

# Installation and Operation Manual – AU/NZ

## For 75 – 110 Units



**ORTAL Heating Systems Ltd.**

# **ORTAL Heating Solutions Ltd.**

## **INSTALLATION & OPERATION MANUAL**



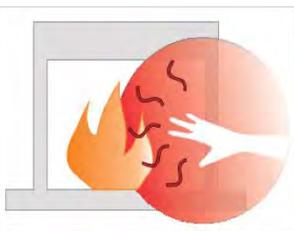
### **SAVE THESE INSTRUCTIONS**

Make yourself fully aware of all the following instructions and the many features of the Ortal direct vent gas fireplace appliance. **DO NOT DISCARD THIS MANUAL!**

**INSTALLER:** Leave this manual with party responsible for use and operation.

**OWNER:** Retain this manual for future reference

### **! DANGER**



**HOT GLASS WILL  
CAUSE BURNS**

**DO NOT TOUCH GLASS  
UNTIL COOLED**

**NEVER ALLOW CHILDREN  
TO TOUCH GLASS**

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.

Installation and service must be performed by a qualified/authorized installer, service agency, or the gas supplier. **INSTALLER:** test the operation of the appliance before leaving.

### **WARNING: FIRE OR EXPLOSION HAZARD**

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

### **DANGER: IF YOU SMELL GAS**

- Do not try to light any appliance.
- Do not touch any electrical switch; do not use any phone in your building.
- Leave the building immediately.
- Immediately call you gas supplier from a neighbor's phone. Follow the gas supplier's instructions.
- If you cannot reach your gas supplier, call the fire department.

**DO NOT PLACE ARTICLES ON OR AGAINST THIS APPLIANCE.  
DO NOT USE OR STORE GASOLINE OR OTHER FLAMMABLE VAPORS AND LIQUIDS IN THE VICINITY OF THIS OR ANY OTHER APPLIANCE.  
DO NOT SPRAY AEROSOLS IN THE VICINITY OF THIS APPLIANCE WHILE IT IS IN OPERATION.  
DO NOT MODIFY THIS APPLIANCE.**

**PRIMARILY A DECORATIVE AND NOT A HEATING APPLIANCE**

## **Testing Standards and Document Information**

The ORTAL decorative direct vent gas appliances have been tested and approved by IAPMO-R&T for use with Natural Gas (NG) AND PROPANE (LPG).

Standard references:

- Australian Standard AS/NZS 5263.1.8 Decorative Gas Log and Other Fuel Effect Appliances
- Patent Pending for screen barrier glass bracket: USSN 60/040,074



**NOTE: Diagrams and illustrations in this manual are not to scale. All fireplace drawings with correct dimensions are available on our website under Products>Downloads>Diagram.**



**NOTE: For additional details about installing CC units and/or units with Power Vents, please refer to the specific manuals supplied with the product.**

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## Introduction and Company Profile

### **Welcome to ORTAL.**

ORTAL, providing heating solutions for over 25 years, is well known for its wide selection of modern gas fireplaces, produced with close attention to detail, finishing, heating efficiency and quality. ORTAL's products combine traditional and modern design with the technology innovation that ensures a green product with high efficiency ratings. Our advanced technology produces eye catching fires that are safe, beautiful and economical. Our product sophistication allows installation in more locations inside the home.

ORTAL offers the largest selection of modern gas fireplaces in Australia & New Zealand available in an array of sizes to suit design and architectural needs integrating heat into the aesthetics of life. ORTAL also welcomes clients' visions for custom-made fireplaces for special requirements, sizes and uses. Our high quality fireplaces are IAPMO-R&T, CSA, AGA and CE certified. ORTAL fireplaces are available in Australia & New Zealand through ORTAL approved dealers who each have a strong commitment to offer the best installation and service.



**Green Statement:** ORTAL offers a green, environmentally friendly heating solution for the modern era.

With ORTAL's high efficiency ratings and contemporary designs, you don't have to sacrifice form for function. The unique design maximizes the fireplace's radiant heat. Additional efficient components include ORTAL's use of direct vent technology, electronic ignition (instead of a standing pilot) and low maintenance requirements.

We appreciate you choosing **ORTAL** for your fireplace needs.

Thank you,

*Ortal*

## Fireplace Safety Information and Warnings

This section provides safety guidelines and instructions. It is important to **SAVE THESE INSTRUCTIONS** and to make yourself fully aware of all the safety protocols and the many features of the ORTAL direct vent gas fireplace appliance.

- **INSTALLER:** Leave this manual with the appliance.
- **OWNER:** Keep this manual for future reference.



**NOTE: ALL the warnings and instructions below apply to ALL the models.**



### **WARNING – HEAT BARRIER**

A barrier designed to reduce the risk of burns from hot viewing glass is provided with this appliance and shall be installed. If the barrier becomes damaged, the barrier shall be replaced with the manufacturer's barrier for this appliance. Any safety screen, guard, or barrier removed for servicing the appliance must be replaced prior to operating.

THE GUARD IS FITTED TO THIS APPLIANCE TO REDUCE THE RISK OF FIRE OR INJURY FROM BURNS AND NO PART OF IT SHOULD BE PERMANENTLY REMOVED.  
FOR PROTECTION OF YOUNG CHILDREN OR THE INFIRM, A SECONDARY GUARD IS REQUIRED

### **WARNING – FIREPLACE TEMPERATURE**

Due to high temperatures, the appliance should be located out of traffic and away from furniture and draperies.

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

Clothing or other flammable material should not be placed on or near the appliance.

**Young children should be carefully supervised when they are in the same room as the appliance.**

Toddlers, young children and others may be susceptible to accidental contact burns. A physical barrier is recommended if there are at-risk individuals in the house. To restrict access to a fireplace or stove, install an adjustable safety gate to keep toddlers, young children and other at-risk individuals out of the room and away from hot surfaces.

### **WARNING – GLASS HANDLING**

The glass must ONLY be removed by an authorized and/or qualified installer. The authorized technician should ONLY remove the glass with the suction cups supplied by the manufacturer. To prevent damage to the glass edges, lower the glass to rest in a safe place.

Follow these guidelines for glass handling:

- **Step 1:** Prepare a safe place for the glass to rest.
- **Step 2:** Remove the glass using the suction cup.
- **Step 3:** The glass can now be rested safely.

 **WARNING – IF YOU SMELL GAS**

If you smell gas, take the following action immediately:

- Do not try to light any appliance.
- Do not touch any electrical switch.
- Do not use any phone in your building.
- Call your gas supplier from a neighbor's phone, and follow the gas supplier's instructions.
- If you cannot reach your gas supplier, call the fire department.

 **WARNING – INSTALLATION AND OPERATION**

The balanced flue / direct vent system appliance must be installed as an OEM installation in manufactured homes or an aftermarket permanently located, or a mobile home, where not prohibited by local codes.

The appliance must be installed in accordance with the Manufacturer's instructions and the Manufactured Home Construction and Safety Standard.

**If the information in these instructions are not followed exactly, a fire or explosion may result, causing property damage, personal injury or loss of life.**

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

 **WARNING – INSTALLATION AND SERVICE**

Installation and repairs must be done by an authorized qualified installer service agency or gas supplier. The appliance should be inspected before use and at least annually by a professional service person. More frequent cleaning may be required due to excessive lint from carpeting, bedding material, etc. It is imperative that control apartments, burners and circulating air passageways of the appliance be kept clean.

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

 **WARNING VALVE AND RECEIVER PLACEMENT**

The Valve and the receiver are delivered connected to the inner side of the front right leg of the fireplace with a metal bracket. Valve and receiver cannot be apart and must be bolted to on one the unit lags.

 **WARNING –GAS APPLIANCE**

This appliance is for use only with the type of gas indicated on the rating plate. These appliances are not convertible for use with other gases, unless a certified kit is used and the conversion is performed by an authorized qualified technician.

 **WARNING – REMOVE ANY PARTS USED FOR TRANSIT PROTECTION**

## Certifications and Codes

The appliance has been certified for use with either natural gas (NG) or propane gas (LP or ULPG), and **NOT** for use with solid fuels.

These gas fireplace appliances are IAPMO-R&T certified and approved for indoor use. They can be specialized with certain requirements for indoor outdoor use (i.e., tunnel models). For indoor installation they must be installed while maintaining required clearances. Installation is recommended in living spaces such as bedrooms, living rooms, great rooms, etc. The appliance is not approved for closet installation.

The appliance must be installed according to ORTAL requirements in addition to AS/NZS 5601.1 and any local codes that may apply. The appliance must be properly connected to an approved chimney venting system. Refer to the specific appliance to determine vent size and pathway requirements. In addition, adhere to the following pre-installation guidelines:

- Approved flue system manufacturers are:
  - Olympia
  - DuraVent (Recommended for Horizontal Terminations)
  - Heat & Glo (Recommended for Vertical Terminations)
- Consult the authority having jurisdiction to determine the need for a permit **PRIOR** to starting the installation.
- It is the responsibility of the installer to ensure that this fireplace is installed in compliance with the manufacturer's instructions and all the applicable codes. Contact your local distributor / dealer for correct flue and flue terminal information.
- Before starting, take careful note of **ALL** the **WARNINGS** in this manual.

## Product List: Models and Burners

The following table lists burners and venting for models using the installation codes for decorative vented gas fireplaces. Adaptors are not required.

<b>MODELS: FR/RS/LS/TS/SA/TU/H/TR</b>				
<b>Model</b>	<b>Clear 75 - Console Appliance 75</b>		<b>Clear 110 - Console Appliance 110</b>	
Gas	NG	Propane	NG	Propane
Burner Size	45	45	100	100
Injectors	Marked 650: with 7x0.950mm orifice	Marked 220: with 7x0.550mm orifice	Marked 1200: with 7x1.275mm orifice	Marked 260: with 7x0.575mm orifice
Nominal gas Consumption	26 MJ/h	20.0 MJ/h	37 MJ/h	30.0 MJ/h
Inlet Pressure	1.13kPA	2.75	1.13kPA	2.75
Manifold pressure	0.82kPA	1.80kPA	0.73kPA	2.70kPA
Turndown Pressure	0.23kPa	0.88kPA	0.26kPa	1.20kPA



**NOTE: Please refer to the appliance data plate for gas consumption and pressure calibration.**

BURNER	MODELS: F/RS/LS/TS/SC/SA/TU/H/TR/IS	FLUE SIZE
B45	<ul style="list-style-type: none"> <li>• Clear 60X80, Clear 75, Clear 75x65, Clear 90</li> </ul>	107/164mm
	<ul style="list-style-type: none"> <li>• Console Appliance 75, 75TS, 80, 80TU,</li> <li>• Classic F70/80, Classic/Modern Corner</li> <li>• Island 70**, Circle 70**, Circle 270**</li> </ul>	
B100	<ul style="list-style-type: none"> <li>• Clear 110, Clear 120, Clear 130</li> </ul>	125/205mm
	<ul style="list-style-type: none"> <li>• Console Appliance 110, 110TS, 120</li> <li>• Island 130**</li> </ul>	

**\*\* To be installed with an Ortal Power Vent ONLY. Installator, refer to Ortal's Manual for Power Vent.**

The following table explains the acronyms used.

<b>F</b>	<b>Front</b>
<b>RS</b>	Right Side
<b>LS</b>	Left Side
<b>TS</b>	Three Sides
<b>SC</b>	Space Creator
<b>SA</b>	Console Appliance
<b>TU</b>	Tunnel
<b>H</b>	High
<b>CC</b>	Circle
<b>IS</b>	Island
<b>TR</b>	Traditional

## Fireplace Clearances

This chapter provides information, diagrams and recommendations related to mounting, minimum clearances, television installation and more:

- Appliances and Vent Clearances: Overview on page 19
- Firebox Clearance Diagrams on page 20
- Diagrams for Mantel Clearances on page 23
- Mounting of Console Appliance Models on page 25
- Mounting of Console Appliance Models

This section provides guidelines and diagrams related to mounting of Console Appliance models.

### Recommendations for Wall Mounting

The following procedures present manufacturer-recommended instructions for mounting on concrete walls and wood stud walls.

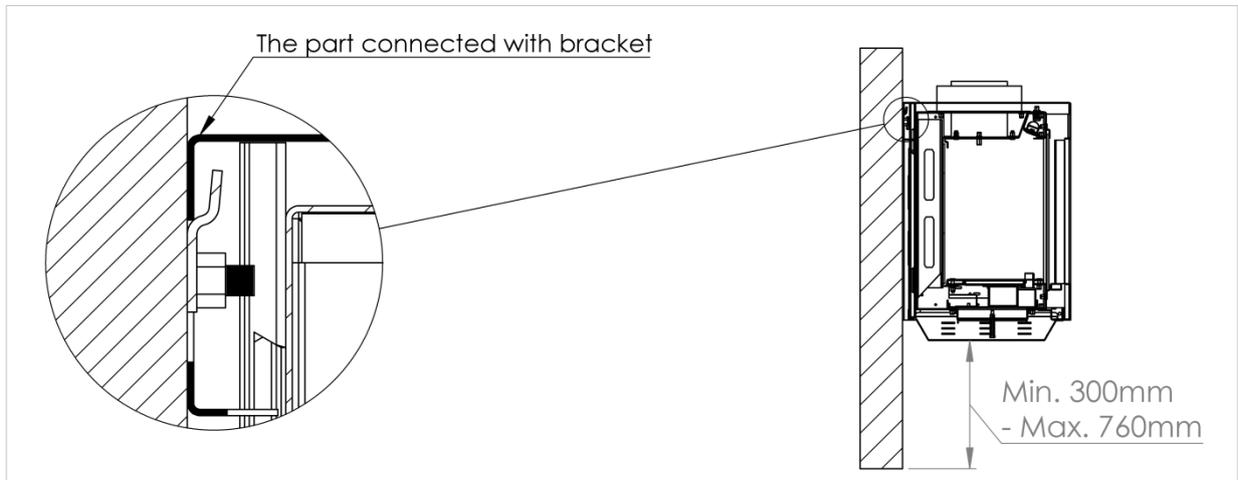


**NOTE: All installations are to be completed per local building codes and safety requirements. The recommendations provided do not take the place of reviewing and incorporating structural requirements set forth by the building engineer, local codes, etc.**

#### To mount the unit on a concrete wall:

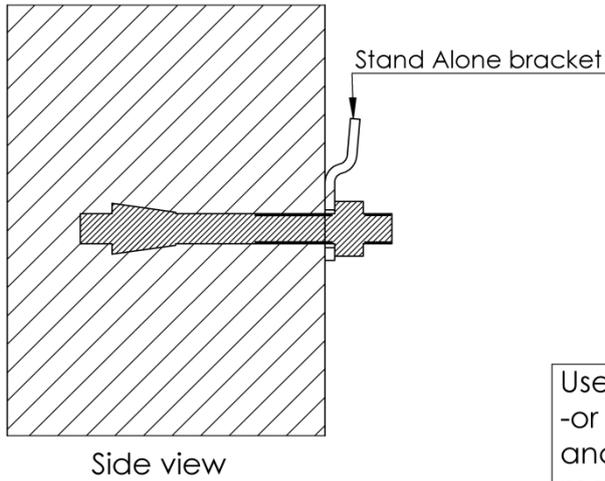
1. Position the unit at the desired height and mark the wall. There should be a minimum 30cm and maximum 75cm distance from the bottom of the unit to the floor.
2. Mount the Console Appliance hanging bracket using Hilti 9.5mm x 7.5mm KWIK BOLT 3 expansion anchors (or equivalent) with manufacturer's requirement of 63mm embedment and torque to 20ft-lbs.
3. Attach the unit to the mounting bracket. (See Figure 3 on page 26).

### Concrete Wall Mounting Detail

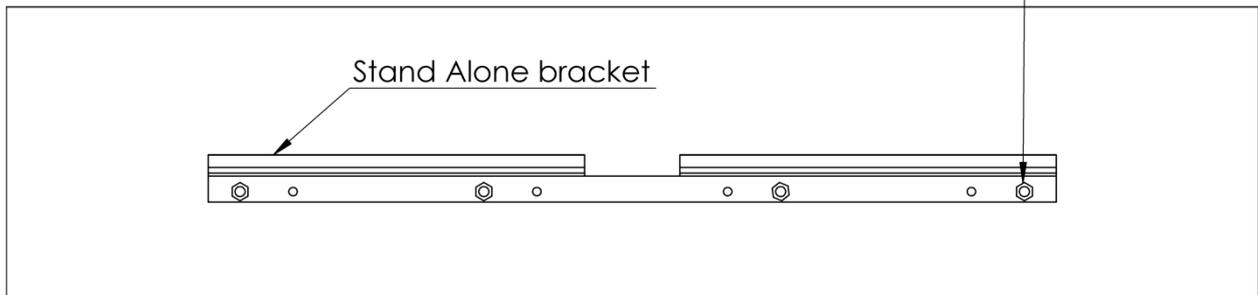


Min/Max height from bottom of the unit to the floor.

The Max height is a recommendation so that the uncovered bottom not be exposed.



Use Hitti (3/8 X 3") kwik bolt -or its equivalent- expansion anchor . Follow bolt manufacturers instructions .



Front view

Figure 3: Concrete Wall Mounting Detail

**To mount the unit on a wood stud wall:**

1. Position the unit at the desired height and mark the wall. There should be a minimum 30cm and maximum 75cm distance from the bottom of the unit to the floor.
2. Create an opening in the wall big enough to position the 10 x 20cm blocks between the wood studs at the desired height.
3. Repair the opening with Hardy backer board or its equivalent.
4. Make sure that the bracket has a minimum 10cm extra hardy backer board material around it.
5. Mount the bracket with 9.5 x 10mm lag bolts. Follow the bracket manufacturer's installation requirements and then mount the unit.

### Wood Stud Mounting Detail

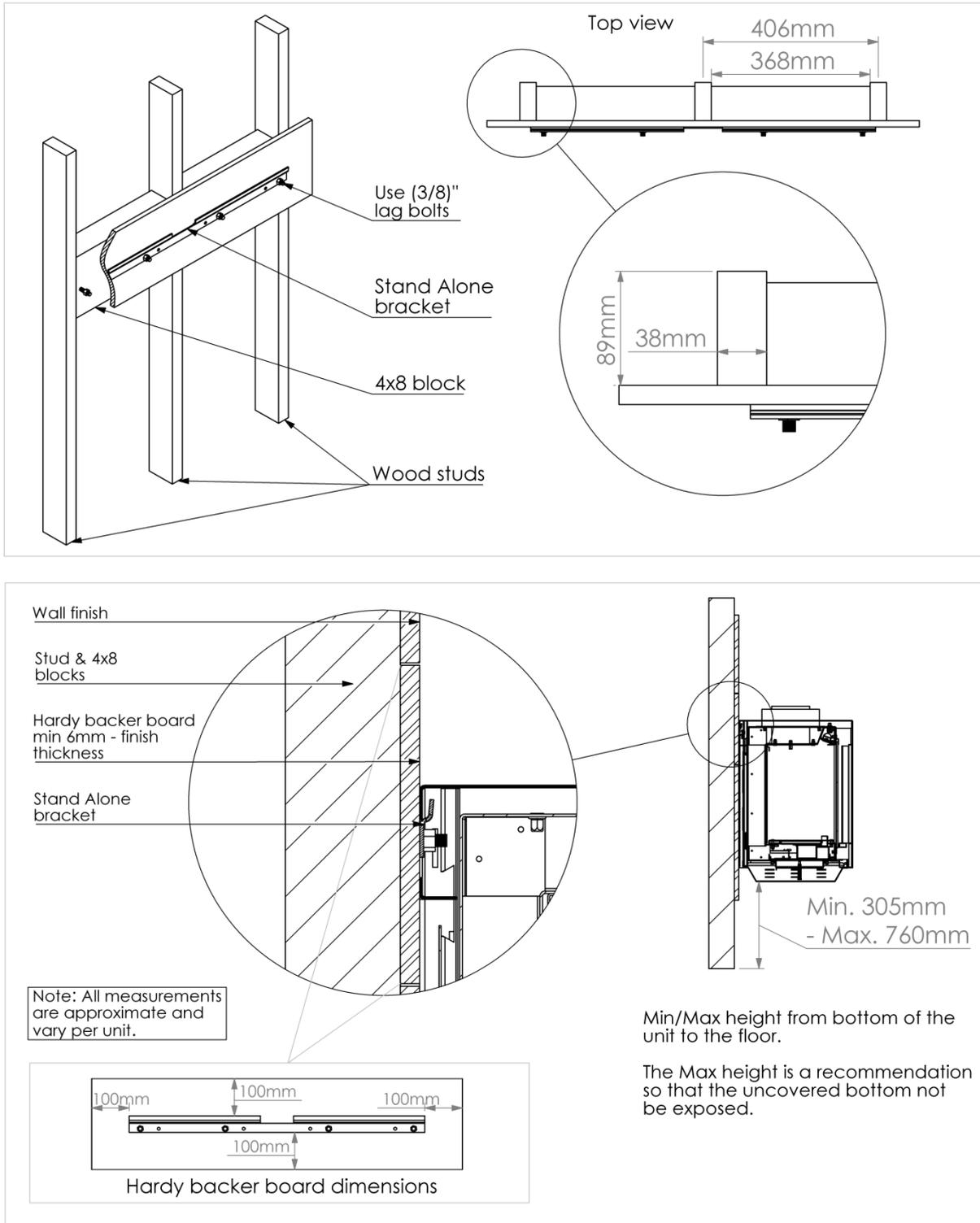


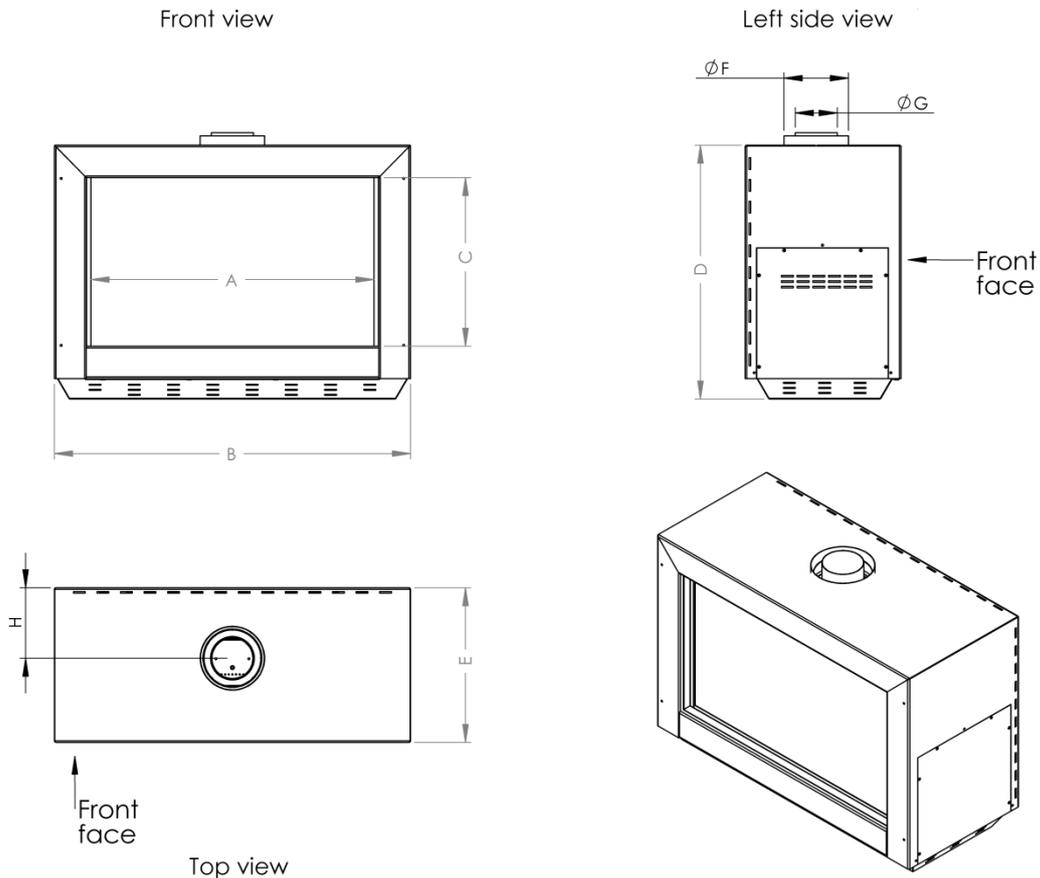
Figure 4: Wood Stud Mounting Detail

Console Appliance Installation Diagrams

The following diagrams present installation guidelines for the Console Appliance models. Please note that these drawings are not to scale. All fireplace drawings with correct dimensions are available on our website under **Products>Downloads>Diagram**



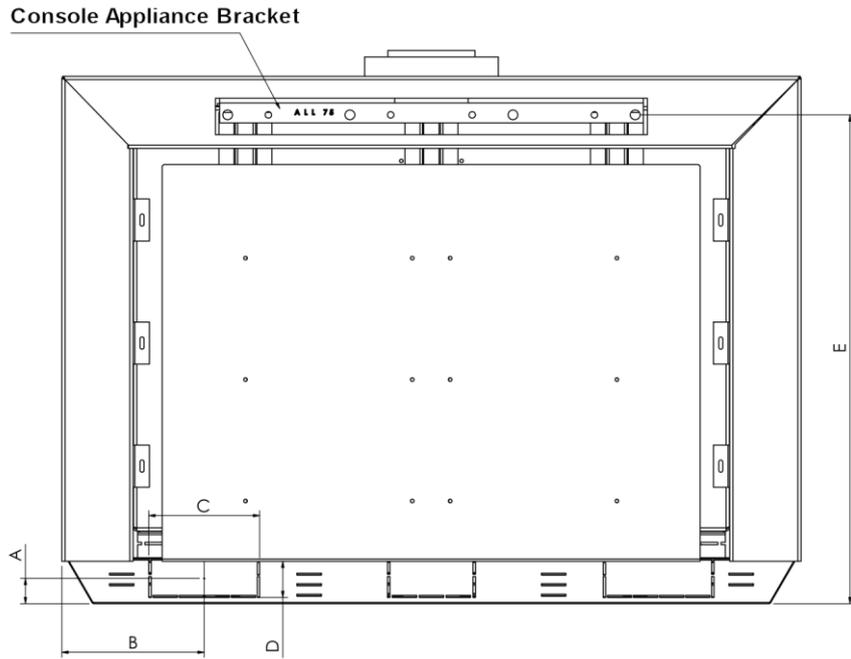
**NOTE: All dimensions in the diagrams are in millimeters.**



All dimensions are in millimeter								
Dim Type	A	B	C	D	E	F	G	H
150	1502	1694	345	566	397	200	132	181

Figure 5: Console Appliance Front Facing Models

**Rear view**



Dim Type	A	B	C	D	E
F150	29	143	136	42	520

Figure 6: 75 TS Console Appliance: Rear View



**NOTE:** The dimensions for A and B show the center of the opening for gas (after removing the bracket).  
TS Console Appliance units are completely open in the rear.

- Cool Wall Technology on page 25
- Television and Fireplace Installation on page 32
- ORTAL Fireplaces with Double Glass on page 35
- Wall Support Sample Detail on page 36

## Appliances and Vent Clearances: Overview

The appliance is approved with maintained minimum clearance to combustibles, as shown in the diagrams provided in this chapter.

Non-combustible materials, such as surrounds and other appliance trim, may be installed on the appliance face as long as the minimum clearances are maintained between the appliance and the non-combustible material. Surrounding material is not allowed to transfer weight to the unit or be connected in any way to the unit, with the exception of the Gyprock Fyrchek drywall (or its equivalent) in a flush install. It may be fastened to the frame with 2.5cm self-tapping drywall screws 40cm on center, with a minimum of 6.5cm from the glass lip. It must not transfer weight to the fireplace, or cover any portion of the removable glass panel or the control compartment.

**The minimum clearances (air space) to combustibles must be adhered to. It is of the greatest importance that the fireplace and vent system be installed only in accordance with these instructions.**

## Concepts and Definitions

- **Access Panels:** These are typically required for all ORTAL fireplaces. They allow for efficient and comfortable access to the fireplace receiver and valves, which is required to service the unit(s). Also, access panels can be uniquely placed and designed to not disturb the aesthetic incorporation of the fireplace to its surrounding living space. The size of the Access Panel may vary, but in all cases must allow the fireplace technician to effectively access and service the valve and receiver if required.

However, access panels are not the only option for servicing the fireplace operation mechanisms. A technician may also service the fireplace controls by going through the firebox. This procedure requires removing the glass panel(s), taking out the interior design media and lifting the grill, burner and bottom side (explosion valve) of the unit. The technician would then return all these fireplace components when service is complete.

Fireplace dealers/installers are advised to consult with their clients, project architects and/or interior designers regarding the advantages and disadvantages of each service option.

**Framing and Drywall:** Fireplace chase may be framed with metal studs or wood studs. Wood must be covered completely with non-combustible material and have the gaps sealed with a non-combustible fire sealant. We recommend using 13mm Gyprock Fyrchek fire rated drywall or its equivalent for the enclosure of the fireplace chase. The framing of the fireplace chase wall must be designed to carry the entire weight of the wall. Plan to include weight of other finish materials placed on the drywall.

- Wooden framing is acceptable.
- In the event a metal channel spacer is not in use, then a 300mm gap should be maintained above the top of the fire place to the first wooden frame support. The underneath of the wood frame facing the fire should be clad with Fyrchek.
- Internal Fyrchek to extend to ceiling height, except for where a reveal is in use.
- External Fyrchek to extend to ceiling height unless a reveal is used in place of a vent.
- Internal ceiling to be enclosed with Fyrchek except for where flue exits the chimney breast.

