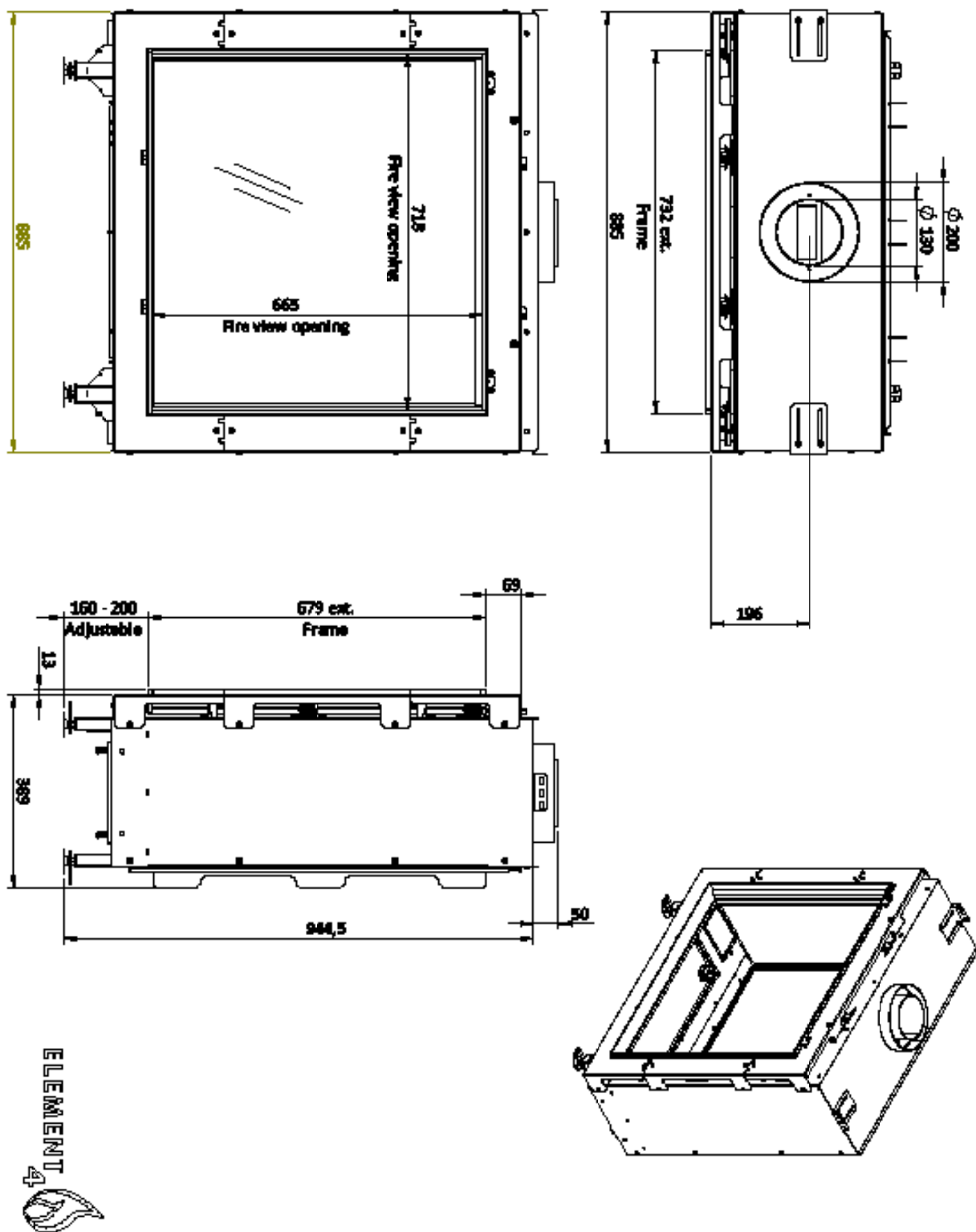


Figure H.F | Technical drawing of Sky S T

SKY SQ F



ELEMENT
4

Figure H.G | Technical drawing of Sky S T

ELEMENT 4

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