- **Heat Release:** Heat release is required for all models except the Console Appliances. This allows for heat building up within the fireplace chase to be released back into the space, helping to keep the fireplace wall cool. It must be located at the top of the fireplace chase and be placed a maximum of 15 cm below the fireplace chase ceiling. It can be located on the front, sides or back of the fireplace chase, as long as it is being released into an interior space and not outdoors. A minimum air space is required per series:
  - Minimum 0.08 sq. meter of free air space for Series 40-130
  - Minimum 0.13 sq. meter of free air space for Series 150-200
  - Minimum 0.16 sq. meter of free air space for Series 250

These air space values are the minimum required – they can always be greater. The heat release can be added as a louver or as a reveal. If using a louver, make sure that the free airspace allowed in the louvered area is equal or greater than the minimum number of square meters required per unit.

- **Fireplace Legs:** All ORTAL built-in fireplaces (Clear Front, LS, RS, TS, and Space Creator) come standard with legs that measure:
  - **Double glass units:** 25cm from the bottom of the fireplace glass opening to the floor
  - **Protective screen units:** 21cm from the bottom of the fireplace glass opening to the floor

This is the minimum height for the firebox to rest on the floor. **The legs cannot be removed.**

Console Appliance models come with legs that are used for transportation purposes only. These are connected with a bolt that must be removed once the unit is installed onsite. Since these models do not have legs, they can only be wall mounted.

## Firebox Clearance Diagrams

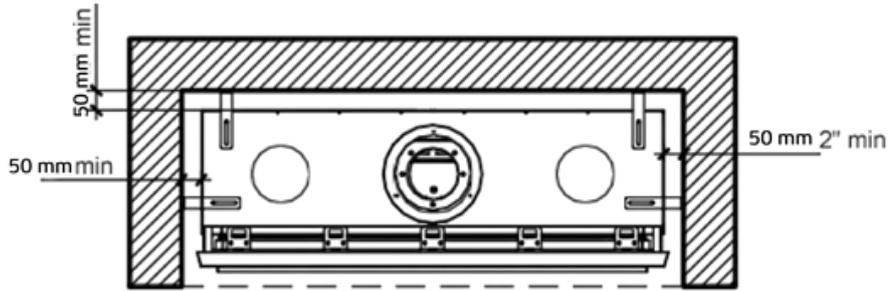
This manual is based on installation of front-facing ORTAL fireplaces. To install other ORTAL fireplace styles, modify the instructions per ORTAL Framing Dimensions.

Maintain clearances as shown in the figures below. Clearances are to non-combustible materials, or 13mm Gyprock Fyrchek fire rated drywall or its equivalent.

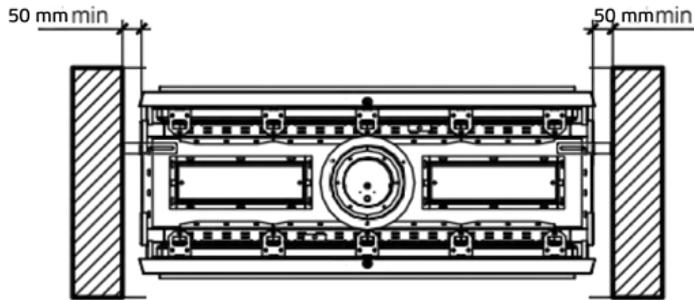
The legend for the figures is provided in the following table:

	16mm Gyprock Fyrchek fire rated gypsum board
	Section cut
	Wood
	Combustible material
	Non-combustible material
	Wood framing
	Metal framing

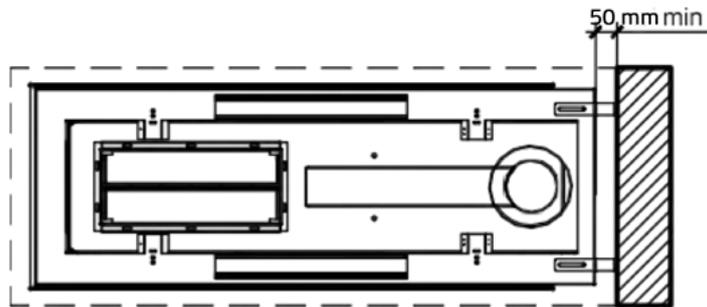
### FRONT/TRADITIONAL



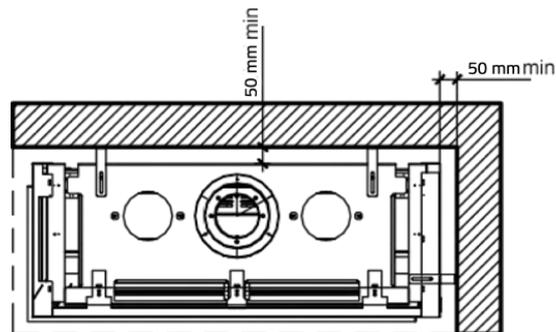
**TUNNEL (SEE-THRU)**



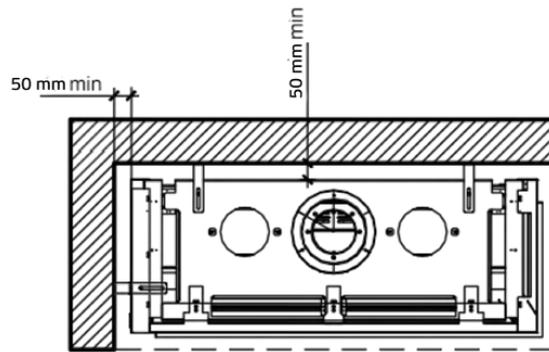
**SPACE CREATOR**



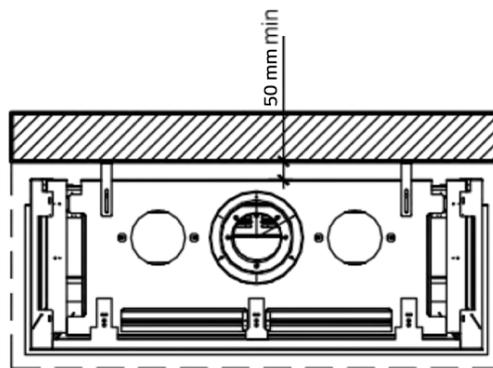
**LEFT SIDE OPEN (LS)**



**RIGHT SIDE OPEN (RS)**



**THREE SIDES (TS)**



Diagrams for Mantel Clearances and Shelf Details

The following sections present clearance diagrams for different fireplace options. Please note that these drawings are not to scale. All fireplace drawings with correct dimensions are available on our website under **Products>Downloads>Diagram**



**NOTE:** For detailed information about framing and finishes, please refer to the *Ortal Builder's Manual*.

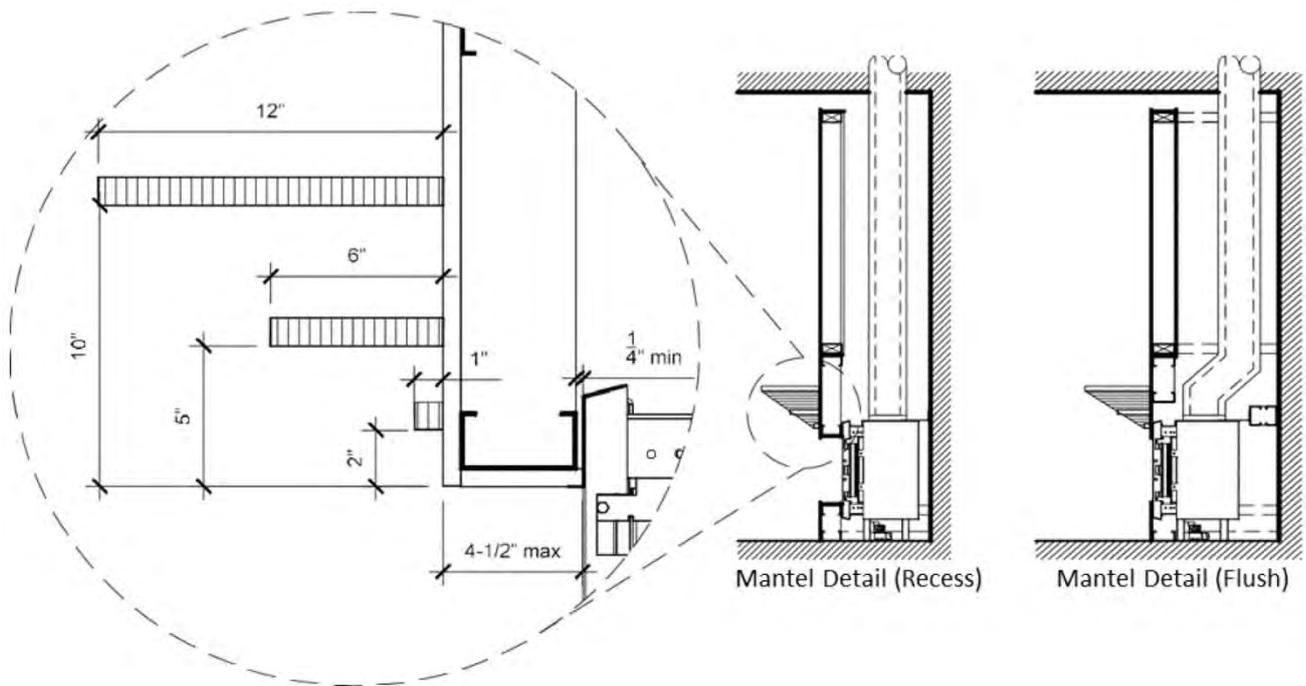


Figure 1: Mantel Clearances: Recess and Flush Finishes

**LEGEND:**

	16mm Gyprock Fyrchek fire rated gypsum board (or equivalent)		Wood framing
	Combustible material		Metal framing

**Non-combustible materials:** Materials applicable for the installation of ORTAL fireplaces within the specified clearance dimensions are described as non-combustible materials. An exception is made only for fire rated 16mm Gyprock Fyrchek gypsum wallboard UL authorized or equivalent, where a non-combustible material may be used.

**The air flow area must be free from any obstruction, to allow heat from the chase to be released.**

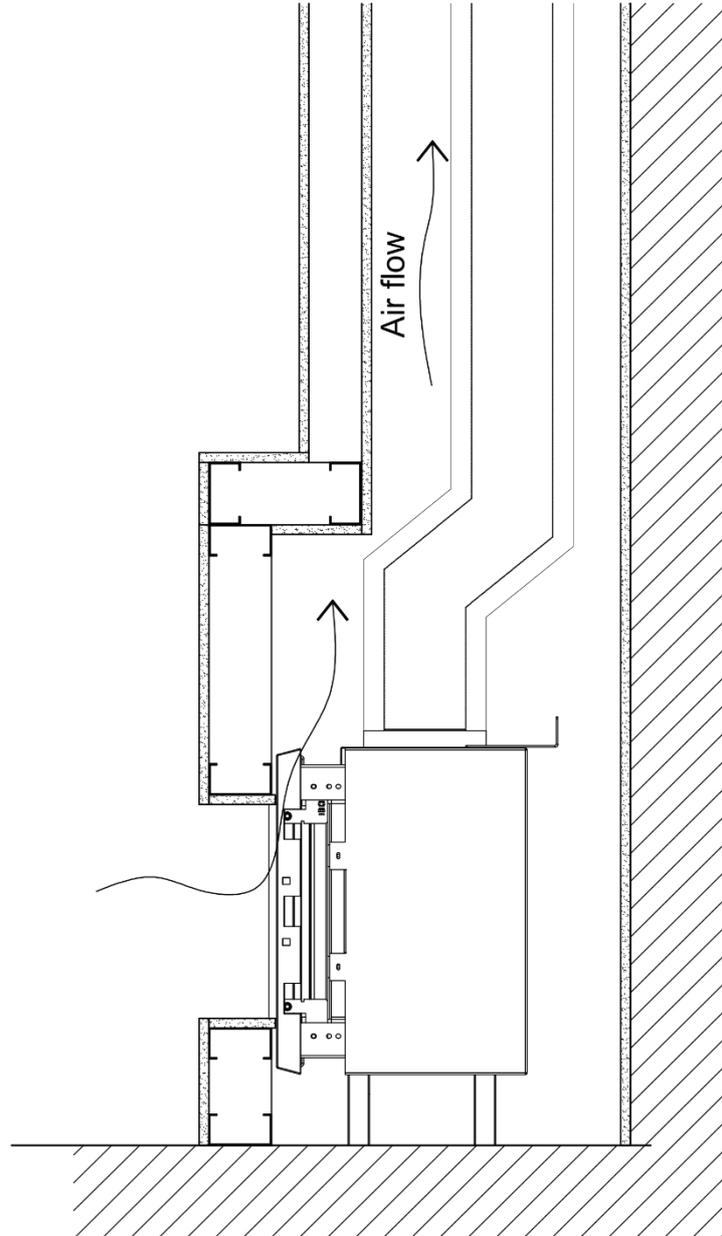


Figure 2: Shelf Detail

**LEGEND:**

	16mm Gyprock Fyrchek fire rated gypsum board (or equivalent)		Wood framing
	Combustible material		Metal framing

**Non-combustible materials:** Materials applicable for the installation of ORTAL fireplaces within the specified clearance dimensions are described as non-combustible materials. An exception is made only for fire rated 16mm Gyprock Fyrchek gypsum wallboard UL authorized or equivalent, where a non-combustible material may be used.

 **The air flow area must be free from any obstruction, to allow heat from the chase to be released.**

## Mounting of Console Appliance Models

This section provides guidelines and diagrams related to mounting of Console Appliance models.

### Recommendations for Wall Mounting

The following procedures present manufacturer-recommended instructions for mounting on concrete walls and wood stud walls.

**WARNING:** Console Appliances are Wall Mounted units ONLY.  
They cannot be placed in closed surroundings like bookcases, cupboards or closed walls.

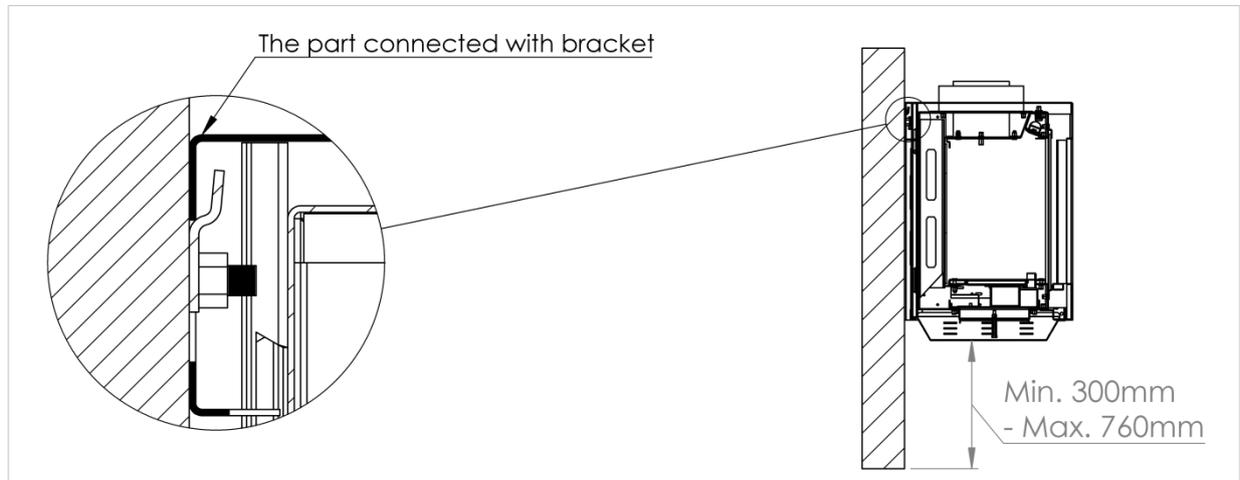


**NOTE:** All installations are to be completed per local building codes and safety requirements. The recommendations provided do not take the place of reviewing and incorporating structural requirements set forth by the building engineer, local codes, etc.

#### To mount the unit on a concrete wall:

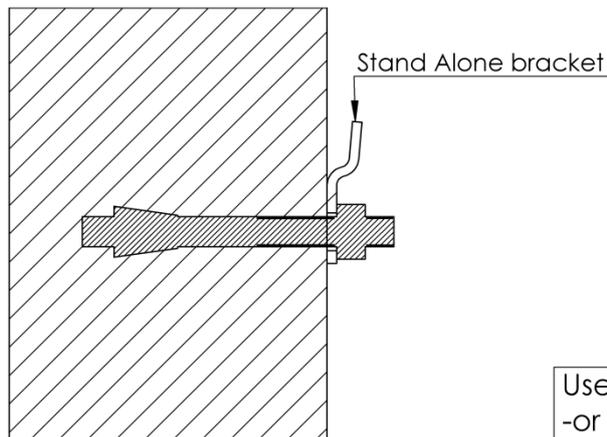
6. Position the unit at the desired height and mark the wall. There should be a minimum 30cm and maximum 75cm distance from the bottom of the unit to the floor.
7. Mount the Console Appliance hanging bracket using Hilti 9.5mm x 7.5mm KWIK BOLT 3 expansion anchors (or equivalent) with manufacturer's requirement of 63mm embedment and torque to 20ft-lbs.
8. Attach the unit to the mounting bracket. (See Figure 3 on page 26).

### Concrete Wall Mounting Detail



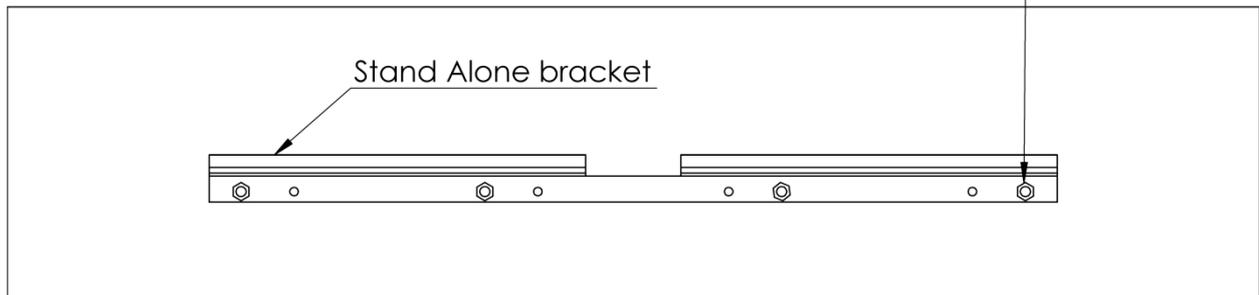
Min/Max height from bottom of the unit to the floor.

The Max height is a recommendation so that the uncovered bottom not be exposed.



Side view

Use Hitti (3/8 X 3") kwik bolt -or its equivalent- expansion anchor . Follow bolt manufacturers instructions .



Front view

Figure 3: Concrete Wall Mounting Detail

**To mount the unit on a wood stud wall:**

9. Position the unit at the desired height and mark the wall. There should be a minimum 30cm and maximum 75cm distance from the bottom of the unit to the floor.
10. Create an opening in the wall big enough to position the 10 x 20cm blocks between the wood studs at the desired height.
11. Repair the opening with Hardy backer board or its equivalent.
12. Make sure that the bracket has a minimum 10cm extra hardy backer board material around it.
13. Mount the bracket with 9.5 x 10mm lag bolts. Follow the bracket manufacturer's installation requirements and then mount the unit.

### Wood Stud Mounting Detail

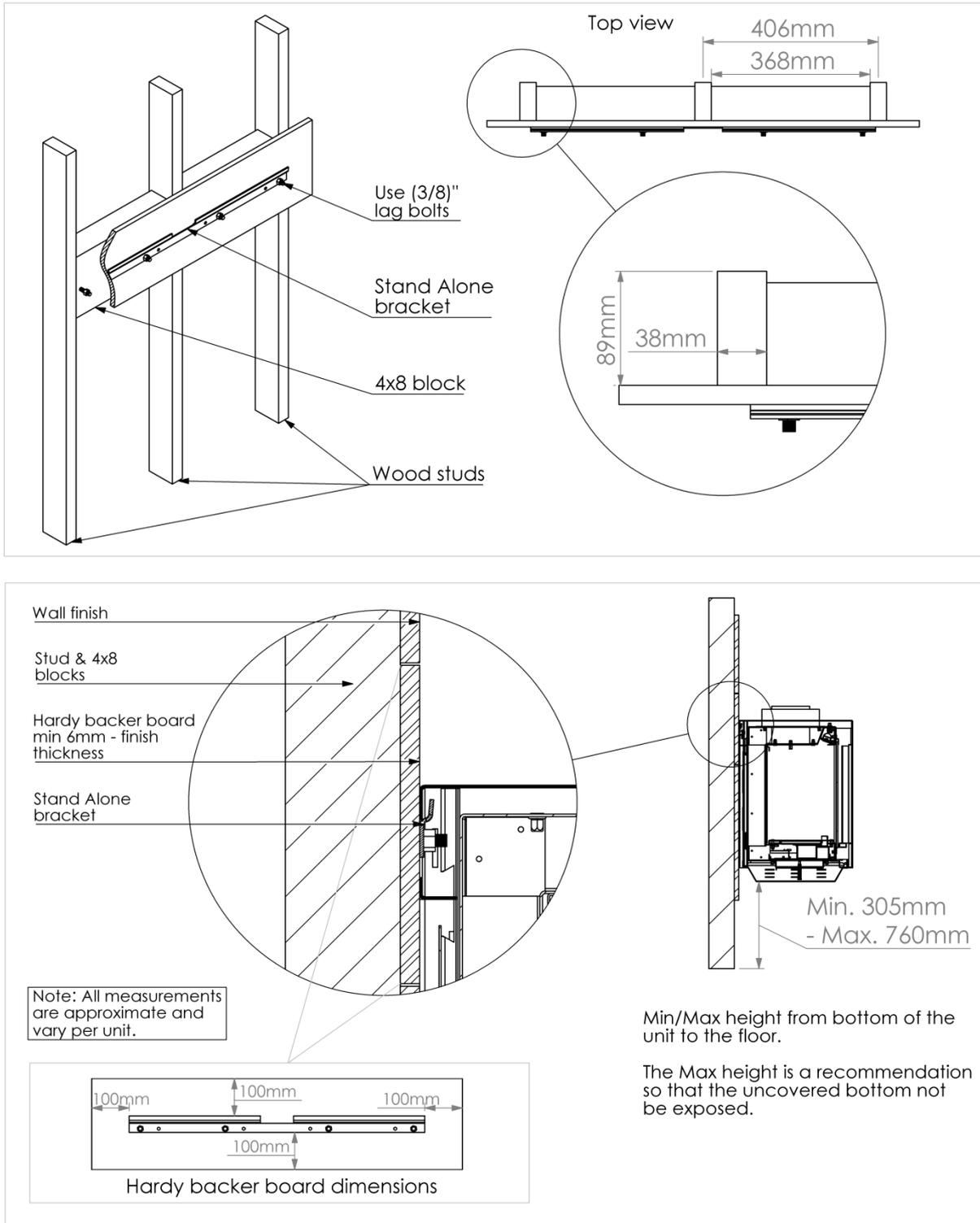


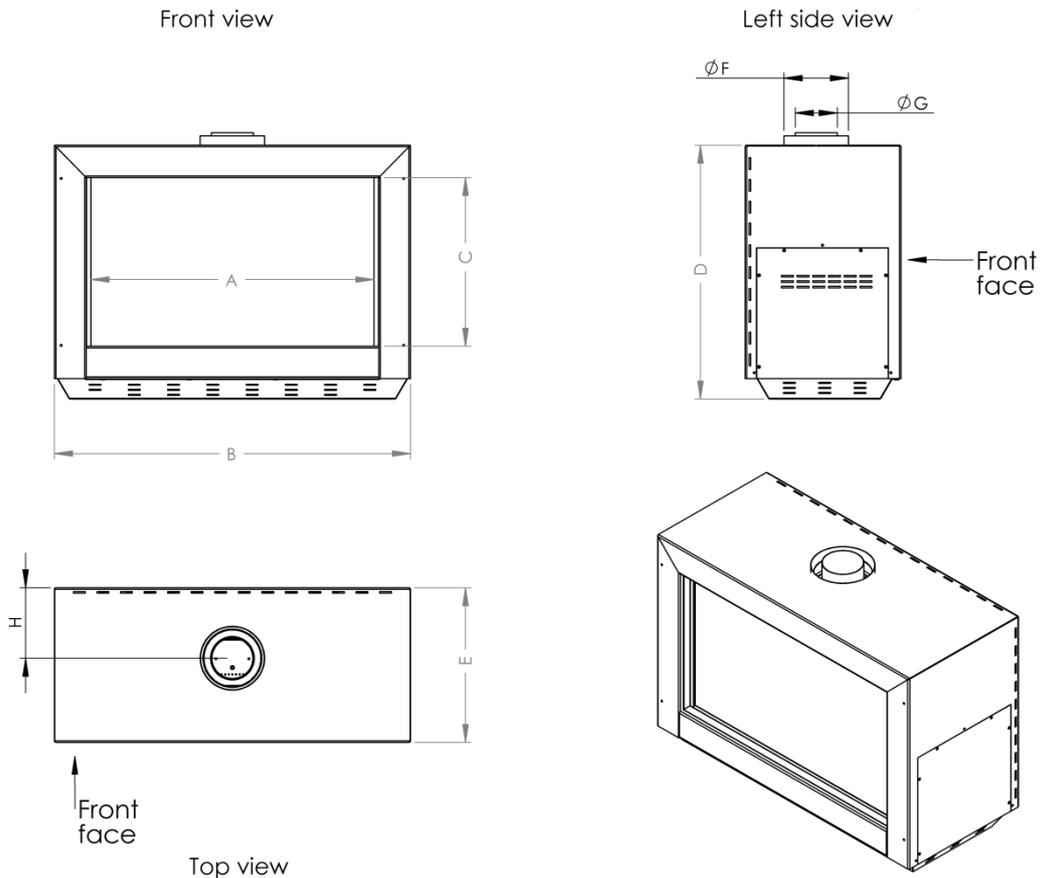
Figure 4: Wood Stud Mounting Detail

Console Appliance Installation Diagrams

The following diagrams present installation guidelines for the Console Appliance models. Please note that these drawings are not to scale. All fireplace drawings with correct dimensions are available on our website under **Products>Downloads>Diagram**



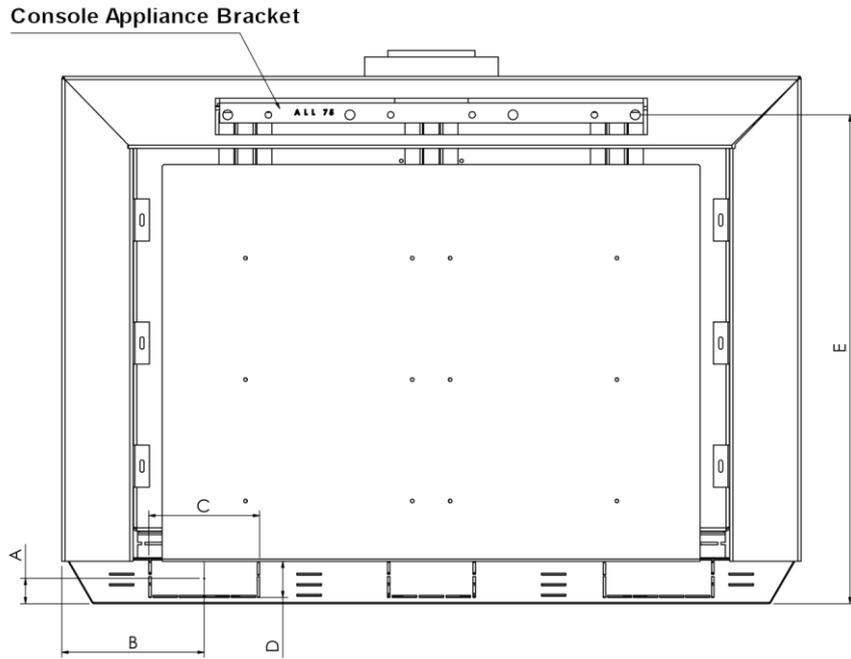
**NOTE: All dimensions in the diagrams are in millimeters.**



All dimensions are in millimeter								
Dim Type	A	B	C	D	E	F	G	H
150	1502	1694	345	566	397	200	132	181

Figure 5: Console Appliance Front Facing Models

**Rear view**



Dim Type	A	B	C	D	E
F150	29	143	136	42	520

Figure 6: 75 TS Console Appliance: Rear View



**NOTE:** The dimensions for A and B show the center of the opening for gas (after removing the bracket).  
TS Console Appliance units are completely open in the rear.

## Cool Wall Technology

ORTAL's unique Cool Wall technology is a technique that reduces the heat from the glass and the firebox and prevents excessive heat buildup, thereby avoiding any damage that may result from high heat temperatures. ORTAL's cool wall system enables the option of installing a TV or other similar electronic components above the fireplace, as well as the ability to use finishing materials that a hot wall surface would prohibit.

An ORTAL fireplace is surrounded by cool walls the first time every time. In addition, Cool Wall technology avoids the need for a fan to keep the walls cool. A fan requires more power, an additional outlet near the fireplace, and may result in a dull noise in the background whenever the fan is operating.

The following table shows wall temperatures achieved by ORTAL Heating Solutions.

Table 1: Wall Temperatures Above the Firebox

Location	Wall Temperature
0-15cm above the firebox	71°-99°
15-30cm above the firebox	71°
<b>Recommended minimum clearance between bottom edge of TV or other similar device and top of firebox opening is 30cm.</b>	
30cm above the firebox	32°

Excessively high wall temperatures surrounding the firebox can contribute to the following conditions:

- Distortion of the wall surface
- Peeling or color change of the paint on the finished wall
- Falling wall tiles (glue will no longer hold at temperatures above 116° C / 240° F )
- Puckering, bending and/or splintering of wood paneling
- Cracking of marble
- Noncompliance of electrical components

The following table summarizes types of damage that can be caused by excessive heat around the firebox opening.

Table 2: Material Damage Caused by Excessive Heat

Material	Temperature at which material is damaged	Damage
Marble	Approximately 138° C (a lot of variety is reported; ask your supplier)	Cracking
Tile/Glue	116° C (From MSDS sampling of a variety of products)	Tiles aren't held by the glue and will fall
Paint	77° C (From MSDS sampling of a variety of products)	Peeling, color change
Wood	Varies according to dryness/moisture content	Warping, cracking, bowing, drying, burn/fire hazard

ORTAL's Cool Wall Solution allows for the wall to breathe, releasing the excess heat from the chase to maintain a temperature from a high point of 210° C (immediately above the firebox) to 90° C (one foot above the firebox).

Advantages of an ORTAL fireplace include:

- A safe wall temperature under 71°C at 15mm and higher above the firebox
- No need for a fan to remove heat from walls
- Ability to place a TV and other similar devices above the firebox without worry of the TV screen cracking or electrical components burning out
- Provision of a mounting detail for installation of the TV above the firebox
- Ability to hang artwork without fear of heat impact
- Ability to use finish materials such as tiles, Venetian plaster paint and regular paint (not high temp) without worry
- Ability to use wood as a decorative finish material (see ORTAL's clearance requirements)
- Savings on installation costs (no need to return for overheating problems)

**NOTE:** Make sure to review and understand all of ORTAL's installation manuals, details and clearances before installation. Also, be sure to consult the product guides and manuals for whatever products or devices will be used as part of the installation to ensure compliant installation for all products.

If you have any questions, please contact us and our technical department will be happy to assist you.

## Television and Fireplace Installation

The following sections provide guidelines and diagrams for installing a television above the fireplace:

- TV Placement Considerations on page 32
- TV Installation Clearance Diagrams on page 32

### TV Placement Considerations

Most TV manufacturers specify in their instructions that the TV should not be installed on, near or above a heat source. However, the decision of where to place the TV ultimately rests solely with the homeowner. ORTAL will not be held liable for any adverse effects on a TV or other equipment located near ORTAL fireplaces.

The material from which the wall and mantle are made will also affect the operating temperature of the TV. It is the customer's responsibility to verify that their TV mounting and mantel design will not exceed the listed maximum operating temperature of their electronic goods.

The homeowner should also be careful to consider the placement of the equipment's power and signal lines. If these lines are in or near the chase, they need to be protected from heat.

The drawings in the following sections can be used as a guide for those consumers who do decide to locate their TVs above ORTAL fireplaces. These drawings illustrate ways of reducing the amount of heat impact to TVs placed above the fireplace.

### TV Installation Clearance Diagrams

The following diagrams show TV clearances for different fireplace options. Please note that these drawings are not to scale. All fireplace drawings with correct dimensions are available on our website under **Products>Downloads>Diagram**



**NOTE:** For detailed information about framing and finishes, please refer to the *OrtalBuilder's Manual*.

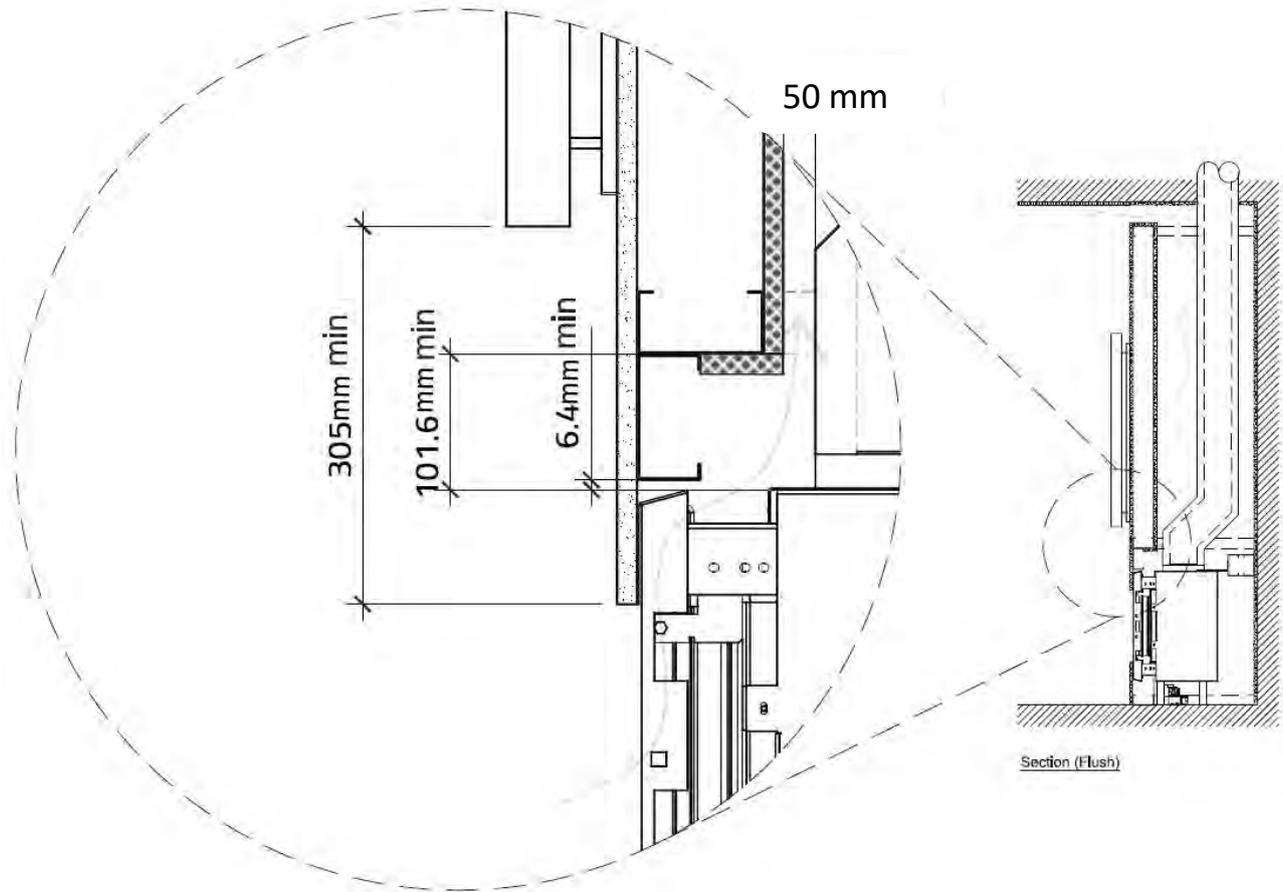


Figure 7: Fireplaces with Flush Finish: TV Clearances

**LEGEND:**

	16mm Gyprock Fyrchek fire rated gypsum board (or equivalent)		Wood framing
	Combustible material		Metal framing

**Non-combustible materials:** Materials applicable for the installation of ORTAL fireplaces within the specified clearance dimensions are described as non-combustible materials. An exception is made only for fire rated 16mm Gyprock Fyrchek gypsum wallboard UL authorized or equivalent, where a non-combustible material may be used.

 **The air flow area must be free from any obstruction, to allow heat from the chase to be released.**

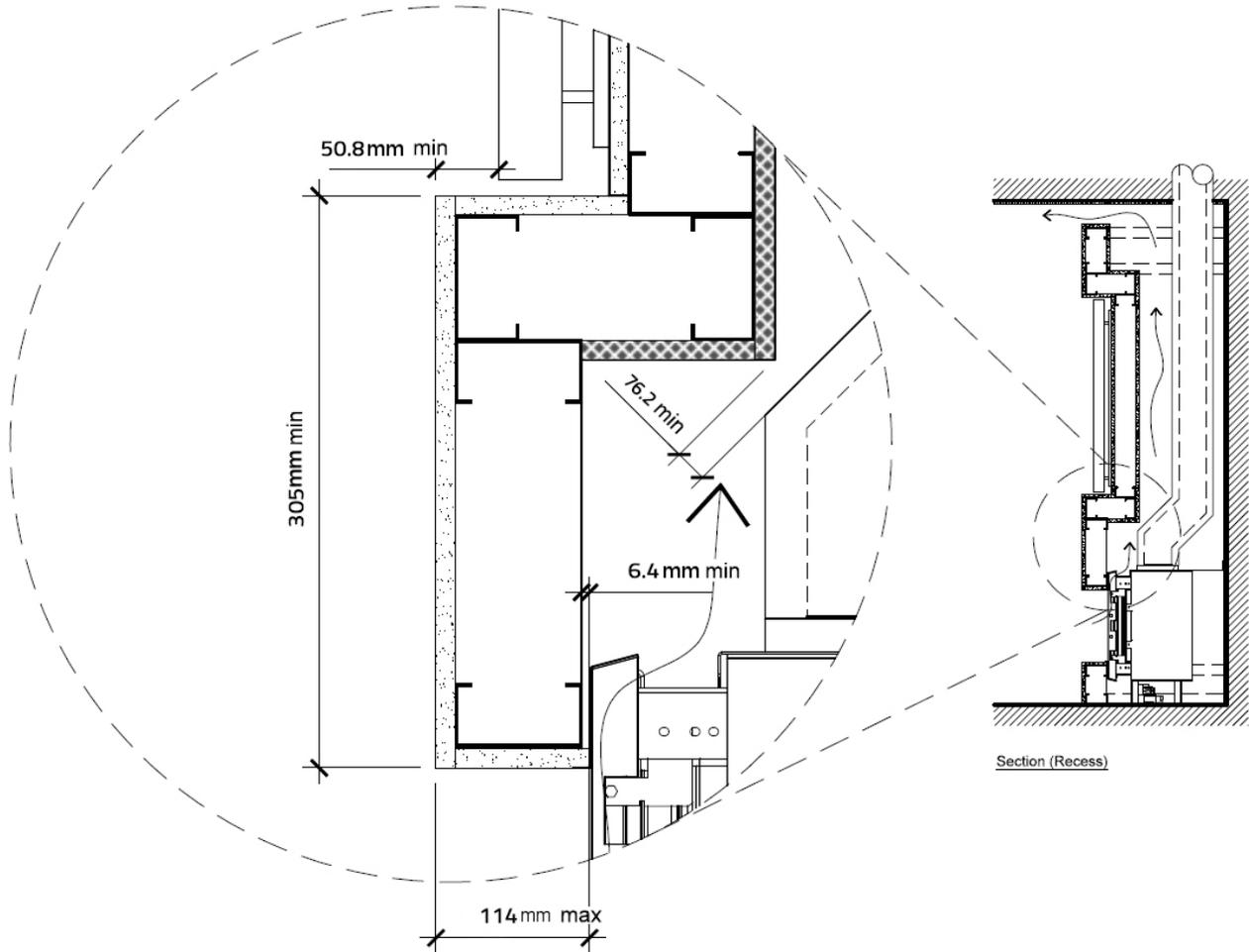


Figure 8: Fireplaces with Recess Finish: TV Clearances

**LEGEND:**

	16mm Gyprock Fyrchek fire rated gypsum board (or equivalent)		Wood framing
	Combustible material		Metal framing

**Non-combustible materials:** Materials applicable for the installation of ORTAL fireplaces within the specified clearance dimensions are described as non-combustible materials. An exception is made only for fire rated 16mm Gyprock Fyrchek gypsum wallboard UL authorized or equivalent, where a non-combustible material may be used.

 **The air flow area must be free from any obstruction, to allow heat from the chase to be released.**

### ORTAL Fireplaces with Double Glass

In order to maintain air flow between the glass panels and to allow cool room air to enter into the chase cavity, an opening must be provided in the exterior finish surface underneath the firebox. This opening needs to be made before closing the wall surface below the fireplace.

The following diagrams show two options for constructing the chase cavity air intake. Please note that these drawings are not to scale. All fireplace drawings with correct dimensions are available on our website under **Products>Downloads>Diagram**



**NOTE:** For detailed information about framing and finishes, please refer to the *Ortal Builder's Manual*.

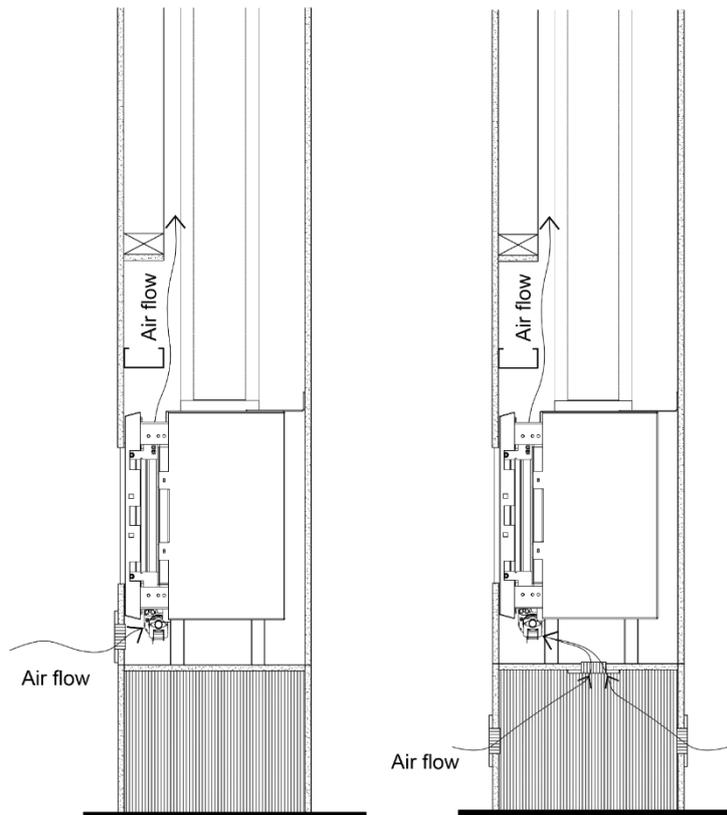


Figure 9: Chase Cavity Air Intake Options

**LEGEND:**

	16mm Gyprock Fyrchek fire rated gypsum board (or equivalent)		Wood framing
	Combustible material		Metal framing

**Non-combustible materials:** Materials applicable for the installation of ORTAL fireplaces within the specified clearance dimensions are described as non-combustible materials. An exception is made only for fire rated 16mm Gyprock Fyrchek gypsum wallboard UL authorized or equivalent, where a non-combustible material may be used.

 **The air flow area must be free from any obstruction, to allow heat from the chase to be released.**

### Wall Support Sample Detail

ORTAL fireplaces must not carry any structural weight. The framing must be supported by another surface, not by the firebox. Please consult with your structural engineer and refer to your local building code for proper wall support.

The following drawing shows a recommended approach to this type of installation. Please note that this drawing is not to scale. All fireplace drawings with correct dimensions are available on our website under **Products>Downloads>Diagram**

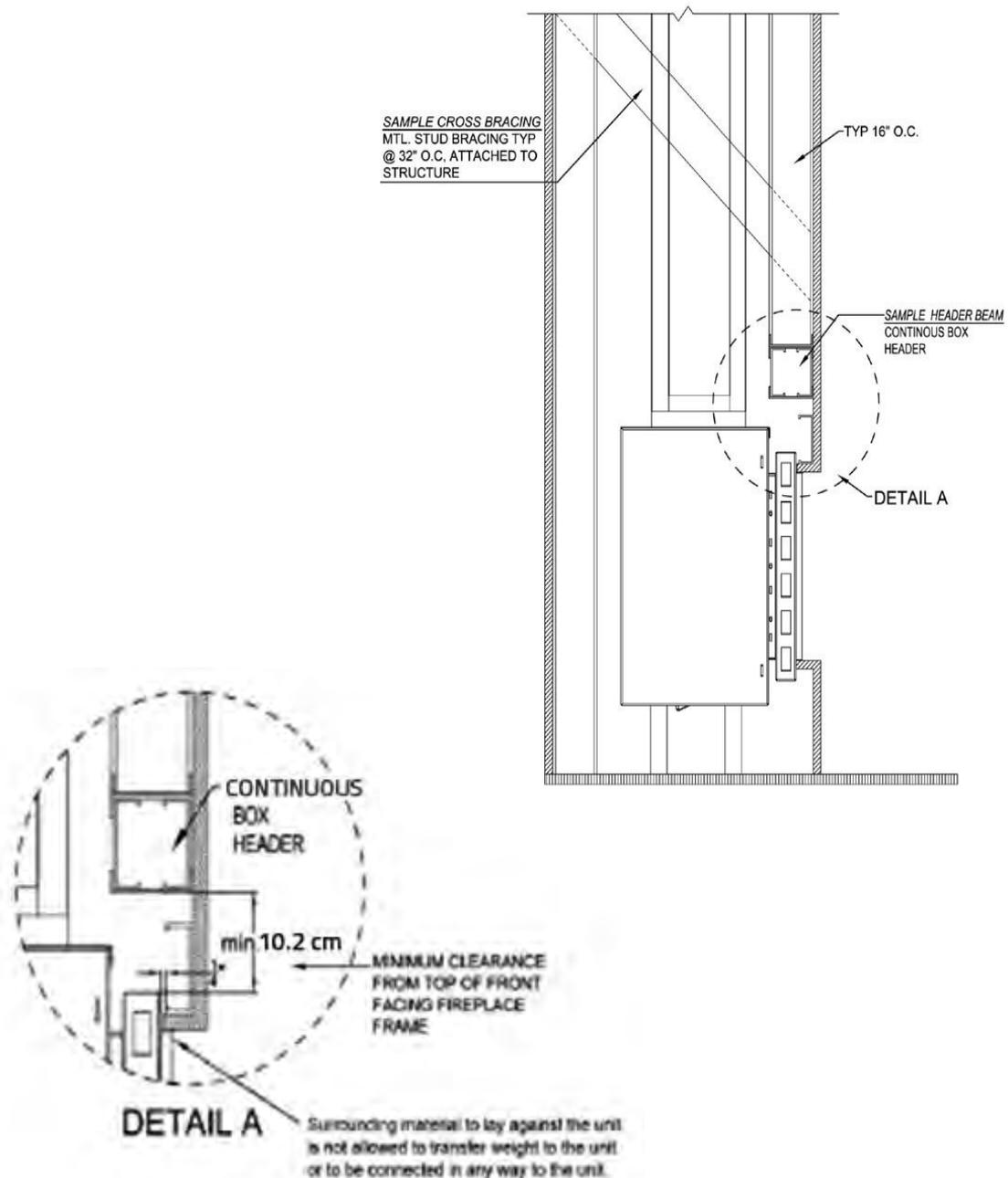


Figure 10: Wall Support Sample Detail

## Framing Diagrams

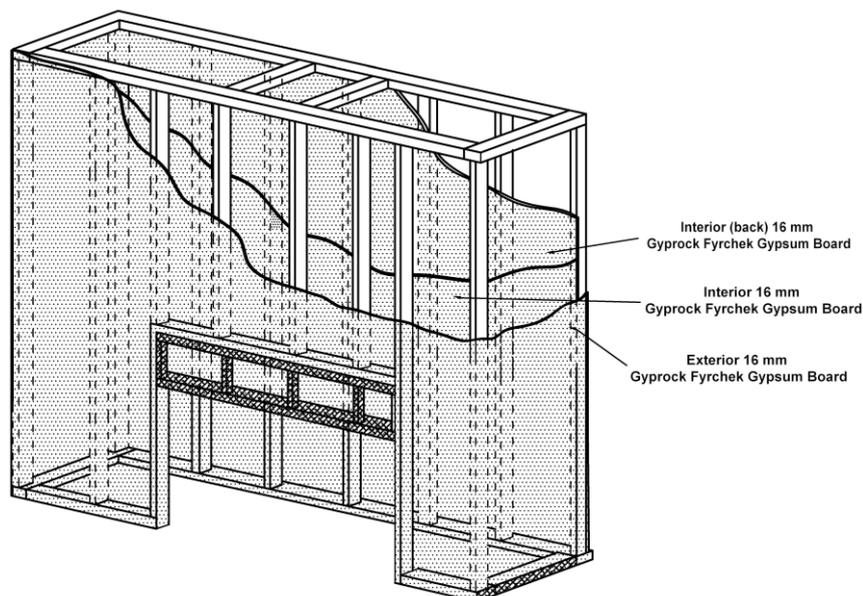
The following diagrams show framing dimensions in a flush application as an example. A flush application is not the only possible application for ORTAL fireplaces. Please visit our website for more information.

The leg height used for calculating the framing dimensions in the following diagrams is the double glass leg height 250mm, which will be standard leg height for both double glass and screen units starting March 2018 with serial #15275 (see page 13 for details on leg height). For framing diagrams for screen units with a leg height of 210mm manufactured prior to March 2018, please visit [ortalheat.com](http://ortalheat.com)

The framing shown in the following diagrams show how to meet the requirements for framing with wood studs. To frame with all metal studs, only one layer of 15mm fireproof gyprock is required and is on the exterior of the framing, and you don't need any 15mm fireproof gyprock on the interior. If you plan on putting a TV above the fireplace, you will still need the 2 layers of 15mm fireproof gyprock, even if you're framing in all metal studs.

### Wood Framing Requirements:

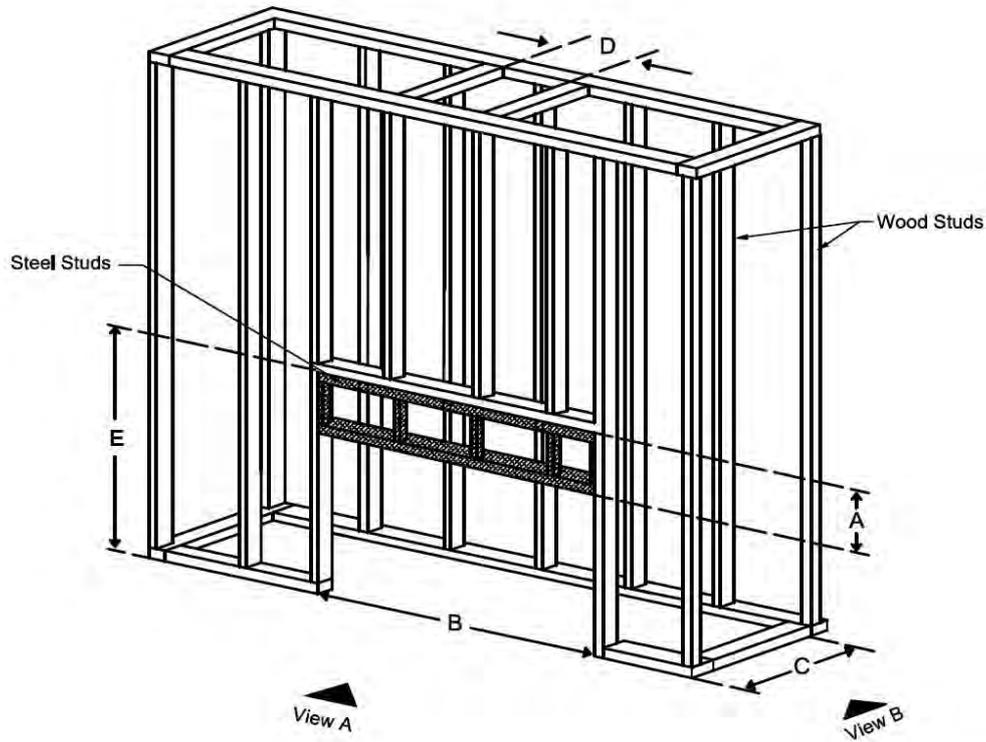
- Must have two layers of 13mm fireproof Gyprock Fyrchek— one on the interior and one on the exterior sides of the framing.
- The first 457mm above the top of the fireplace glass must be metal framing. This is the minimum and can be made larger.



### LEGEND

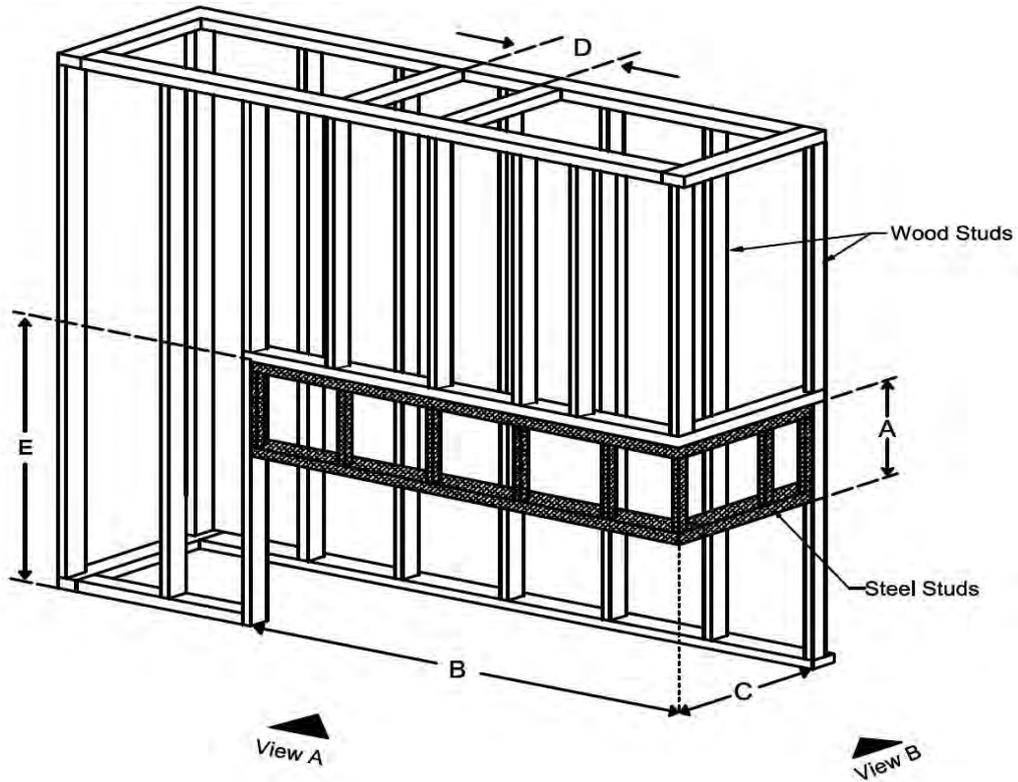
	Construct platform		Steel		Wood
	Glass		Wood Studs		Steel Studs

Front (F) & Traditional (TR) Series Framing Diagram



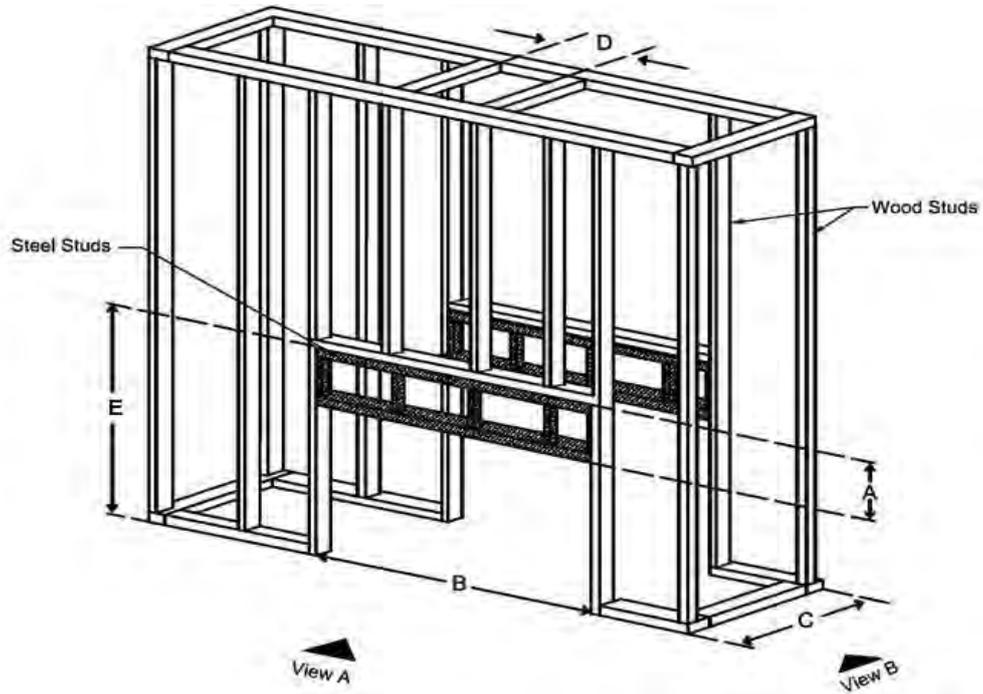
Unit	Dimension A	Dimension B	Dimension C	Dimension D	Dimension E
40H70 F	502	657	475	222	1550
60x80 F	457	778	475	222	1550
75x65 F	560	1005	475	222	1550
75 F	510	989	475	222	1283
110 F	568	1350	475	254	1283
110H F	495	1367	475	254	1410
130 F	568	1520	475	254	1283
130H F	495	1520	475	254	1410
150 F	568	1770	475	254	1283
150H F	495	1770	475	254	1410
170 F	568	1970	475	254	1283
170H F	495	1970	475	254	1410
200 F	568	2210	475	254	1283
200H F	495	2210	475	254	1410
250 F	520	2683	475	254	1283
250H F	495	2683	475	254	1410
TR 90	530	1170	690	254	1720
TR 110	457	1360	690	254	1720

Corner (RS/LS) Series Framing Diagram



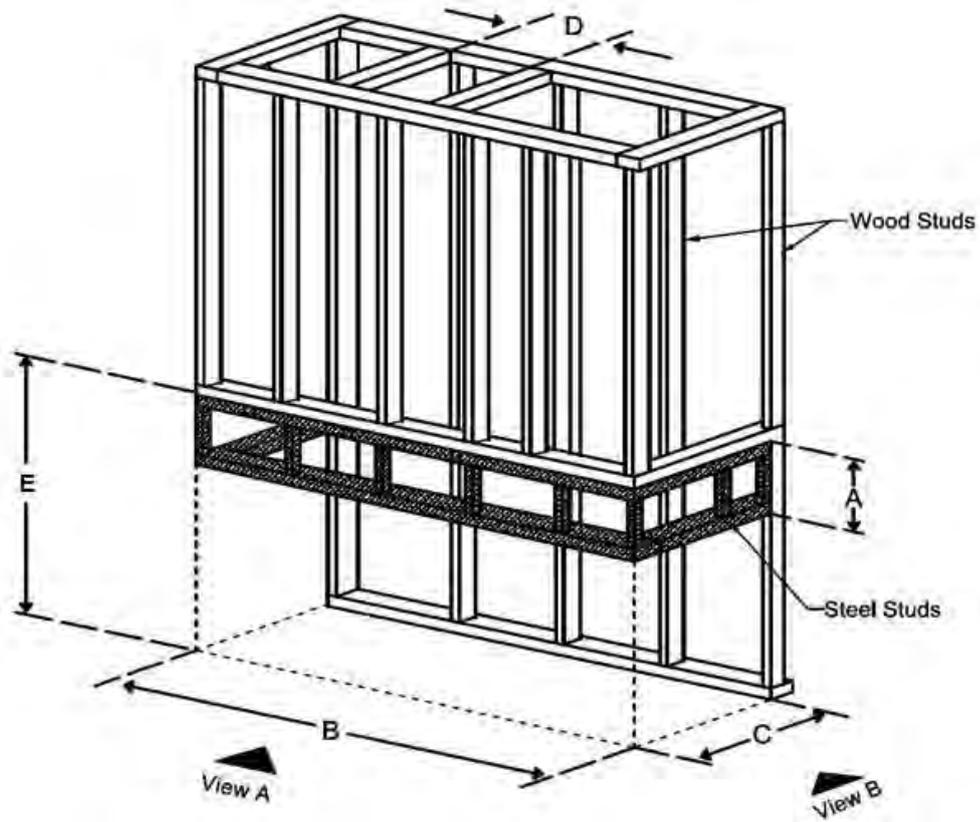
Unit	Dimension A	Dimension B	Dimension C	Dimension D	Dimension E
40H70 RS/LS	497	615	476	222	1550
75 RS/LS	457	910	527	222	1283
110 RS/LS	520	1305	538	254	1283
110H RS/LS	457	1310	581	254	1410
130 RS/LS	520	1473	538	254	1283
130H RS/LS	457	1480	581	254	1410
150 RS/LS	520	1724	538	254	1283
150H RS/LS	457	1730	581	254	1410
170 RS/LS	520	1924	538	254	1283
170H RS/LS	457	1930	581	254	1410
200 RS/LS	520	2164	538	254	1283
200H RS/LS	457	2170	581	254	1410
250 RS/LS	520	2664	538	254	1283
250H RS/LS	457	2670	581	254	1410

### Tunnel (TN) Framing Diagram



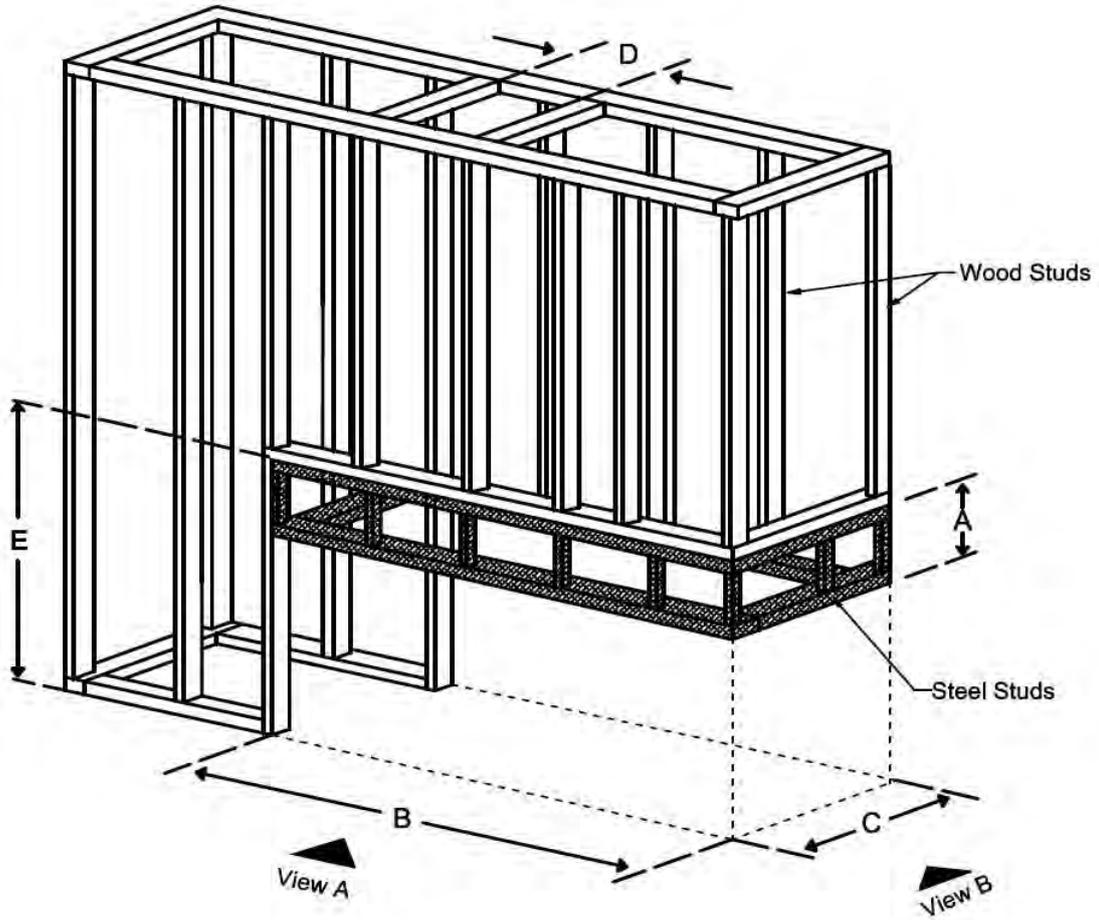
Unit	Dimension A	Dimension B	Dimension C	Dimension D	Dimension E
40H70 TN	505	657	484	222	1550
60x80 TN	457	778	484	222	1550
75x65 TN	560	1005	484	222	1550
110 TN	570	1350	487	254	1283
110H TN	497	1367	487	254	1410
130 TN	570	1520	487	254	1283
130H TN	497	1520	487	254	1410
150 TN	570	1770	487	254	1283
150H TN	497	1770	487	254	1410
170 TN	570	1970	487	254	1283
170H TN	497	1970	487	254	1410
200 TN	570	2210	487	254	1283
200H TN	497	2210	487	254	1410
250 TN	516	2683	487	254	1283
250H TN	497	2683	487	254	1410

### Three Side (TS) Framing Diagram



Unit	Dimension A	Dimension B	Dimension C	Dimension D	Dimension E
40H70 TS	497	567	480	222	1550
75 TS	457	853	525	222	1283
110 TS	519	1243	538	254	1283
110H TS	459	1243	581	254	1410
130 TS	519	1413	538	254	1283
130H TS	459	1413	581	254	1410
150 TS	519	1662	538	254	1283
150H TS	459	1662	581	254	1410
170 TS	519	1862	538	254	1283
170H TS	459	1862	581	254	1410
200 TS	519	2102	538	254	1283
200H TS	459	2102	581	254	1410
250 TS	519	2602	538	254	1283
250H TS	459	2602	581	254	1410

Space Creator (SC) Framing Diagram



Unit	Dimension A	Dimension B	Dimension C	Dimension D	Dimension E
SC 75	483	964	492	222	1283
SC 120	464	1456	492	254	1283
SC 150	464	1757	492	254	1283
SC 200	464	2267	492	254	1283

## Gas Setup

ORTAL fireplaces are closed balanced flue / direct vent systems that can operate with natural gas (NG) or propane (LPG). The following sections present detailed information about gas routing, pressures, conversion, maintenance and more:

- Gas Line Routing on page 53
- Gas Control Assemblies and Components on page 54
- Gas Conversion
- To change the gas source of a fireplace, you need to request a gas conversion kit. Gas conversion can be performed only by technicians who have specific authorization to change these components. The actual change must be done by the authorized technician. Not all installers are authorized to provide gas conversion services.

The following procedure is a guide for NG-LPG conversion.

**⚠ WARNING:** Before starting this procedure, make sure to disconnect the main gas supply to the unit.

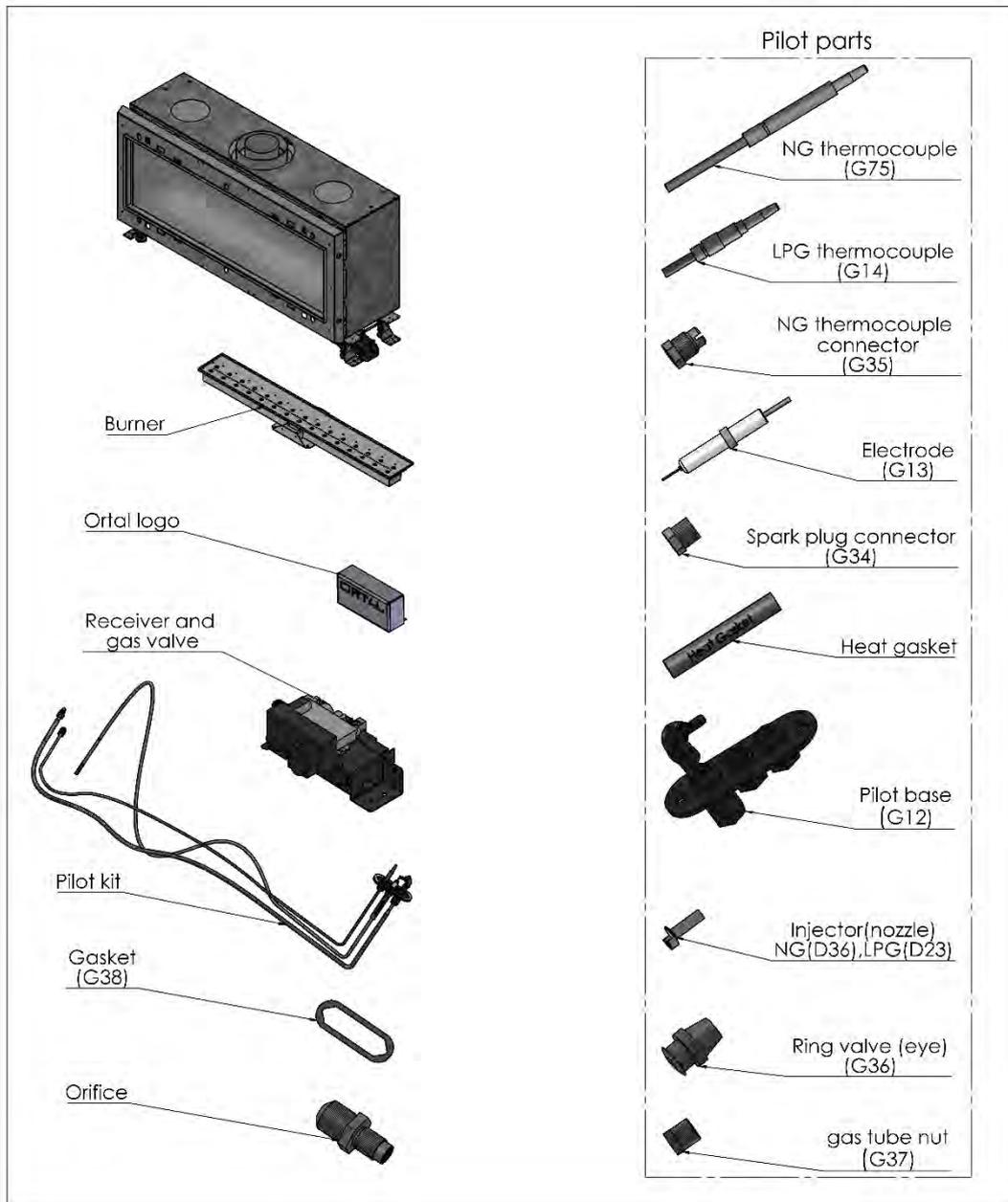
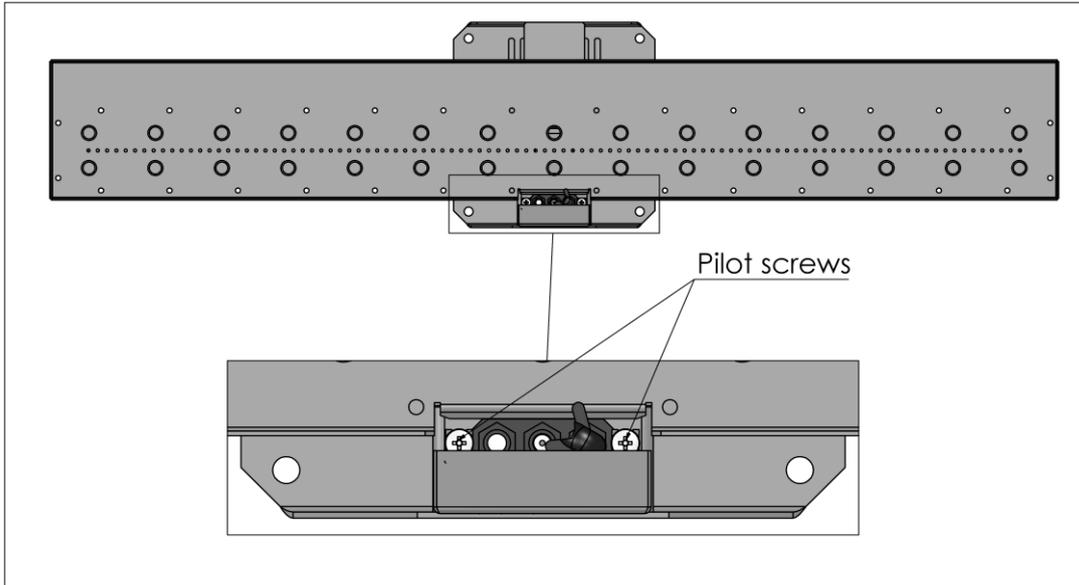


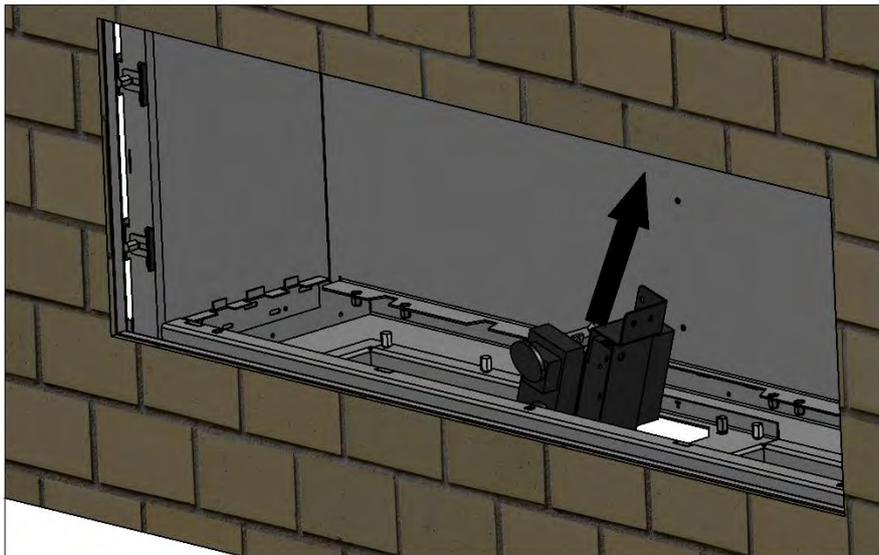
Figure 11: Gas Conversion: Parts

**To perform NG-LPG conversion:**

1. Remove the front heat barrier and glass. (For details, refer to Fireplace Heat Barrier on page 90.)
2. Remove the burner. (For details, refer to Appendix C: Removal / Assembly of the Burner on page 134)
3. Remove the pilot kit:  
Remove the two pilot screws.



Pull the pilot down and twist slightly, until it releases from the burner. Then, pull the receiver and the gas valve out.



**NOTE:** Before continuing, review Figure 12 to familiarize yourself with the components.

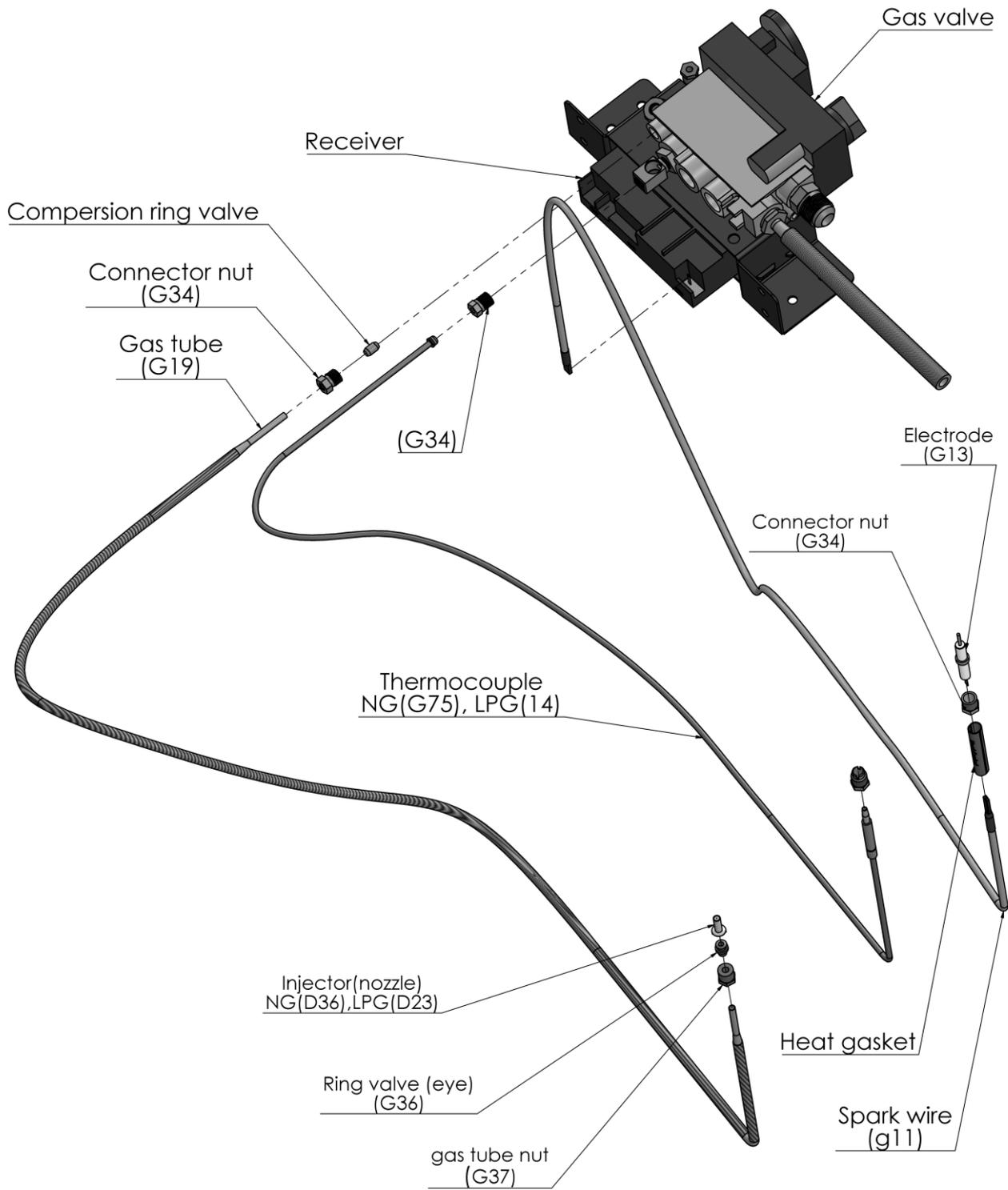
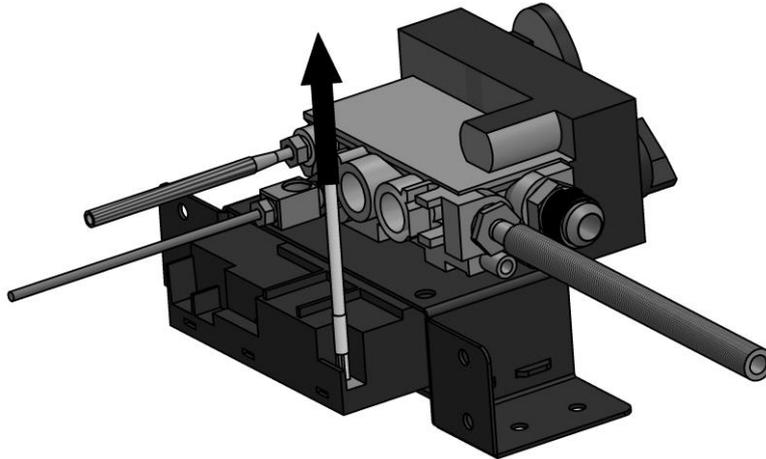
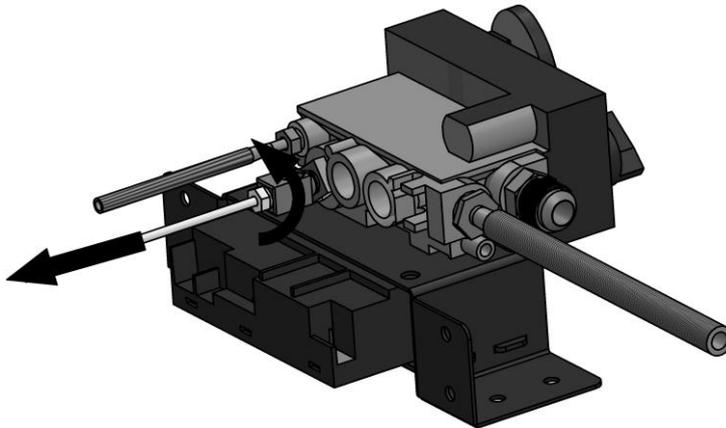


Figure 12: Exploded View of Pilot Parts, Receiver and Gas Valve

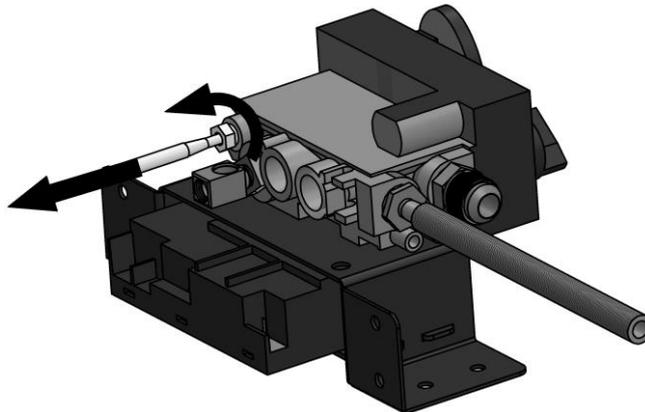
Pull the wire to disconnect it from the receiver.



Remove the nut holding the thermocouple pipe, and pull the pipe out.



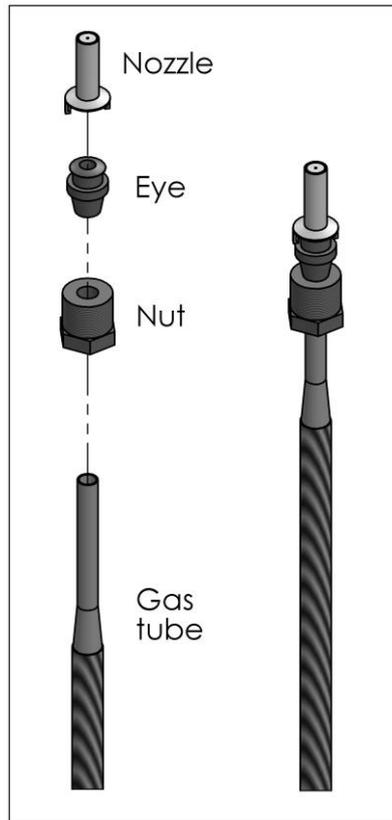
Remove the nut holding the gas pipe, and pull the pipe out.



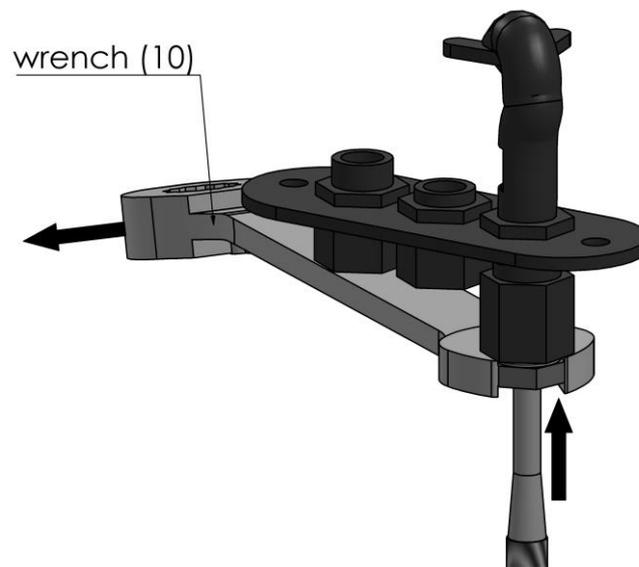
**NOTE:** If you have a new, complete pilot kit, skip Step 4 and continue with Step 5.

4. Assemble the pilot parts:

Assemble the injector (nozzle) with the ring valve (eye) and the gas tube nut. Then, insert the assembled parts into the gas tube.

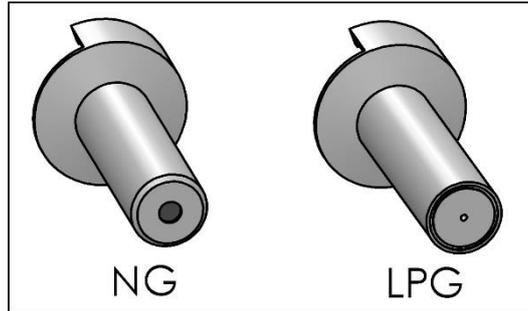


Attach the assembled parts to the pilot base, and then tighten the nut.

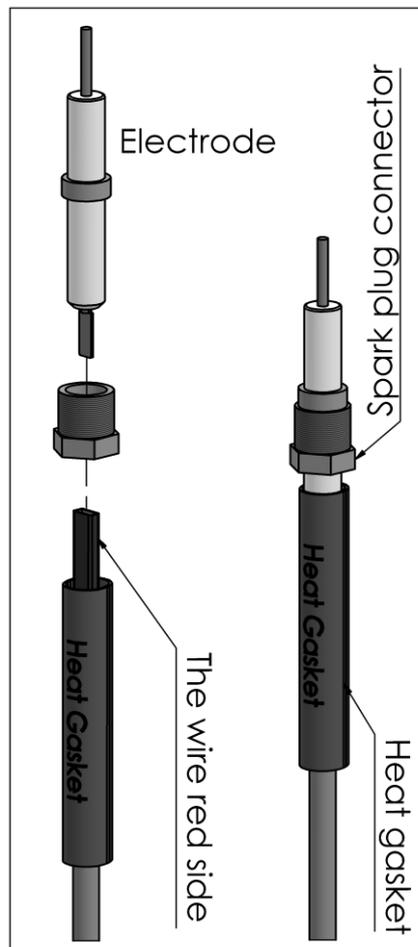




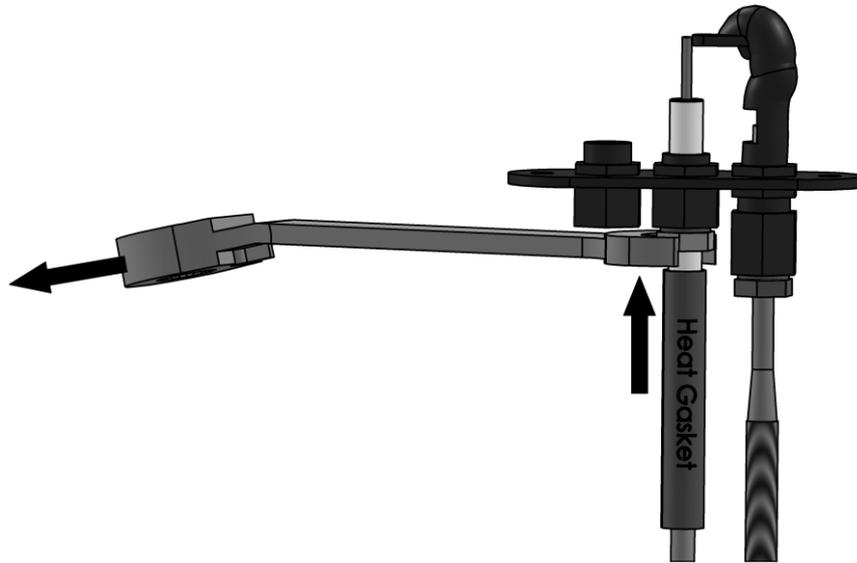
**NOTE:** The LPG nozzle has a red dot in the hole (.23mm). The NG hole is .36mm and has a different shape:



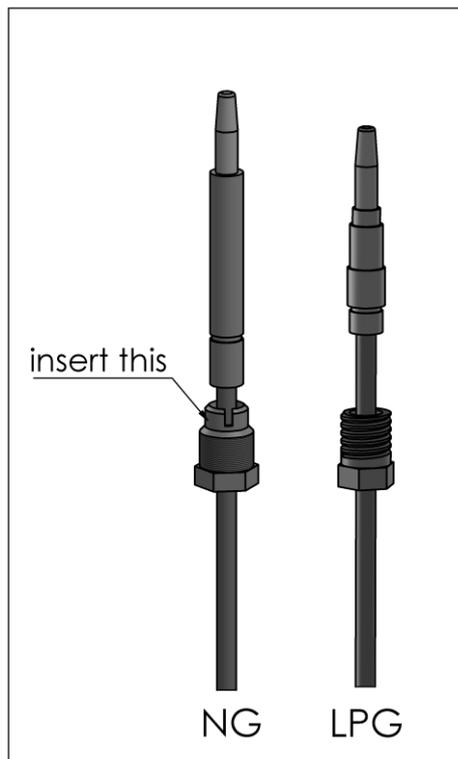
Assemble the electrode with the spark plug connector, and the heat gasket with the wire. Use a lighter to dissolve the heat gasket, to reinforce the parts.



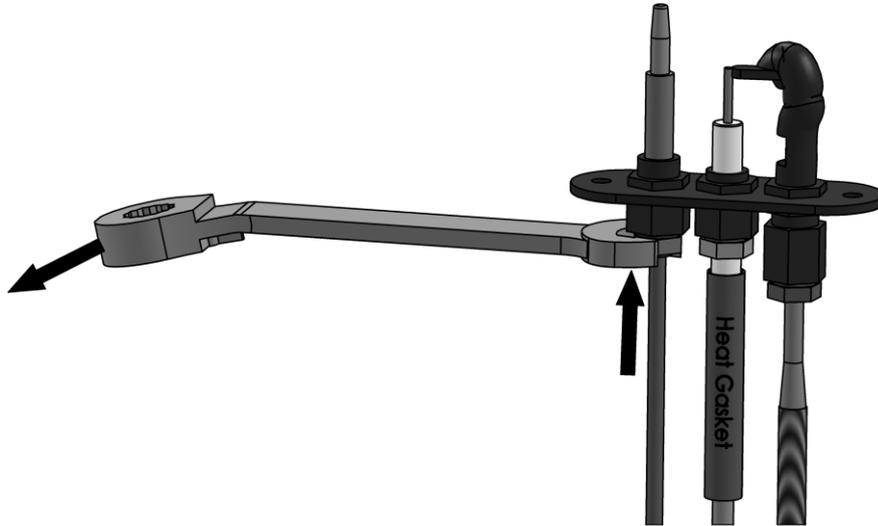
Attach the assembled parts to the pilot base, and then tighten the connector nut.



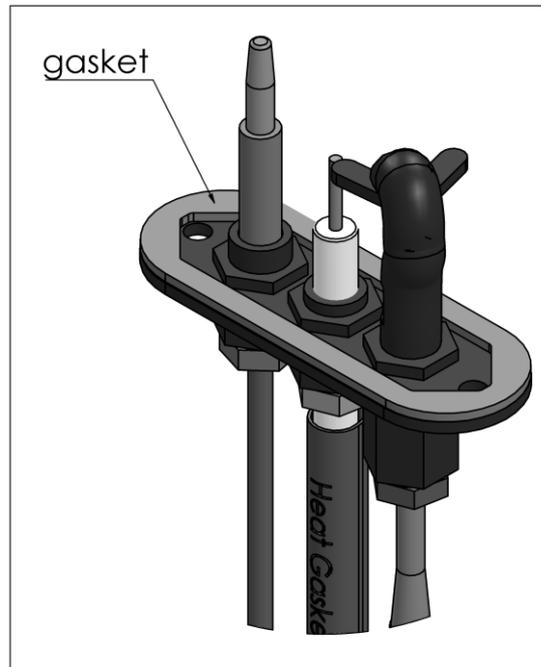
Assemble the thermocouple pipe. The NG pipe comes pre-assembled with only one connector nut. Insert the additional connector nut provided by ORTAL as shown in the figure below.



Attach the thermocouple pipe to the pilot base, and then tighten the connector nut.



5. Change the base pilot gasket every time you open the pilot base.

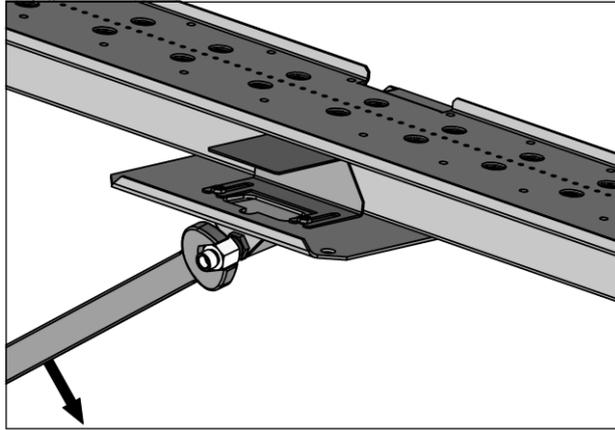


6. Change the orifice: Size 7x0.575 for Clear 75 (marked 220) and size 7x0.550 for Clear 110 (marked 260)

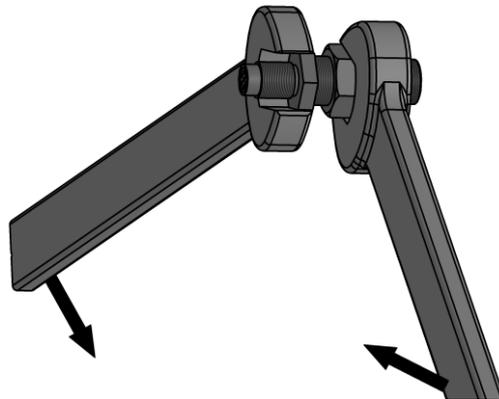
Using wrench (17), remove the nut holding the orifice.



**NOTE: When reassembling, be careful not to overtighten.**

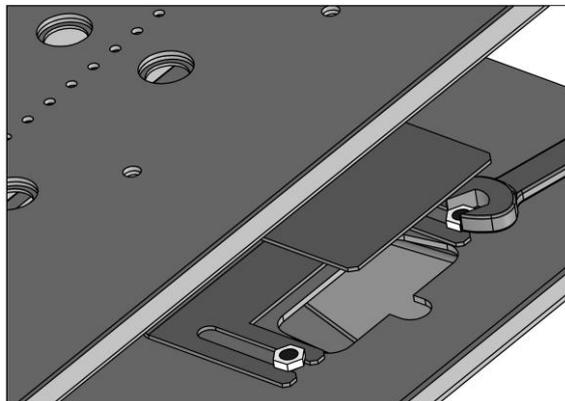


If the orifice is removed together with the nut, separate them using wrenches (15 and 17), as shown in the figure below. If not, use wrench (15) to remove it from the burner.

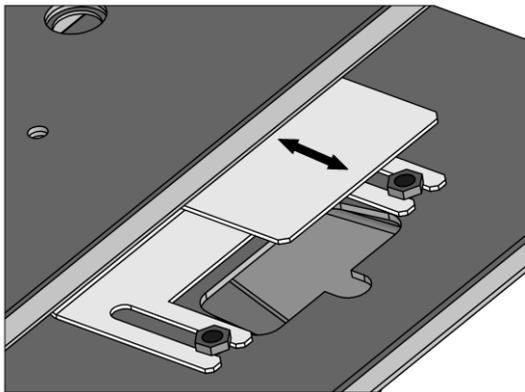


7. Adjust the burner main aeration:

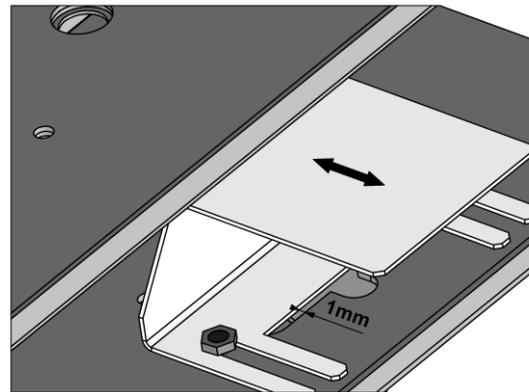
Loosen the burner main aeration nuts.



Adjust the burner main aeration as shown in the figure below. Then, tighten the nuts with an 8mm wrench.



**LPG adjustment**



**NG adjustment**

In Ng the supporting trims needs to be all the way so the opening is fixed and cannot be changed  
In LPG the shutter needs to be removed completely.



**NOTE:** For reinstallation, perform the above steps in reverse.

**Important:** Replace NG dataplate with LPG dataplate/conversion label.

- Pilot and Thermocouple Maintenance on page 54

### Gas Line Routing

Correctly size and route the gas supply pipe to the area where the appliance is to be installed, in accordance with AS/NZS 5601.1. Use 1/2" (12.7mm) size, 14TPI thread connector for the inlet.

**⚠ WARNING** – An Australian certified isolation valve must be installed to allow complete disconnection of the appliance from the gas supply piping system for servicing purposes.

### Control Connections

For information on remote and electronic systems, please visit the manufacturer's website:

<http://www.mertikmaxitrol.com/>



The following procedure is a guide for NG-LPG conversion.

**⚠ WARNING: Before starting this procedure, make sure to disconnect the main gas supply to the unit.**

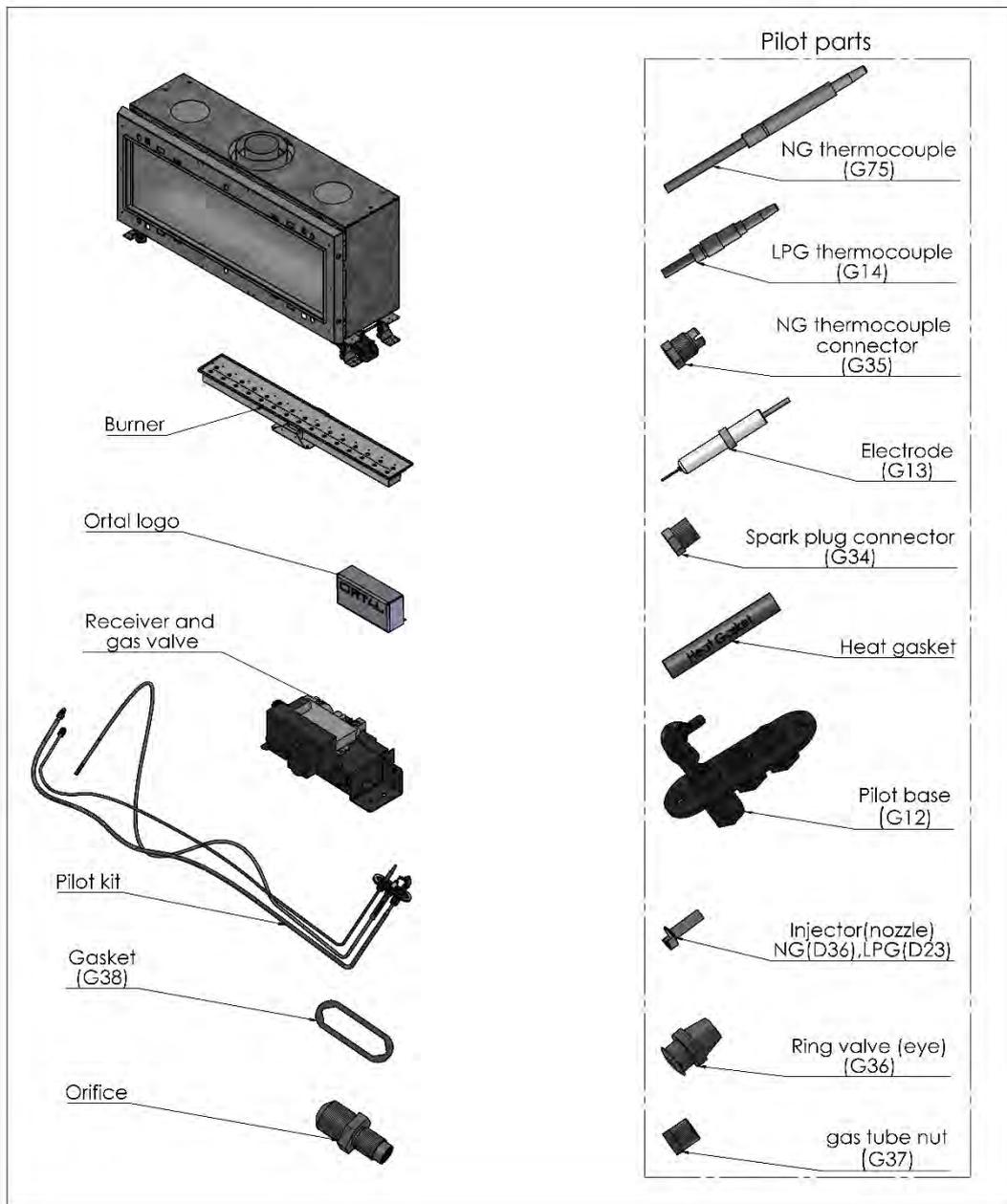
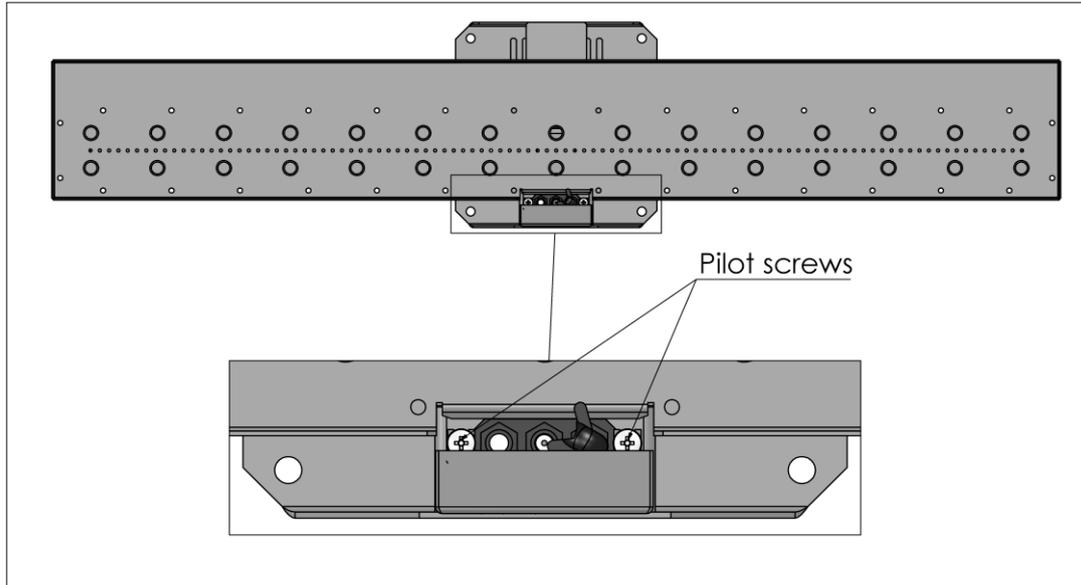


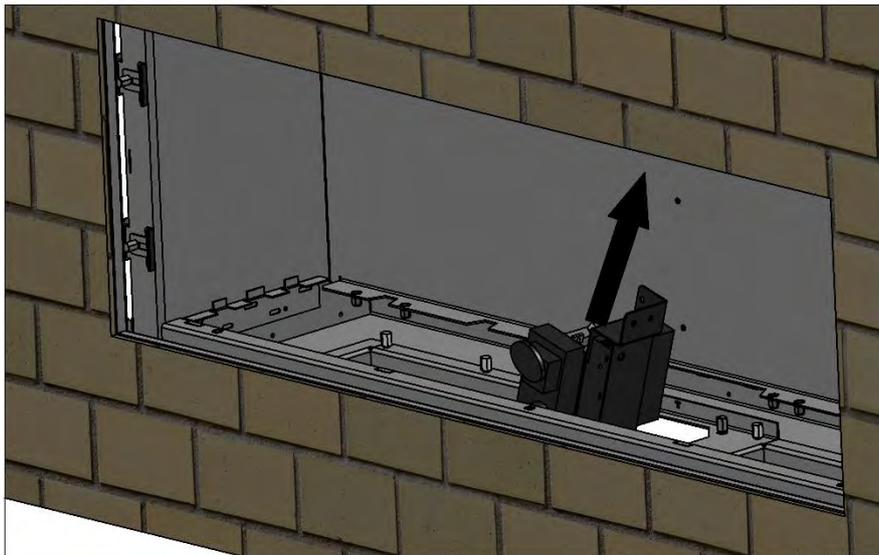
Figure 11: Gas Conversion: Parts

**To perform NG-LPG conversion:**

8. Remove the front heat barrier and glass. (For details, refer to Fireplace Heat Barrier on page 90.)
9. Remove the burner. (For details, refer to Appendix C: Removal / Assembly of the Burner on page 134)
10. Remove the pilot kit:
  - Remove the two pilot screws.



Pull the pilot down and twist slightly, until it releases from the burner. Then, pull the receiver and the gas valve out.



**NOTE:** Before continuing, review Figure 12 to familiarize yourself with the components.

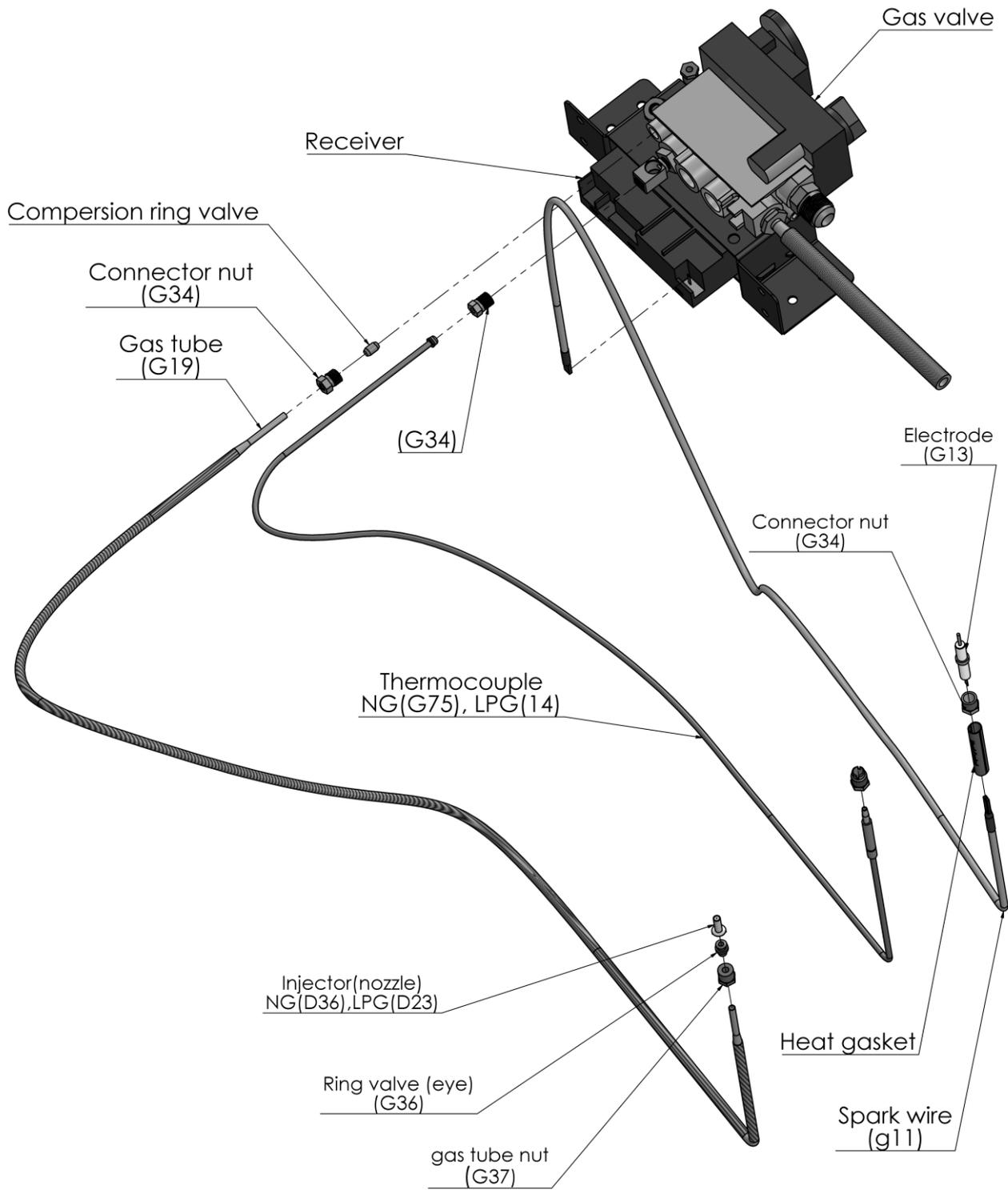
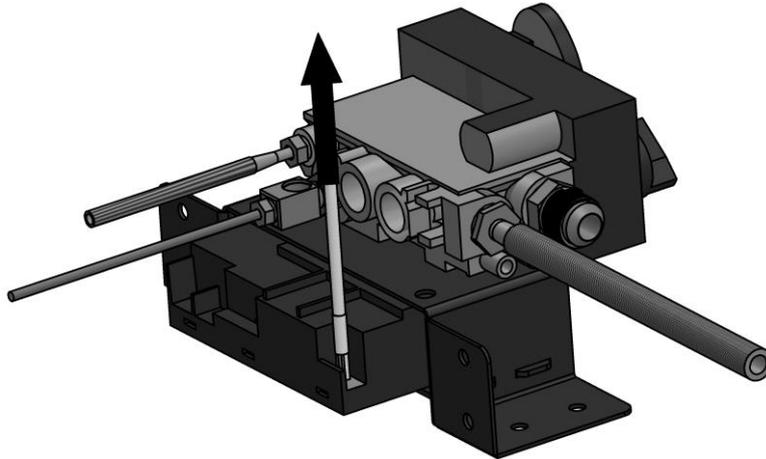
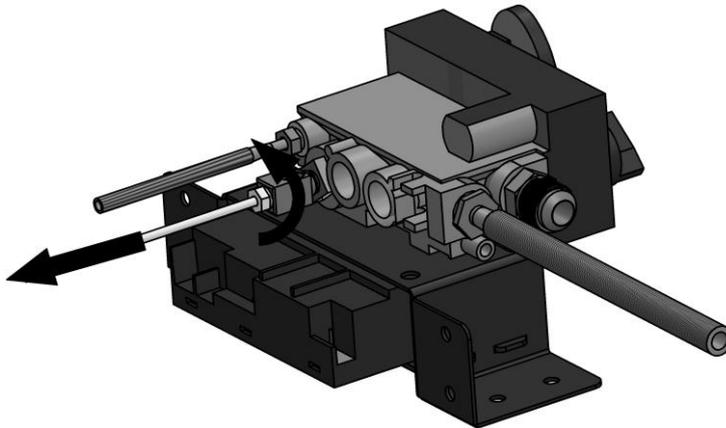


Figure 12: Exploded View of Pilot Parts, Receiver and Gas Valve

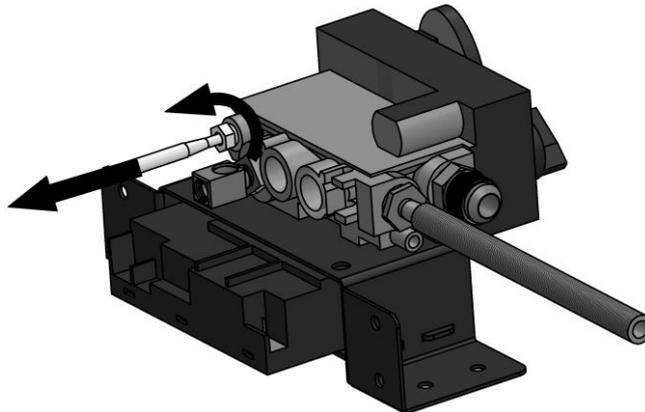
Pull the wire to disconnect it from the receiver.



Remove the nut holding the thermocouple pipe, and pull the pipe out.



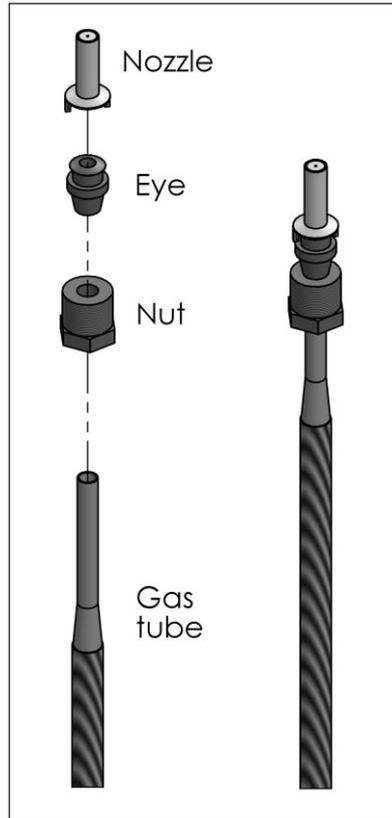
Remove the nut holding the gas pipe, and pull the pipe out.



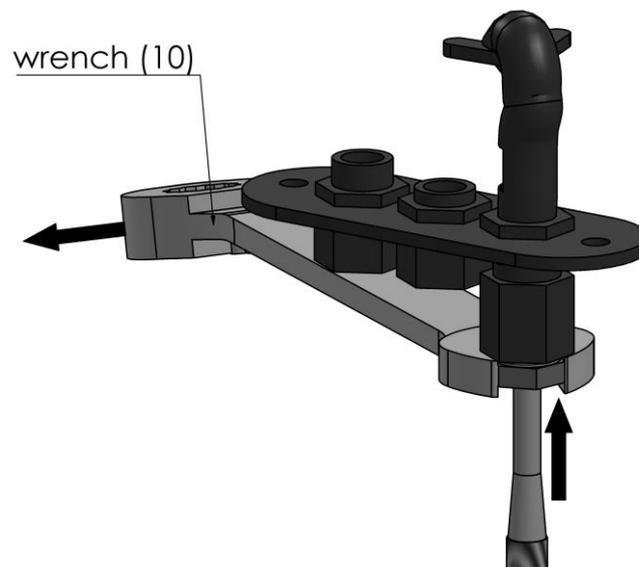
**NOTE:** If you have a new, complete pilot kit, skip Step 4 and continue with Step 5.

11. Assemble the pilot parts:

Assemble the injector (nozzle) with the ring valve (eye) and the gas tube nut. Then, insert the assembled parts into the gas tube.

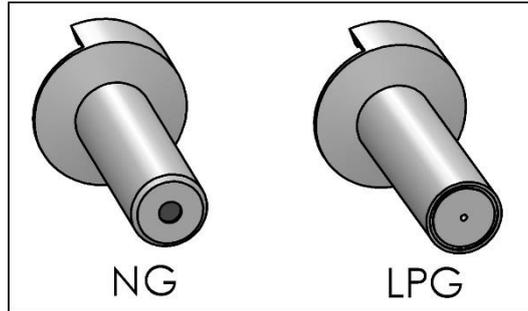


Attach the assembled parts to the pilot base, and then tighten the nut.

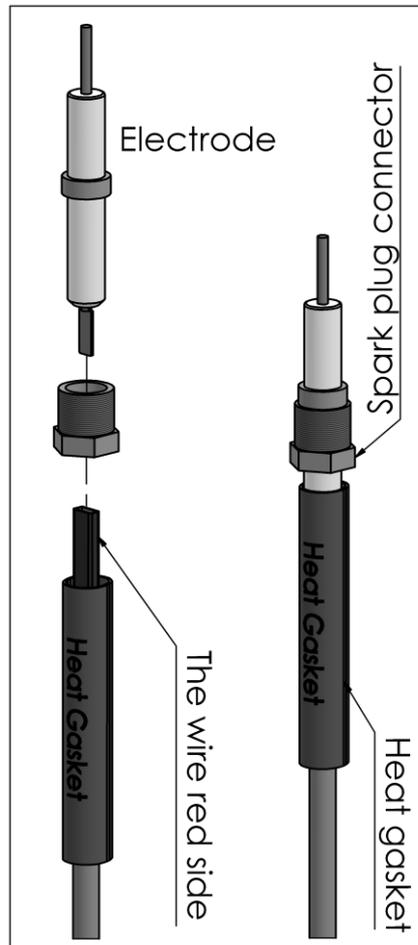




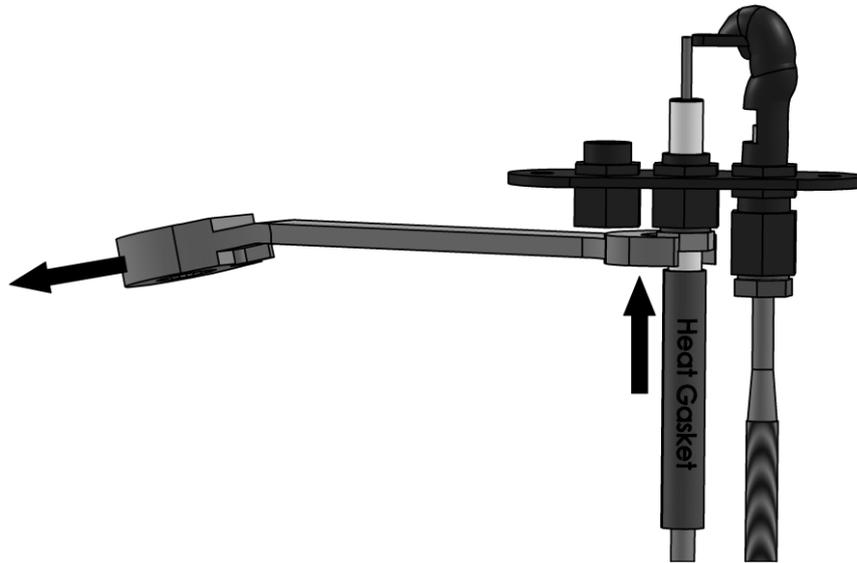
**NOTE:** The LPG nozzle has a red dot in the hole (.23mm). The NG hole is .36mm and has a different shape:



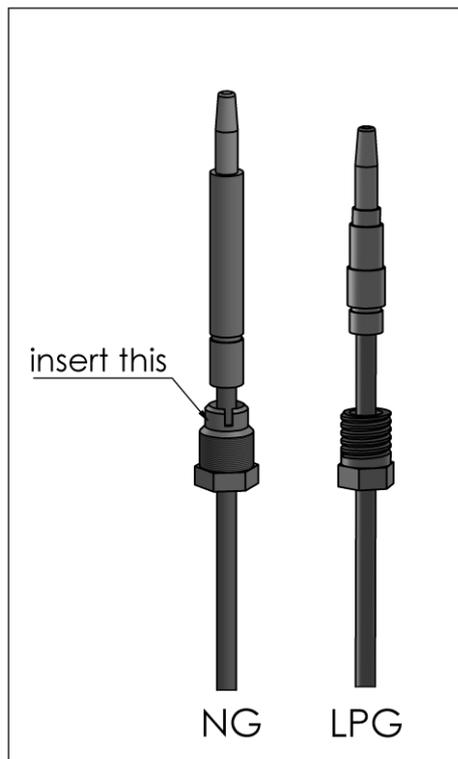
Assemble the electrode with the spark plug connector, and the heat gasket with the wire. Use a lighter to dissolve the heat gasket, to reinforce the parts.



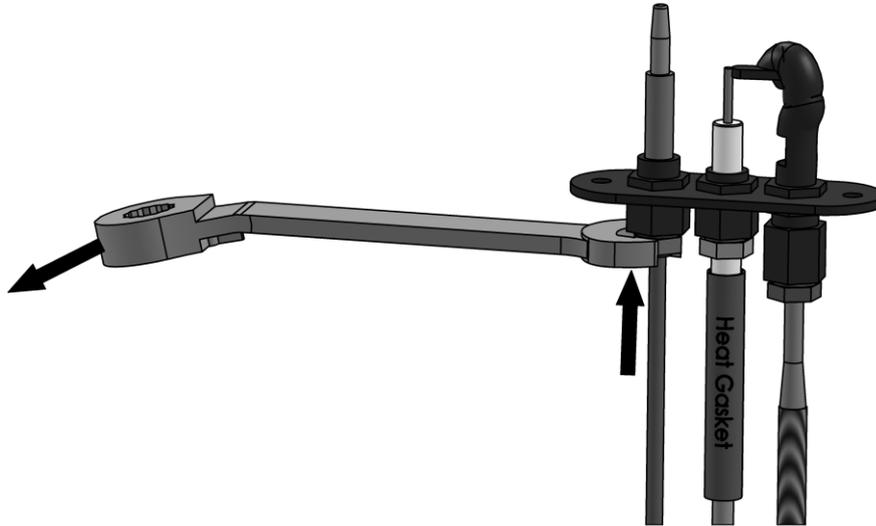
Attach the assembled parts to the pilot base, and then tighten the connector nut.



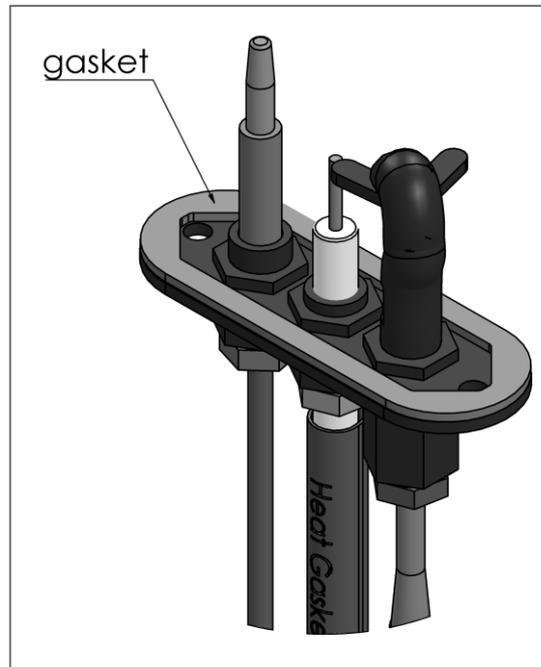
Assemble the thermocouple pipe. The NG pipe comes pre-assembled with only one connector nut. Insert the additional connector nut provided by ORTAL as shown in the figure below.



Attach the thermocouple pipe to the pilot base, and then tighten the connector nut.



12. Change the base pilot gasket every time you open the pilot base.

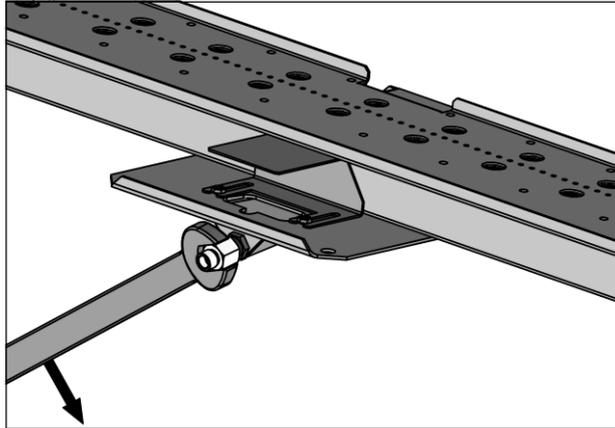


13. Change the orifice: Size 7x0.575 for Clear 75 (marked 220) and size 7x0.550 for Clear 110 (marked 260)

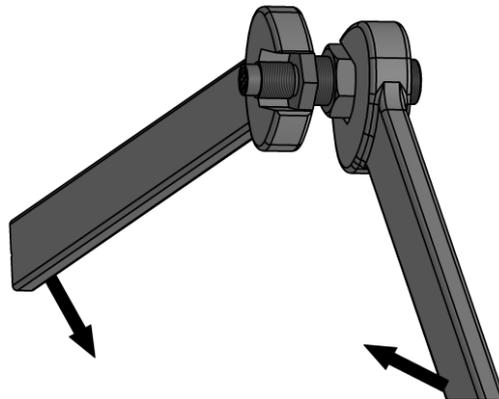
Using wrench (17), remove the nut holding the orifice.



**NOTE: When reassembling, be careful not to overtighten.**

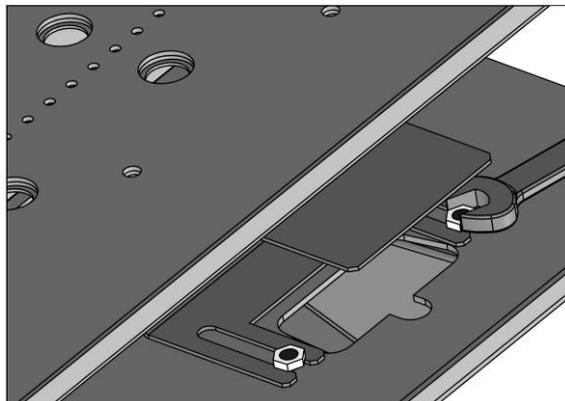


If the orifice is removed together with the nut, separate them using wrenches (15 and 17), as shown in the figure below. If not, use wrench (15) to remove it from the burner.

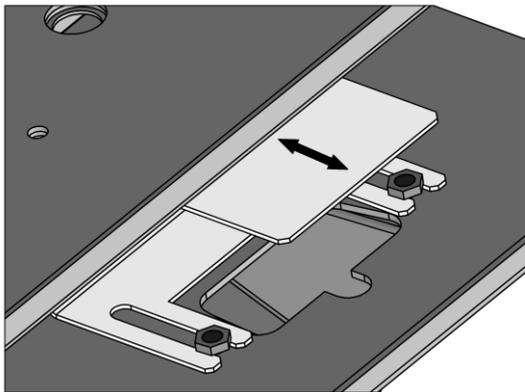


14. Adjust the burner main aeration:

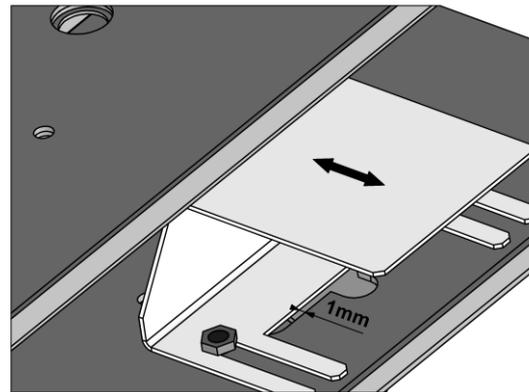
Loosen the burner main aeration nuts.



Adjust the burner main aeration as shown in the figure below. Then, tighten the nuts with an 8mm wrench.



**LPG adjustment**



**NG adjustment**

In Ng the supporting trims needs to be all the way so the opening is fixed and cannot be changed  
In LPG the shutter needs to be removed completely.



**NOTE:** For reinstallation, perform the above steps in reverse.

**Important:** Replace NG dataplate with LPG dataplate/conversion label.

#### Pilot and Thermocouple Maintenance

The pilot flame must be visually checked. The pilot flame has two distinct flames. One engulfs the thermocouple, and the other reaches the main burner. Both flames must be present.

The area around the injector should be inspected. Any foreign material must be removed with a brush or vacuum.

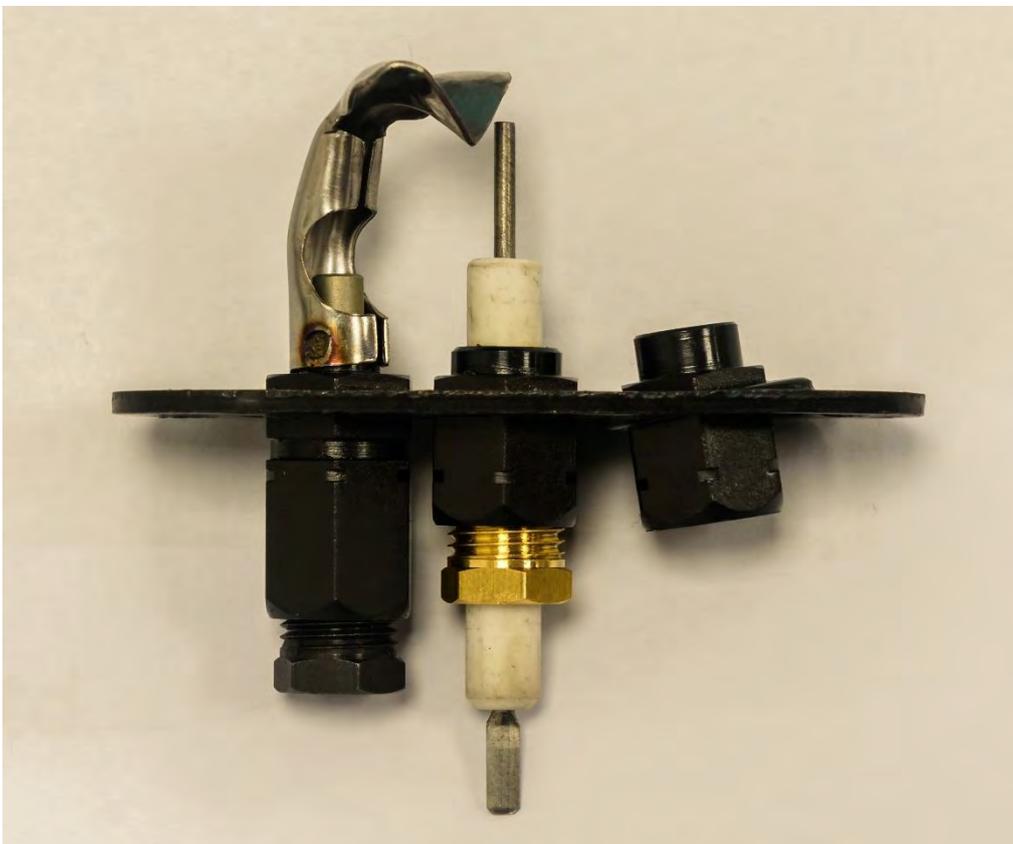


Figure 13: Thermocouple Injector

 **Always be present when the fireplace is in operation.**

#### **Thermocouple Maintenance**

Thermocouple integrity and operation must be checked. The installer needs to confirm that the thermocouple is in place, and is not cracked or damaged.

## Vent System Information

The following sections provide details related to vent installation and care:

- Flueing Requirements on page 66
- Flueing Diagrams on page 66
- Working with Vertical Elbows on page 70
- Fireplace Restrictors and Vent Arrangement on page 72
- Vent Installation and Clearances on page 75
- Flue Termination Drawings on page 76
- Vent Maintenance on page 77



**NOTE:** For information about the 107/164mm and 125/205mm direct vent pipe installation and specs, please visit the appropriate manufacturer's website.



**NOTE:** If the appliance has a Power Vent system, please refer to the *ORTAL Power Vent Manual* for more information.

## Flueing Requirements

**Use 107/164mm direct vent flues only for Clear 75 models and 125/205mm direct vent flues only for Clear 110 models.**

When installing the venting, follow all instructions of the venting system manufacturer. For vertical and horizontal distances, refer to the charts in the Flueing Diagrams section. Maintain all clearances specified in Vent Installation and Clearances on page 75. Alternatively, follow the vent system manufacturer's instructions, provided that they meet local code.

The first section of venting must be secured to the starter with a minimum of 3 sheet metal screws no longer than 12mm.

**DO NOT use silicone to seal the sections.** If sealing is required by the venting manufacturer or local code, use Mil-Pac sealant.

## Flueing Diagrams

The following sections provide information for calculating venting run distances:

- Venting Diagram: Typical Horizontal on page 67
- Venting Diagram: Typical Vertical on page 68
- Venting Diagram: Straight Vertical on page 69

Venting Diagram: Typical Horizontal

Use the diagram and tables below to calculate distances for venting runs. You can use up to two 90-degree elbows OR four 45-degree elbows.

If needed for clearance, Two 45-degree elbows may be used directly on the unit with up to a 30cm section between them. The **V** minimum starts above them. They do not count in elbow totals.

**V minimum =**

- 180cm for Series 200 and 250
- 90cm for Series 40-170

For venting runs that exceed these maximums, consider the ORTAL Power Vent system. Contact your ORTAL dealer for more information.

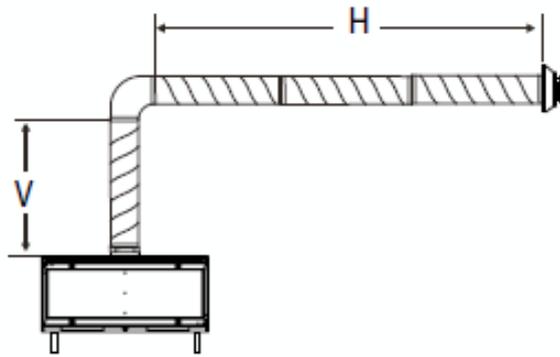


Figure 14: Venting Diagram: Typical Horizontal

SERIES 40 / SERIES 75		SERIES 110/120/130 SERIES 90		SERIES 150/170 SERIES TRADITIONAL		SERIES 200/250	
Vertical (V)	Horizontal (H)	Vertical (V)	Horizontal (H)	Vertical (V)	Horizontal (H)	Vertical (V)	Horizontal (H)
90cm	630cm	90cm	360cm	90cm	270cm	180cm	270cm
180cm	720cm	180cm	540cm	180cm	360cm	270cm	360cm
270cm	720cm	270cm	720cm	270cm	540cm	360cm	360cm
360cm	720cm	360cm	630cm	360cm	630cm	450cm	450cm
450cm	720cm	450cm	630cm	450cm	540cm	540cm	450cm
540cm	630cm	540cm	540cm	540cm	540cm	630cm	360cm
630cm	540cm	630cm	450cm	630cm	450cm	720cm	360cm
720cm	450cm	720cm	360cm	720cm	360cm	810cm	270cm
810cm	360cm	810cm	360cm	810cm	270cm	900cm	270cm
900cm	360cm	900cm	360cm	900cm	270cm	990cm	180cm
990cm	360cm	990cm	360cm	990cm	270cm	-	-

Venting Diagram: Typical Vertical

Use the diagram and tables below to calculate distances for venting runs. You can use up to two 90-degree elbows.

If needed for clearance, two 45-degree elbows may be used directly on the unit with up to a 30cm section between them. The **V** minimum starts above them. They do not count in elbow totals.

**V = V1 + V2**

For venting runs that exceed these maximums, consider the ORTAL Power Vent system. Contact your ORTAL dealer for more information.

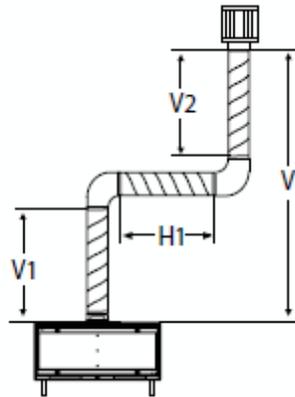


Figure 15: Venting Diagram: Typical Vertical

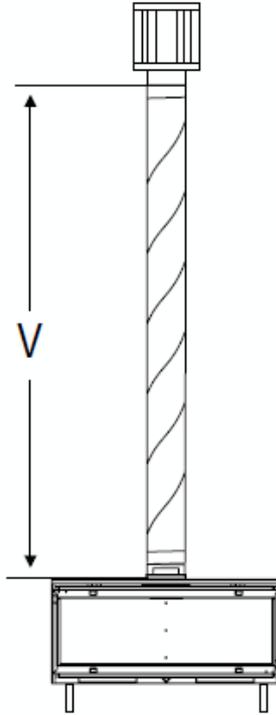
**V1= minimum of 90cm for the following product series:**

SERIES 40 / SERIES 75		SERIES 110/120/130 SERIES 90		SERIES 150/170 SERIES TRADITIONAL		SERIES 200/250	
Vertical (V)	Horizontal (H)	Vertical (V)	Horizontal (H)	Vertical (V)	Horizontal (H)	Vertical (V)	Horizontal (H)
90cm	450cm	90cm	180cm	90cm	180cm	180cm	90cm
210cm	540cm	210cm	450cm	210cm	360cm	300cm	360cm
300cm	540cm	300cm	540cm	300cm	450cm	390cm	360cm
390cm	540cm	390cm	450cm	390cm	360cm	480cm	360cm
480cm	540cm	480cm	450cm	480cm	360cm	570cm	360cm
570cm	450cm	570cm	360cm	570cm	360cm	660cm	360cm
660cm	360cm	660cm	270cm	660cm	360cm	750cm	360cm
750cm	270cm	750cm	180cm	750cm	270cm	840cm	360cm
840cm	180cm	840cm	180cm	840cm	270cm	930cm	270cm
930cm	180cm	930cm	180cm	930cm	180cm	1020cm	270cm
1020cm	180cm	1020cm	180cm	1020cm	180cm	-	-

Venting Diagram: Straight Vertical

For Series 40-250, the maximum vertical distance is 12 meters.

For venting runs that exceed this maximum, consider the ORTAL Power Vent system. Contact your ORTAL dealer for more information.



## Working with Vertical Elbows

When doing an installation involving vertical elbows, keep the following guidelines in mind:

- Only **two** 90-degree elbows are allowed per installation. An installation involving more than two 90-degree elbows requires manufacturer's approval.
- Each 90-degree bend can be calculated as 2 x 45-degree bends. For example, an installation can have two 45-degree bends and one 90-degree bend, OR four 45-degree bends and no 90-degree bends.

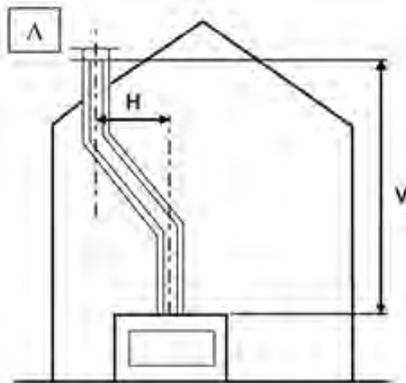
### SCENARIO A

When you have vertical elbows of 45 degrees, no additional length for the (H) calculation for the restrictor plate size is needed. For example:

Total height of duct work = 180cm (V)

Length between the center of the two 45-degree elbows = (B) = 90cm

The (H) calculation is (H) = (B) so the restrictor plate size is 50mm, per the table.



### SCENARIO B

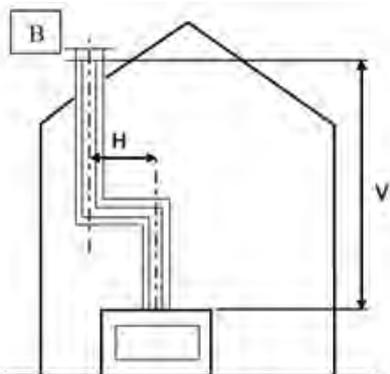
If there are two 90-degree elbows in the vent system, an additional 180cm must be added to the (H) calculation for the restrictor plate size. For example:

Total height of duct work = 540cm (V)

Length between the center of two 90-degree elbows = (B) = 63cm

The (H) calculation to be used in the restrictor table is (H) = (B) + 180cm, so the (H) length is 510cm.

Per the table, the restrictor plate is 0. No restrictor is required.



**SCENARIO C**

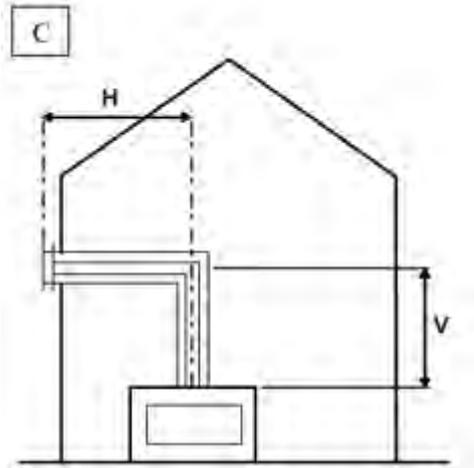
The first 90-degree elbow is not taken into calculation of the (H) length for the restrictor plate size. For example:

Total height of duct work = 450cm (V)

Length between the center of the 90-degree elbow and wall flue terminal = (B) = 330cm

The (H) calculation is  $(H) = (B) = 11$ . Therefore, the restrictor plate size is 30mm, per the table.

The value of *11* does not appear on the **x** scale of the table. The choices are then *9* and *12*. Always choose the next **higher** value, which is also the smaller restrictor if there is a difference between the values provided.

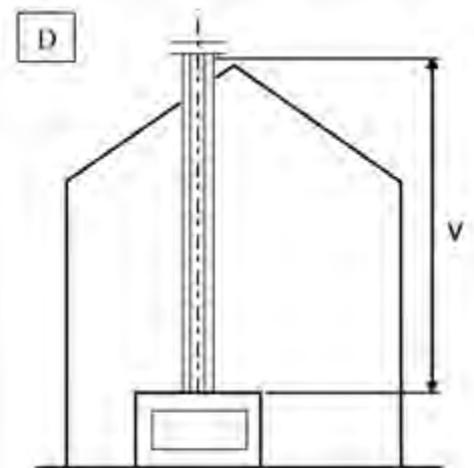


**SCENARIO D**

There are no 90-degree elbows or 45-degree angles. The venting is a straight vertical run. For example:

Total height of duct work = 720cm (V)

The (H) calculation is = 0. Therefore, the restrictor plate size is 50mm



## Fireplace Restrictors and Vent Arrangement

The information and tables in this section will help you calculate the correct restrictor selection. The tables show the options permitted for both vertical and horizontal positioning of the vents and the required restrictor. Any venting pathway that does not appear in the tables requires approval from the manufacturer.

The tables presented below apply to both Natural Gas and Propane. The tables represent manufacturer's guidelines. Environment gas type (NG vs. LPG and the source of the gas) and other factors may affect the best restrictor choice.



**NOTE: If the flame appears to be atypical, please contact ORTAL for alternate restrictor size recommendations.**

The following symbols are used in the tables:

- **X:** The path is not allowed.
- **0:** There is no restriction.
- **Numbers other than zero:** The number represents the width required for the size of restrictor that has to be assembled. All these dimensions are shown in cm/mm.

If the length (vertical or horizontal) does not appear in the table, consult with ORTAL before proceeding. For special venting systems, please contact ORTAL for more information.



**NOTE: Space Creator models may require special restrictors. Traditional models do not require restrictors.**

### For Series 40-170:

- A minimum 90cm vertical run is required before any 90-degree bends.
- A 45-degree offset is allowed for maximum 30cm. This must be followed by a 90cm vertical run before offset, 90-degree bend or termination.

For the correct size vent, refer to Product List: Models and Burners on page 11. The approved vent system components are labelled for identification. Do NOT combine vent components from different manufacturers with these appliances. Please follow the manufacturer's instructions for vent system installation.

### For Series 200-250:

- A minimum 180cm vertical run is required before any 90-degree bends.
- A 45-degree offset is allowed for maximum 1'. This must be followed by a 180cm vertical run before offset, 90-degree bend or termination.

For the correct size vent, refer to Product List: Models and Burners on page 11. The approved vent system components are labelled for identification. Do NOT combine vent components from different manufacturers with these appliances. Please follow the manufacturer's instructions for vent system installation.

**⚠ WARNING – Fire hazard is an extreme risk if these clearances (air space) to combustible materials are not adhered to. It is of the greatest importance that the fireplace and vent system are installed in accordance with these instructions.**

V	Values in mm											
9	50	40	40	30	30	0	0	0	0	x	x	x

<b>8</b>	50	40	40	30	30	30	0	0	0	0	x	x	
<b>7</b>	50	50	40	40	30	30	30	0	0	0	0	x	
<b>6</b>	50	50	40	40	30	30	30	30	0	0	0	0	
<b>5</b>	50	50	40	40	30	30	30	30	30	0	0	0	
<b>4</b>	50	50	40	40	40	30	30	30	30	0	0	0	
<b>3</b>	50	50	50	40	40	30	30	30	30	0	0	0	
<b>2</b>	50	50	50	40	40	30	30	30	30	0	0	0	
<b>1</b>	50	50	50	40	40	30	30	30	0	0	x	x	
<b>0.5</b>	x	x	x	x	x	x	x	x	x	x	x	x	
	<b>0</b>	<b>1</b>	<b>2</b>	<b>3</b>	<b>4</b>	<b>5</b>	<b>6</b>	<b>7</b>	<b>8</b>	<b>9</b>	<b>10</b>	<b>11</b>	<b>H</b>

Table 3: Restrictor Table: Burner 30 – Series 40

**V Values in mm**

<b>9</b>	50	40	40	30	30	0	0	0	0	x	x	x	
<b>8</b>	50	40	40	30	30	30	0	0	0	0	x	x	
<b>7</b>	50	50	40	40	30	30	30	0	0	0	0	x	
<b>6</b>	50	50	40	40	30	30	30	30	0	0	0	0	
<b>5</b>	50	50	40	40	30	30	30	30	30	0	0	0	
<b>4</b>	50	50	40	40	40	30	30	30	30	0	0	0	
<b>3</b>	50	50	50	40	40	30	30	30	30	0	0	0	
<b>2</b>	50	50	50	40	40	30	30	30	30	0	0	0	
<b>1</b>	50	50	50	40	40	30	30	30	0	0	x	x	
<b>0.5</b>	x	x	x	x	x	x	x	x	x	x	x	x	
	<b>0</b>	<b>1</b>	<b>2</b>	<b>3</b>	<b>4</b>	<b>5</b>	<b>6</b>	<b>7</b>	<b>8</b>	<b>9</b>	<b>10</b>	<b>11</b>	<b>H</b>

Table 4: Restrictor Table: Burner 45 – Series 60/75/80

**V Values in mm**

<b>9</b>	50	40	40	30	30	0	0	x	x	x	x	x
<b>8</b>	50	40	40	30	30	0	0	0	x	x	x	x

7	50	50	40	40	30	30	0	0	0	x	x	x	
6	50	50	50	40	40	30	30	0	0	0	x	x	
5	50	50	50	40	40	30	30	30	0	0	0	x	
4	50	50	50	40	40	30	30	30	0	0	0	x	
3	50	50	50	40	40	40	30	30	0	0	0	x	
2	50	50	50	40	40	30	30	30	0	0	x	x	
1	50	50	50	40	30	0	0	0	0	x	x	x	
0.5	x	x	x	x	x	x	x	x	x	x	x	x	
	0	1	2	3	4	5	6	7	8	9	10	11	H

Table 5: Restrictor Table: Burner 100 – Series 110/120/130 and Burner 70 – Series 90

**V Values in mm**

9	50	40	40	30	30	30	0	0	x	x	x	X	
8	50	40	40	30	30	30	0	0	0	x	x	X	
7	50	40	40	30	30	30	30	0	0	0	x	X	
6	50	40	40	40	30	30	30	0	0	0	0	X	
5	70	50	40	40	40	30	30	0	0	0	0	0	
4	70	50	40	40	30	30	30	0	0	0	0	0	
3	70	50	40	40	30	30	30	0	0	0	0	0	
2	70	50	50	40	30	30	30	0	0	0	0	X	
1	50	50	50	40	30	30	30	0	0	x	x	X	
0.5	x	x	x	x	x	x	x	x	x	x	x	X	
	0	1	2	3	4	5	6	7	8	9	10	11	H

Table 6: Restrictor Table: Burner 135 – Series 150/170

**V Values in mm**

9	50	40	40	30	30	0	0	0	0	x	x	X
8	50	40	40	30	30	0	0	0	0	x	x	x
7	50	50	40	30	30	0	0	0	0	x	x	x

6	50	50	40	30	30	0	0	0	0	x	x	x	
5	50	50	40	30	30	0	0	0	x	x	x	x	
4	50	50	40	30	30	0	0	0	x	x	x	x	
3	50	50	40	30	30	0	0	0	x	x	x	x	
2	50	40	40	30	0	0	0	x	x	x	x	x	
1	x	x	x	x	x	x	x	x	0	x	x	x	
0.5	x	x	x	x	x	x	x	x	x	x	x	x	
	0	1	2	3	4	5	6	7	8	9	10	11	H

Table 7: Restrictor Table: Burner 160 – Series 200-250

### Vent Installation and Clearances

When installing the venting, be sure that the vent pipe is supported by the structural surrounding and not by the firebox. Secure the vent connection to the fireplace with a minimum of 3 self-tapping screws. Each elbow should be strapped to reduce movement or possible disconnection. Follow the instructions of the vent system manufacturer.

#### Vertical Clearances:

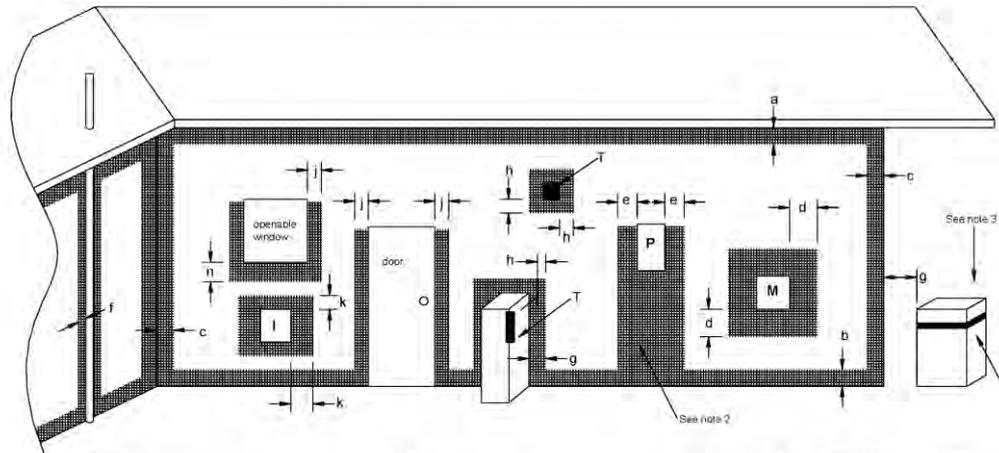
- Maintain 3cm clearance to combustibles on entire circumference.

#### Horizontal Clearances:

- Maintain 3cm clearance to combustibles on bottom.
- Maintain 10cm clearance to combustibles on top.
- Maintain 7mm rise per each 30cm.

Flue Termination Drawings

**FLUE TERMINATIONS**



T = Flue terminal  
I = Mechanical air inlet  
M = Gas meter  
P = Electricity meter or fuse box  
Shading indicates prohibited areas for flue terminals

- |   |  |                            |
|---|--|----------------------------|
| a | - Below eaves, balconies or other projections:   | <b>MIN. CLEARANCE (mm)</b> |
|   | Appliances up to 50 MJ/h input.....  | 300                        |
|   | Appliances over 50 MJ/h input.....   | 500                        |
| b | - From the ground or above a balcony.....  | 300                        |
| c | - From a return wall or external corner.....   | 500                        |
| d | - From a gas meter (M).....  | 1000                       |
| e | - From an electricity meter or fuse box (P).....   | 500                        |
| f | - From a drain or soil pipe.....   | 150                        |
| g | - Horizontally from any building structure (unless appliance approved for closer installation) or obstruction facing a terminal.....                       | 500                        |
| h | - From any other flue terminal, cowl, or combustion air intake.....  | 500                        |
| j | - Horizontally from an openable window, door, non-mechanical air inlet, or any other opening into a building, with the exception of sub-floor ventilation: |                            |
|   | Appliances up to 150 MJ/h input.....   | 500                        |
|   | Appliances over 150 MJ/h input.....  | 1500                       |
| k | - From a mechanical air inlet, including a spa blower.....   | 1500                       |
| n | - Vertically below an openable window, non-mechanical air inlet or any other opening into a building, with the exception of sub-floor ventilation.....     | See table below            |

CLEARANCE			
Space Heaters	All other appliances		
Up to 50 MJ/h input	Up to 50 MJ/h input	Over 50 MJ/h input and Up to 150 MJ/h input	Over 50 MJ/h input
6 in. (150 mm)	20 in. (500 mm)	39 in. (1000 mm)	59 in. (1500 mm)

- NOTES:**
1. All distances are measured vertically or horizontally along the wall to a point in line with the nearest part of the terminal.
  2. Prohibited area below electricity meter or fuse box extends to ground level.
  3. See clause 5.13.6.6 for restrictions on a flue terminal under a roofed area.
  4. See Appendix J, Figure J1(a) and J2(a) for clearances required from a flue terminal to a LP Gas cylinder. A flue terminal is considered to be a source of ignition.

**MINIMUM CLEARANCES REQUIRED FOR BALANCED FLUE TERMINALS OR THE FLUE TERMINALS OF OUTDOOR APPLIANCES**

Flue Terminations

## Vent Maintenance

Regular inspection of the venting system by a qualified service technician is recommended every six months. The following maintenance routing is recommended:

1. Inspect for excessive condensation, e.g., water droplets forming in the inner lining, and subsequently dripping from the joints. This can cause corrosion in the system.
2. Check for corrosion in areas exposed to the elements. Components with rust spots or holes must be immediately replaced.
3. Ensure that there is no foreign material in the vents. Survey by removing the flue terminal and shining a light down the vent.
4. If possible, check all joints and pipes to make sure that nothing has been disturbed or loosened.

## Fireplace Installation Instructions

The following sections describe fireplace components and describe installation operations:

- Selecting a Location on page 78
- Installation Sequence on page 78
- Working with Glass Panels on page 79
- Fireplace Heat Barrier on page 80
- Removal / Assembly of the Double Glass Heat Barrier and Inner Glass on page 81
- Removal / Assembly of the Framed Screen on page 94
- Removal / Assembly of the Protective Screen on page 98
- Removing/Assembling the Inner Glass (Screen Heat Barrier Units) on page 102
- Removing/Assembling the Back Panel on page 106
- 75/65 Front Bricks Installation on page 110
- Traditional Bricks Installation on page 112
- Remote Control Setup and Operation on page 116
- Interior Design Media on page 119
- Cold Climate Insulation on page 121
- Post-installation Procedures on page 121

### Selecting a Location

Keep the following factors in mind when selecting a location for the fireplace:

- Minimum clearances to combustible materials must be met (Fireplace Clearances on page 13).
- Adequate clearances for servicing need to be provided.
- Consider the minimum vent vertical and allowed horizontal lengths and number of bends (Vent System Information on page 66).
- Consider framing and finishing requirements (surrounding framing and materials to be completed after fireplace installation).

The appliance must be installed on a flat, solid, continuous surface (e.g., wood, metal, or concrete). This may be the sub-floor or a raised platform.

### Installation Sequence

Use the following guidelines to help ensure a smooth and error-free installation. The installation sequence is divided into three phases: planning, installation, and startup.

#### **First Trip to Site: Planning Phase**

Consult with the contractor and go over all ORTAL requirements:

- Chase and framing requirements
- Drywall or noncombustible inside the chase
- Air intake and heat release
- Access panel size and location
- Gas and electric specs and location
- Venting configuration
- Finishing details

### Second Trip to Site: Installation Phase

- Confirm the framing and platform are built to spec.
- Confirm gas valve is in the correct location.
- Confirm access panel location and size.
- Confirm air intake and heat release locations.
- Make sure there is a clear path to carry in the unit.
- Uncrate the unit and set in place.
- Use the shipping bracket for the legs and seismic brackets to level and secure the unit (see note below).
- Cut off ALL the zip ties.
- Move the components to the access panel location. Be mindful of the routing for future service needs.
- Install the venting components per the venting manufacturer's instructions and ORTAL requirements.
- Go over the infill panel requirements and finishing details with the contractor.
- Protect the fireplace and components from damage.



**SECURING THE UNIT:** Use the supplied seismic brackets and leg shipping brackets to secure and level the fireplace. If necessary, the brackets can be extended with similar steel components. It is crucial to the finishing that the unit is stable, level and plumb. The legs are zero clearance. Wood shims are acceptable.

### Third Trip to Site: Startup Phase

- Perform a visual inspection to confirm that all work was completed per ORTAL specifications.
- Confirm that gas is properly connected and live.
- Remove the safety barrier and glass.
- Clean the inside of the unit.
- Confirm operation and remote-control setup.
- Set up the media per ORTAL specifications.
- Remove protective layers and clean glass.
- Install the glass and safety barrier.
- Go over operation of the unit and remote with the homeowner.
- Set up return visit to clean glass after initial burnoff period.



**For more information about final inspection and homeowner instructions, refer to Post-installation Procedures on page 121.**

### Working with Glass Panels

5mm ceramic glass front and side panels are provided. Contact ORTAL for replacement parts if required. 5mm tempered glass exterior panels can be serviced locally.

Silicon comes pre-applied to any glass-to-glass connections (LS, RS, TS and SC models), on both sides of the glass. Keep the following guidelines in mind when handling silicon and glass panels:

- The purpose of the silicon is to create a seal. When placing glass panels, ensure that the glass is fully in place and that the silicon is filling the space between the glass panels. Place the front (or center) panel in place first and then slide the side panel into place so that the silicon edge touches the glass edge.

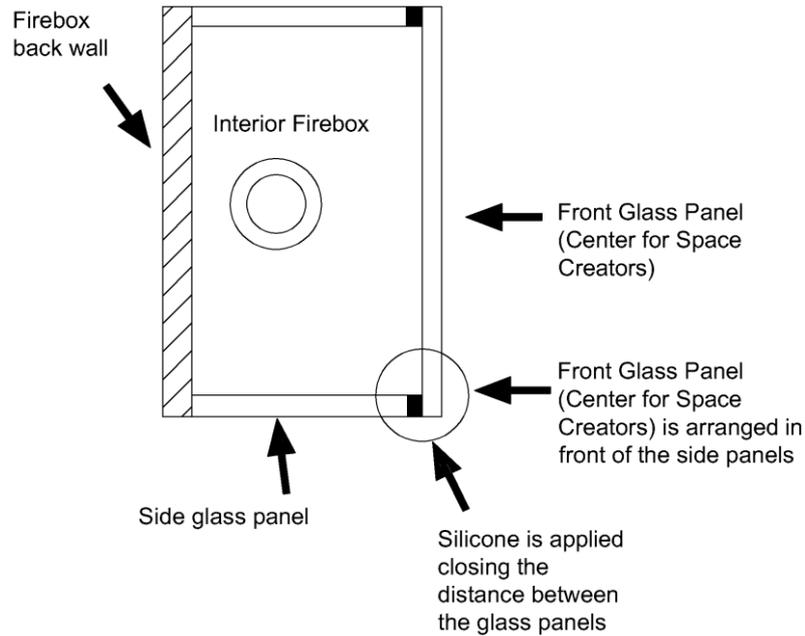


Figure 16: Glass Seal Assembly Diagram

- Re-apply silicon only if the original silicon is damaged. Contact ORTAL if silicon is needed.
- If new silicon is applied, cure time is 24 hours before operation of the fireplace.
- Do not use silicon to seal the glass after it is in place.

Always use appropriate materials and cleaning agents to clean glass. Ammonia-free glass cleaners and/or ceramic glass cleaners are recommended.

### Fireplace Heat Barrier

The glass fronts of the fireplace and surrounding surfaces can become extremely hot during and even long after operation. Touching the hot glass front can lead to serious burns. The fireplace heat barrier prevents contact with the glass front.

The heat barrier is constructed to maintain a fixed relationship between essential barrier parts and the outside glass viewing area. The barrier must be installed properly prior to startup of the firebox.

An ORTAL fireplace can have one of the following heat barrier types:

- **Double glass:** A barrier made of inner and outer glass (and no screen). For installation instructions, refer to Removing/Assembling Double Glass Heat Barrier on page 87.
- **Framed screen:** A front-facing protective screen. For installation instructions, refer to Removal / Assembly of the Framed Screen on page 94.
- **Protective screen:** A barrier that includes front-facing and side-facing screens. For installation instructions, refer to Removal / Assembly of the Protective Screen on page 98.



**WARNING – The firebox MUST not be used without the heat barrier in place.**

### Removal / Assembly of the Double Glass Heat Barrier and Inner Glass

The two procedures in this section explain how to remove and reassemble the double glass heat barrier. Choose the procedure that is relevant to the type of unit you are working with.

#### Removing/Assembling Double Glass Heat Barrier and Inner Glass (Type 1)

The procedure below shows how to remove the glass for units with a double glass heat barrier. To re-install the glass, perform the steps in the opposite order.

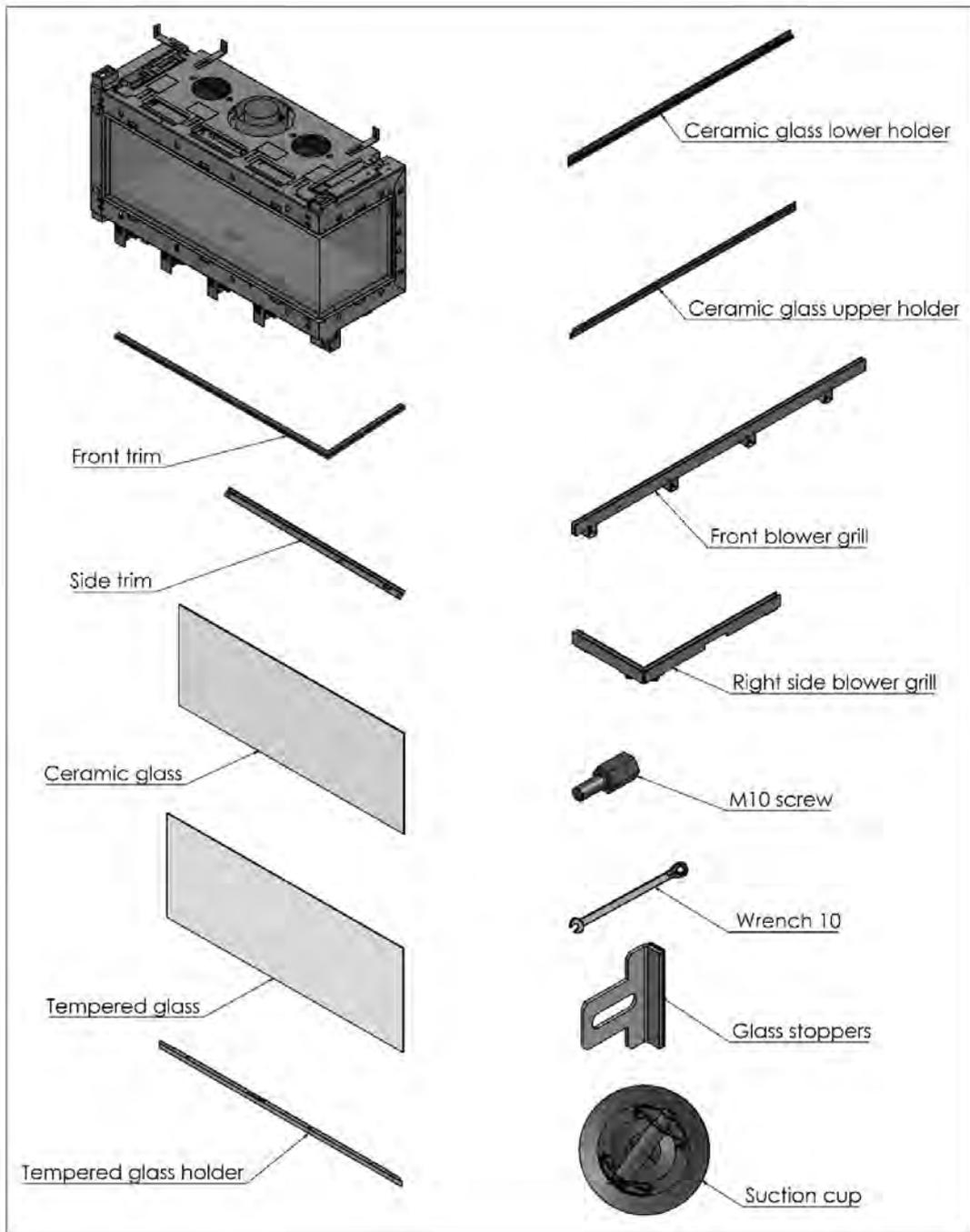
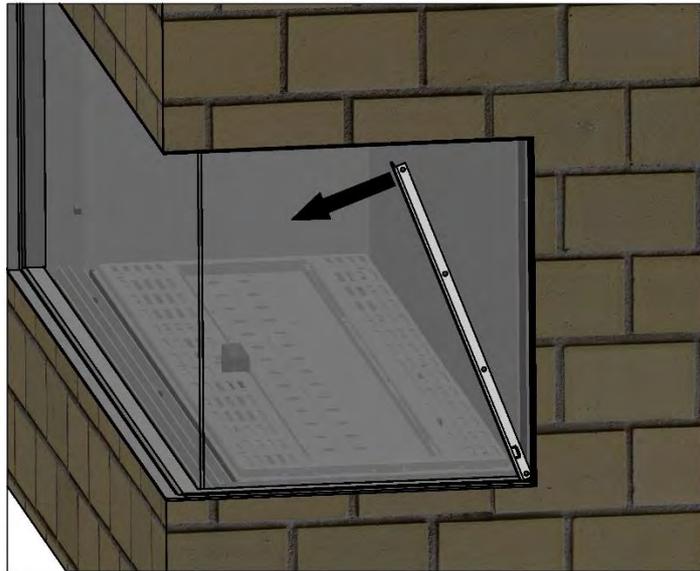


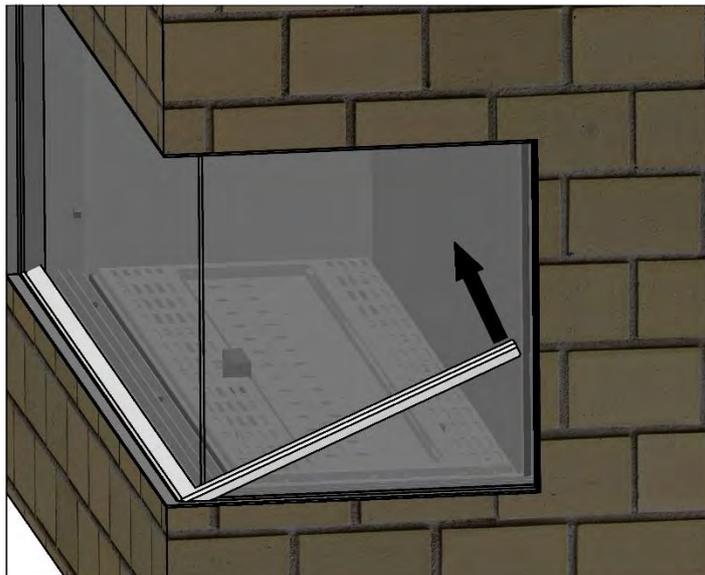
Figure 17: Double Glass: Parts

**To remove double glass:**

1. Using your index finger, pull the side trim from the top.

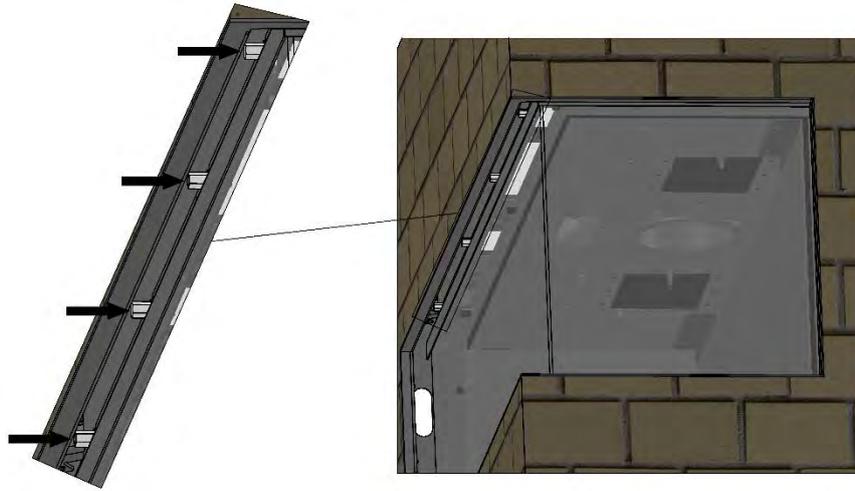


2. Using your index finger, pull the front trim from the end.



3. Release the tempered glass brackets:

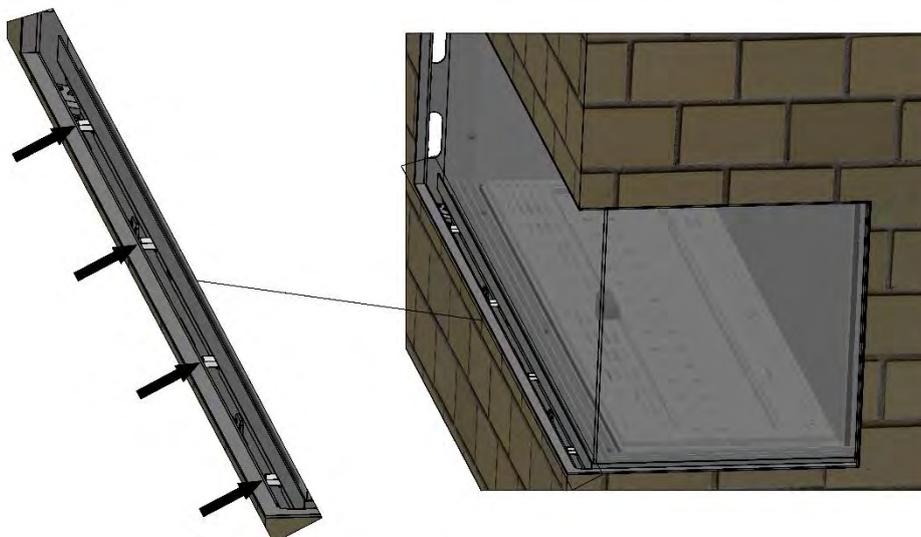
Loosen – do not remove – the upper bracket screws.



Remove the upper bracket.

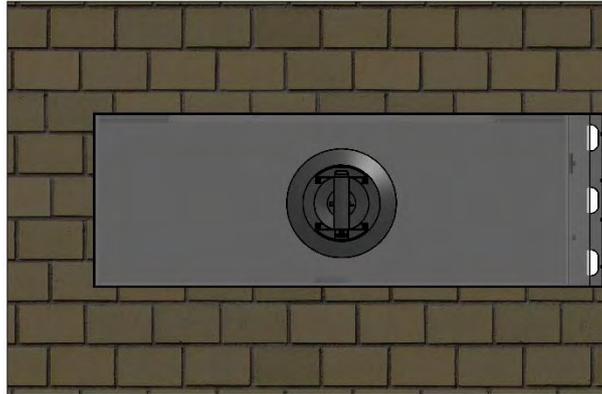


Loosen the lower bracket screws. **Do not remove the lower bracket.**

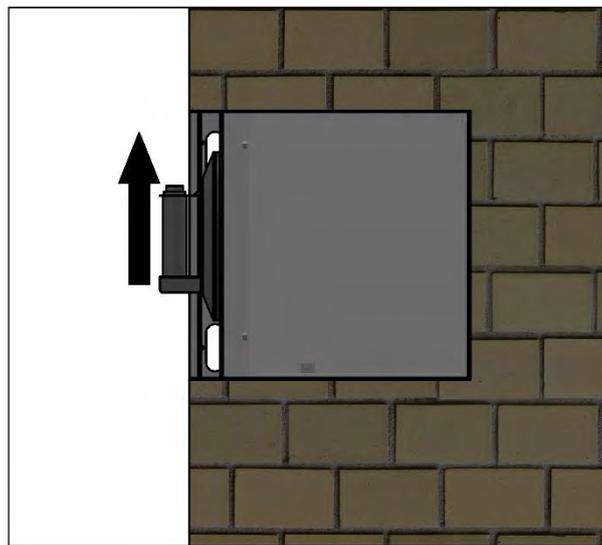


4. Remove the tempered glass:

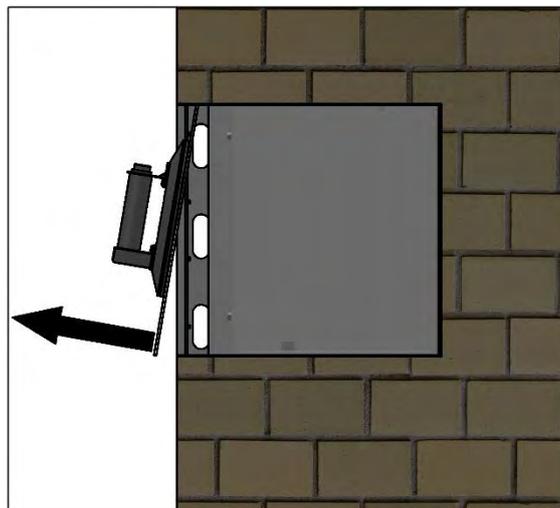
Attach the suction cup to the center of the glass, as shown.



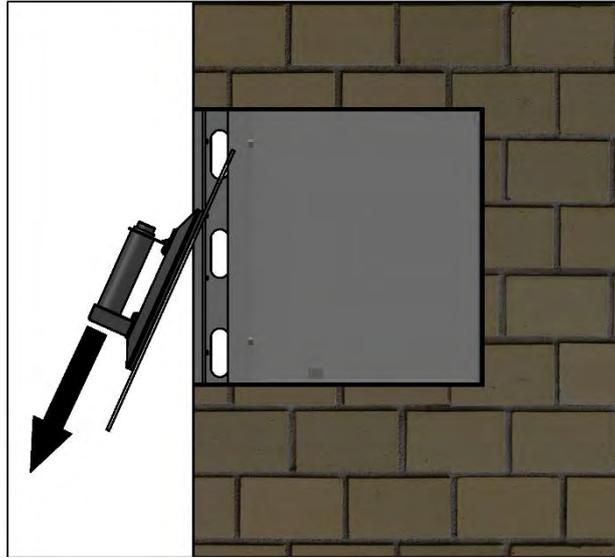
Pull up on the suction cup to lift the glass, tilting it slightly towards you, until you reach the top. Be careful to avoid hitting the edge of the glass on the screws.



Pull the suction cup until the bottom of the glass clears the frame.

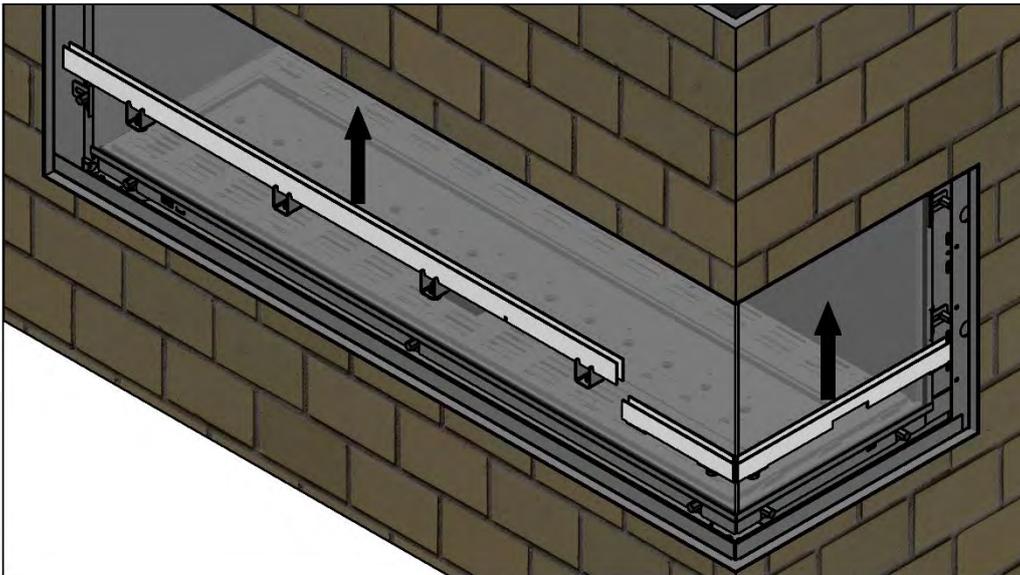


Pull the suction cup to take the glass out.

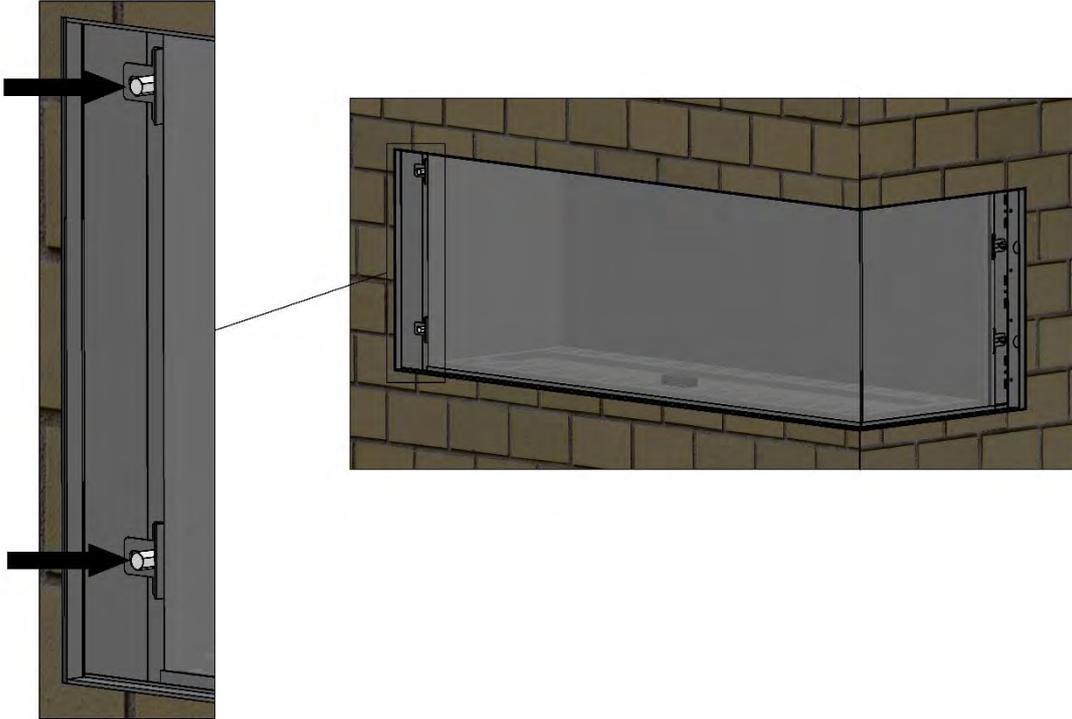


**NOTE:** Repeat this process to remove the side glass.

5. Pull the front and side blower grills until they release from the magnets.



6. If glass stoppers are installed, loosen their screws, as shown below.



7. Remove the inner (ceramic) glass in the same manner as the tempered glass.

Removing/Assembling Double Glass Heat Barrier and Inner Glass (Type 2)

The procedure below shows how to remove the glass of new design double glass units. To re-install the glass, perform the steps in the opposite order.

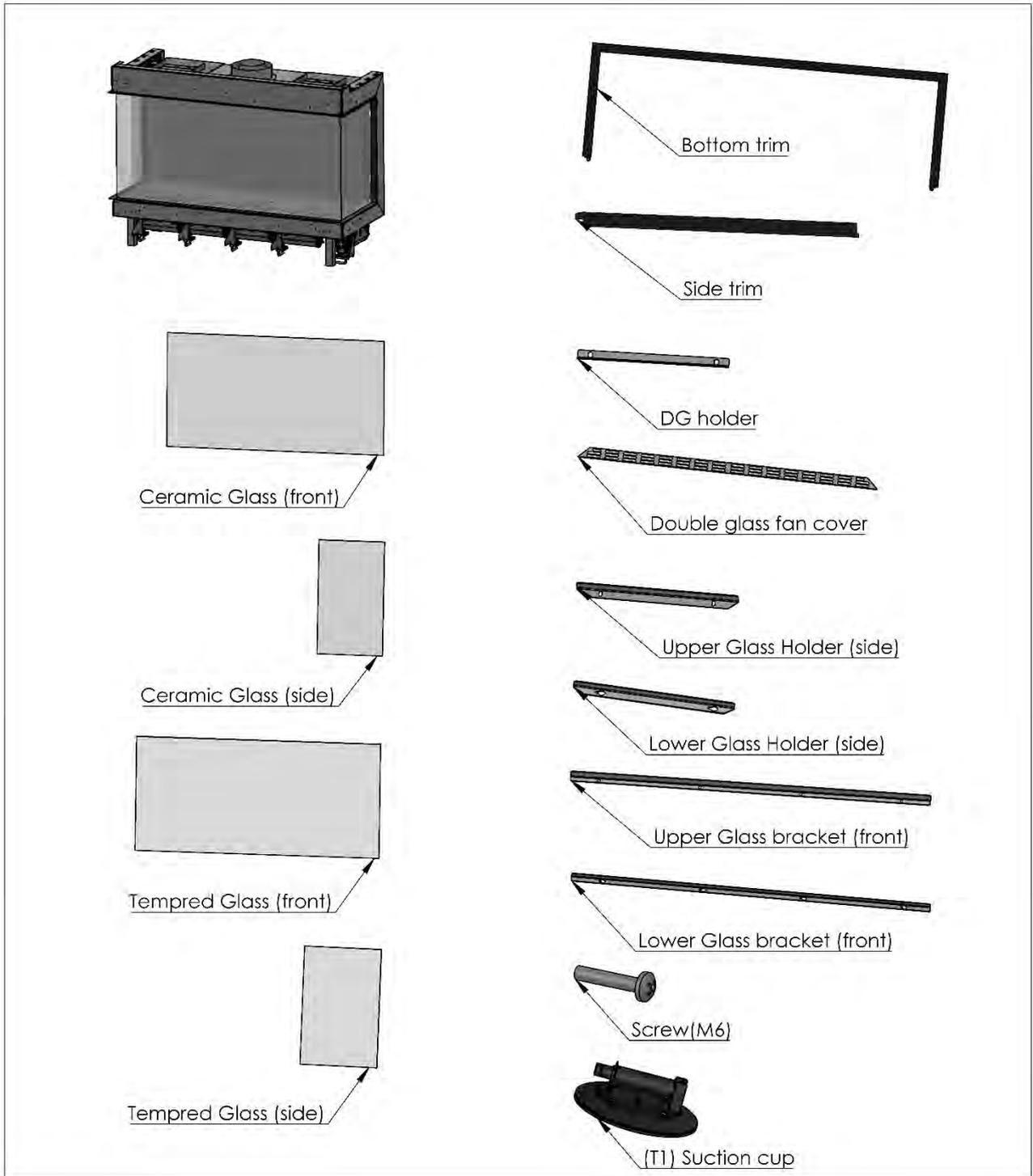
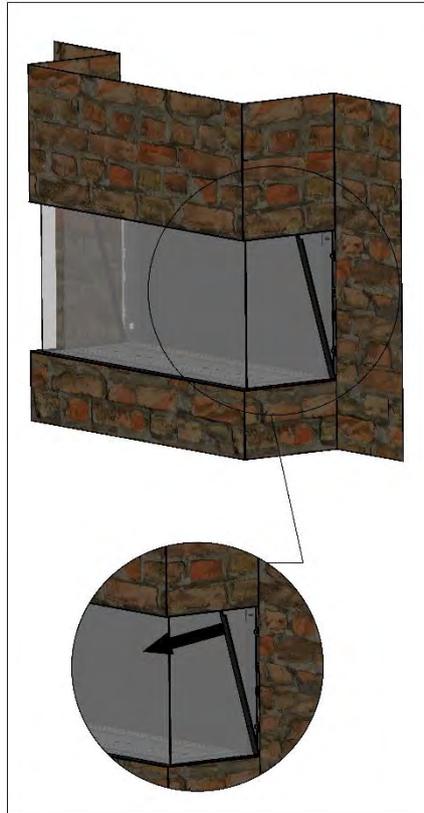


Figure 18: Double Glass Heat Barrier: Parts

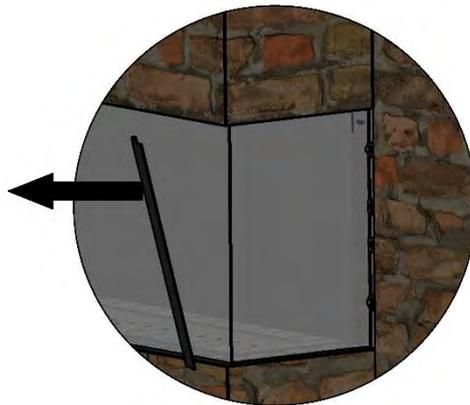
**To remove the double glass heat barrier:**

1. Remove the side trim:

Hold the upper side of the side trim with your index finger, and pull it until it releases from the top magnet.



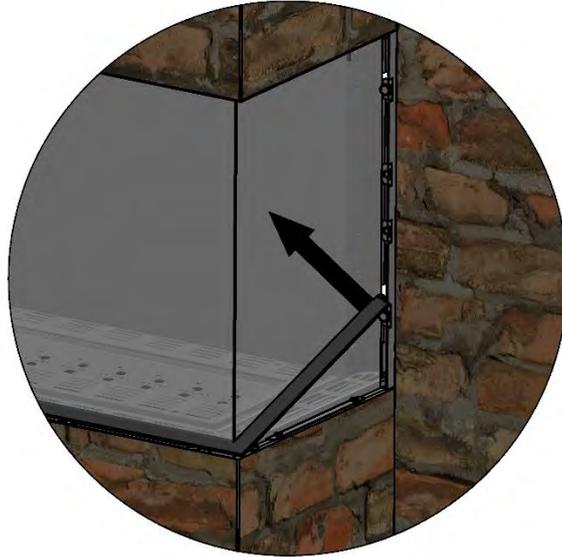
Continue pulling the side trim until it is disconnected from the bottom magnet.



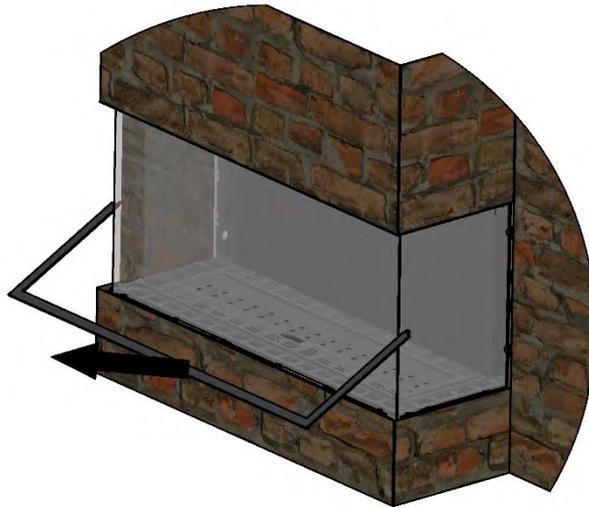
Repeat with the other side trim.

2. Remove the bottom trim:

Lift the end of the bottom trim with your index finger, and pull it up until it releases from the magnets.

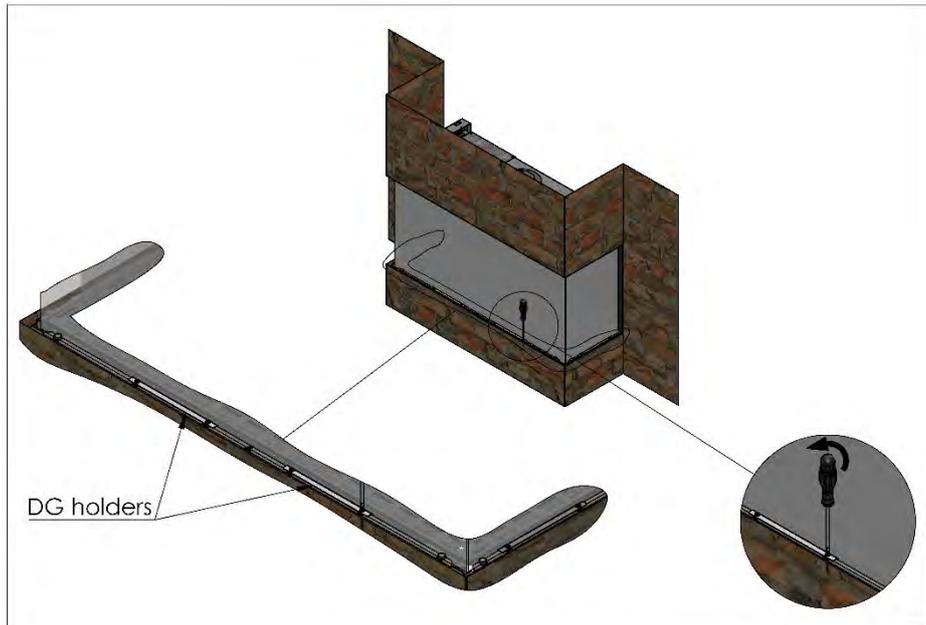


Then, pull the bottom trim all the way out.



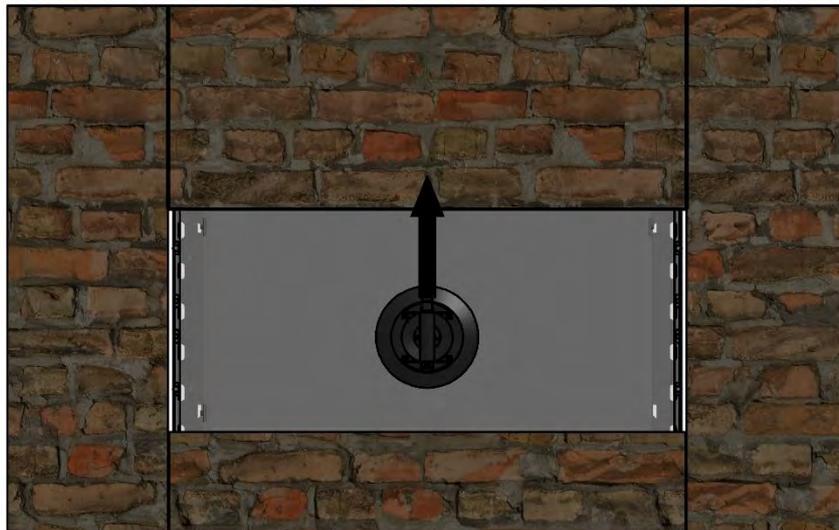
3. Remove the Double Glass holders:

Using a screwdriver, start removing the two screws from each of the front glass holders. Then take them all the way out.

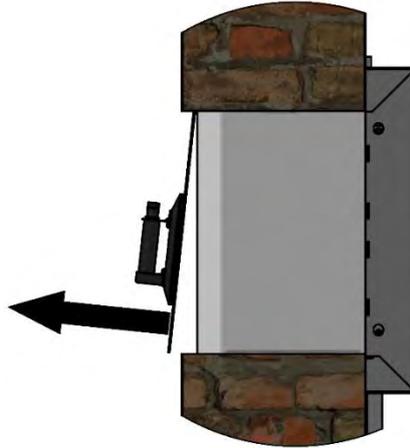


4. Remove the double glass:

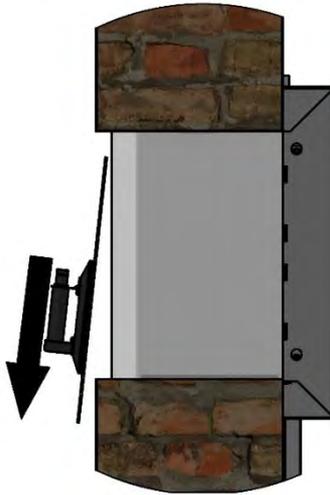
Using the suction cup, hold the front glass from the center and raise it until it reaches the top.



Pull the bottom of the glass as shown in the figure:



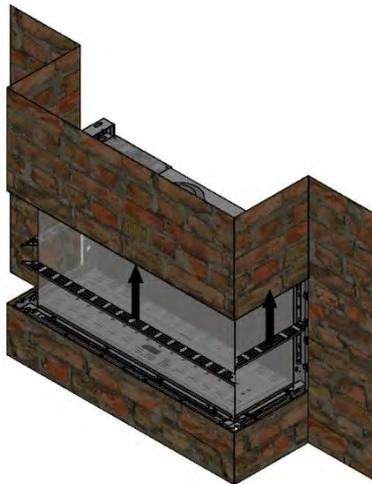
Pull the glass down, and take it out.



If necessary, repeat the procedure to remove the side glass.

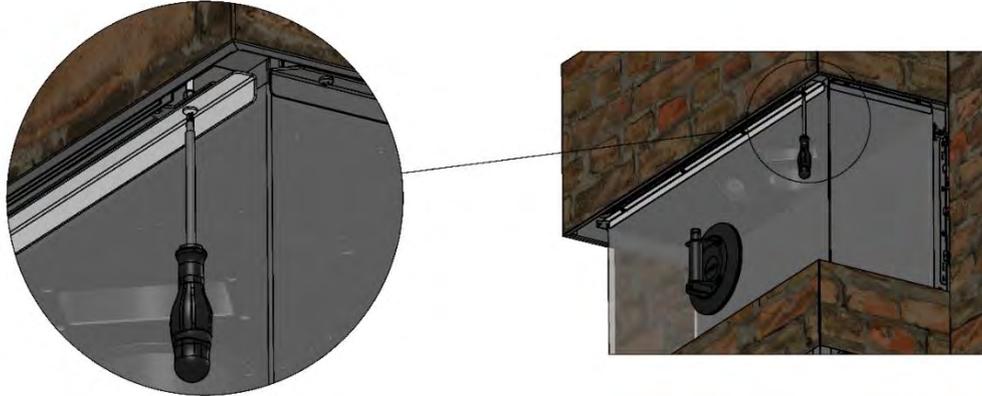
5. Remove the double glass fan covers:

Pull each fan cover up until it is released.



6. Remove the front glass brackets:

Using a suction cup, hold the front glass from the center. While holding the glass, loosen the screws of the upper bracket.

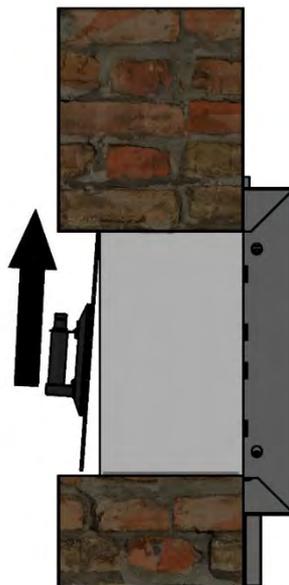


Take all the bottom bracket screws out. Then, remove the bracket.

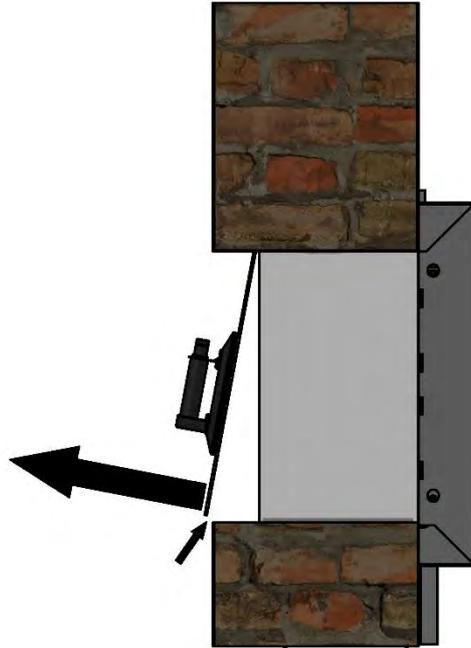


7. Remove the glass:

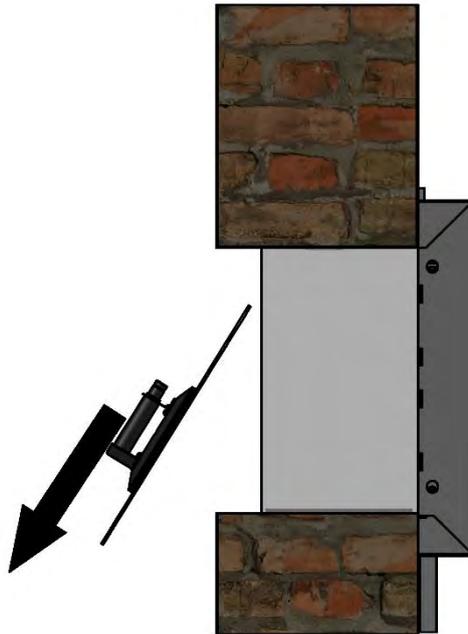
Pull the suction cup up to lift the glass until it reaches the top.



Pull the suction cup from the bottom until the glass clears the frame.



Pull the suction cup to take the glass all the way out.



If necessary, remove the side glass by repeating Steps 6 and 7.

### Removal / Assembly of the Framed Screen

The procedure below shows how to remove the framed screen. To re-install it, perform the steps in the opposite order.

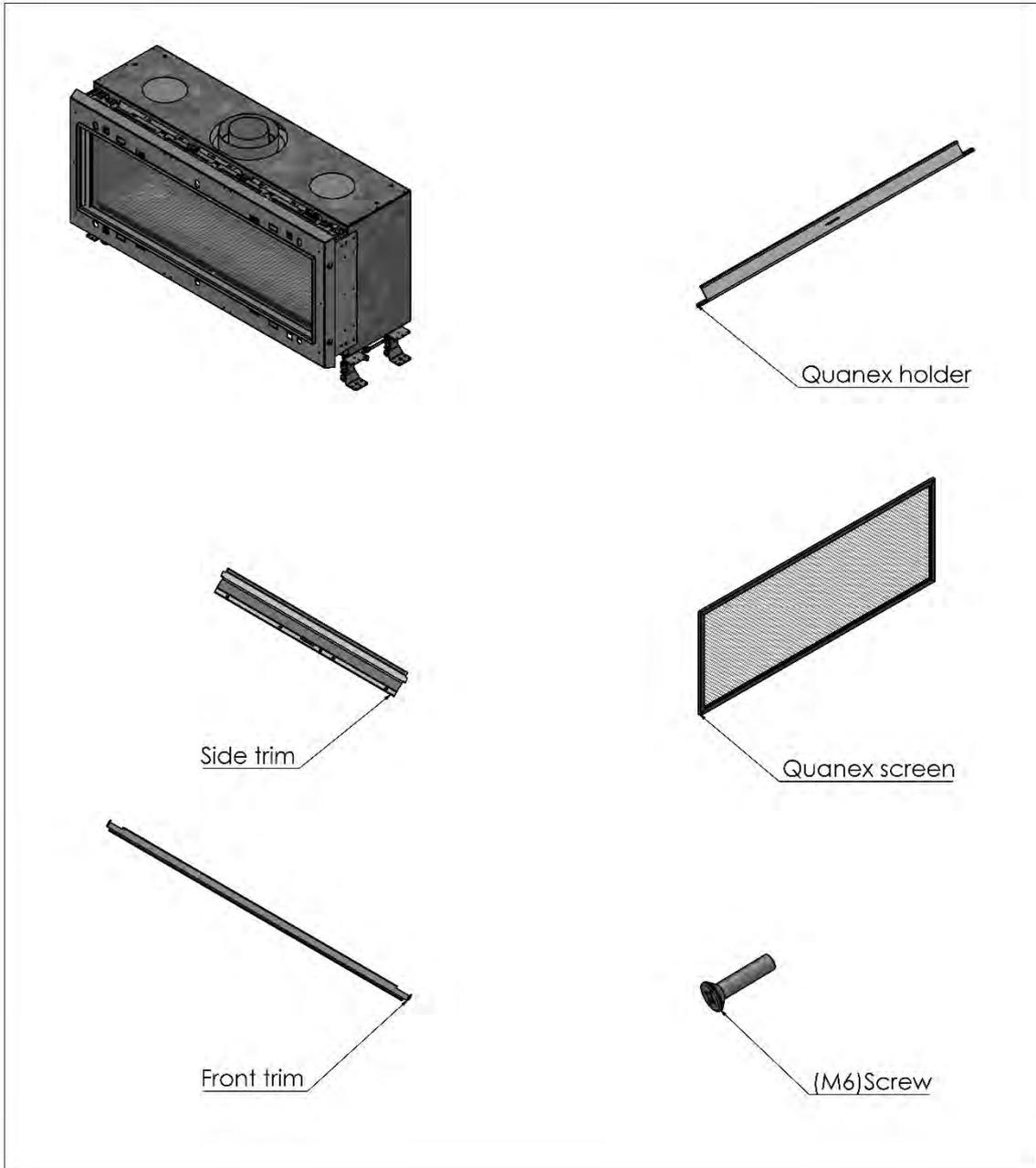
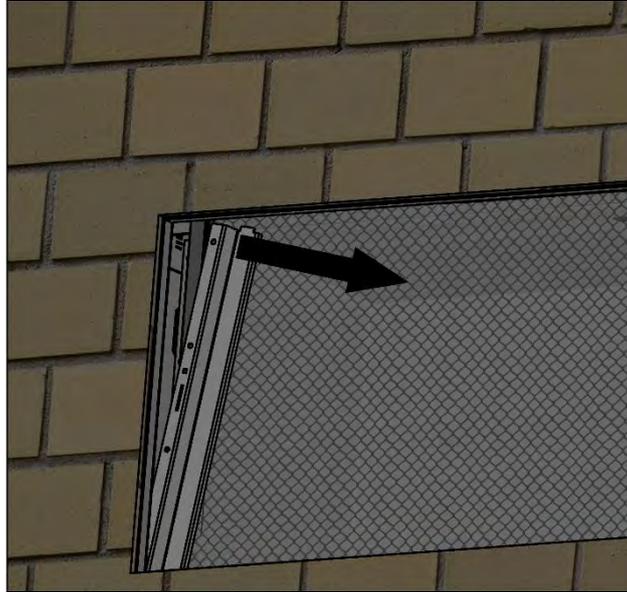


Figure 19: Framed Screen Assembly: Parts

**To remove the framed screen:**

1. Remove the side trim:

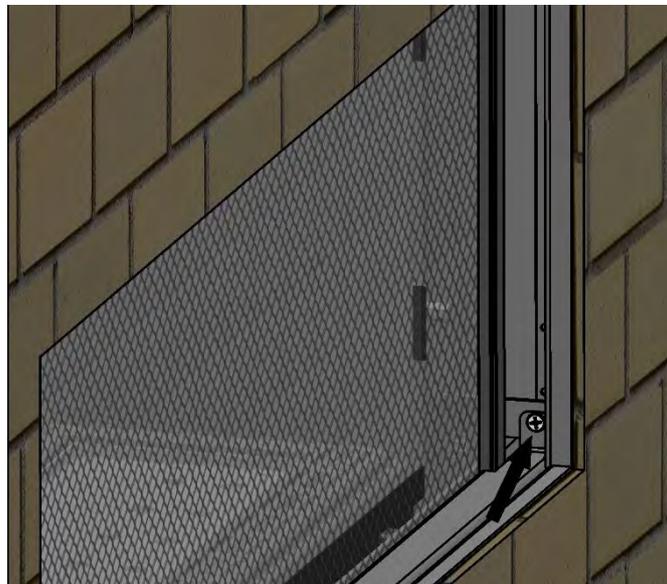
Using your index finger, pull the upper side of the profile until it releases from the magnets. Then, remove it.



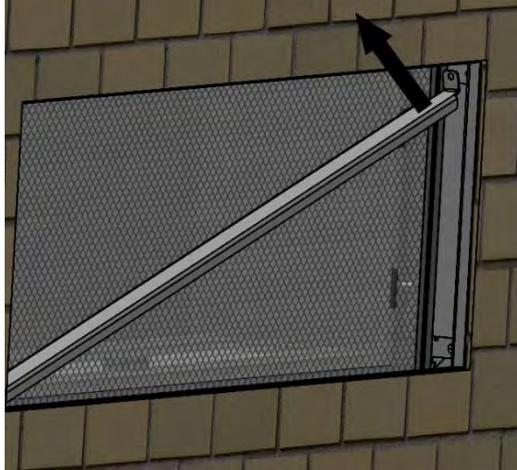
Remove the other side trim in the same manner.

2. Remove the front trim:

Using a screwdriver, remove the two screws from each side of the trim.

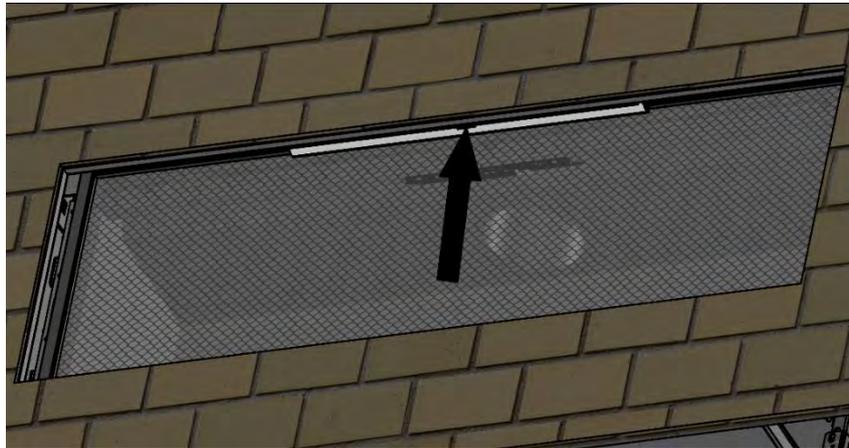


Lift the trim from the side, and remove it.

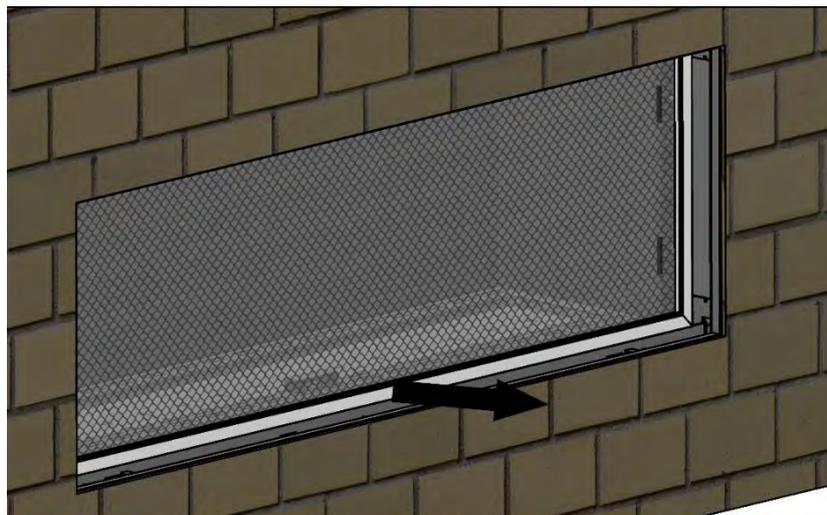


3. Remove the framed screen:

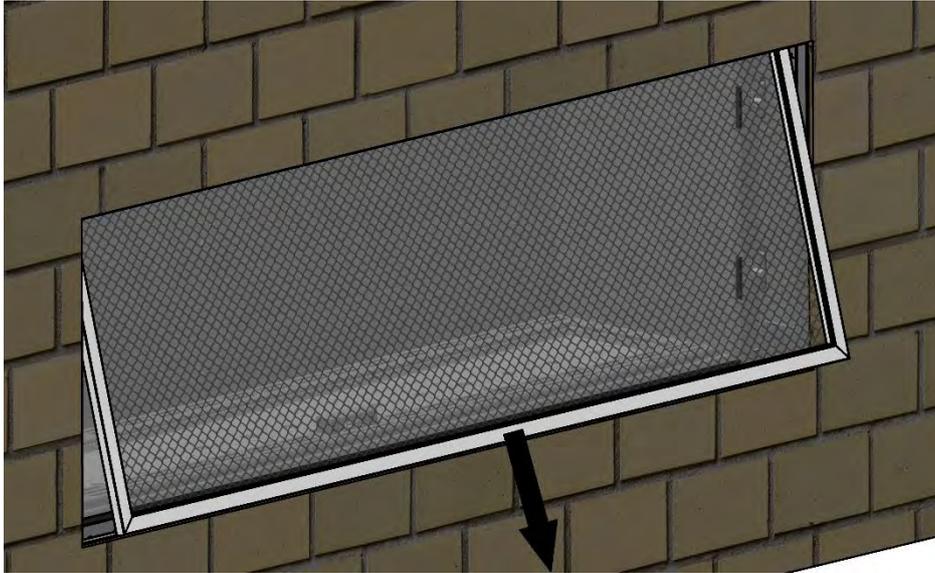
Using your hand, push the holder from the middle to release the framed screen.



While holding the framed screen up, pull the bottom of the screen with your other hand until it clears the frame.



Pull the framed screen down and out, and remove it.



### Removal / Assembly of the Protective Screen

The procedure below shows how to remove the protective screen. To re-install it, perform the steps in the opposite order.

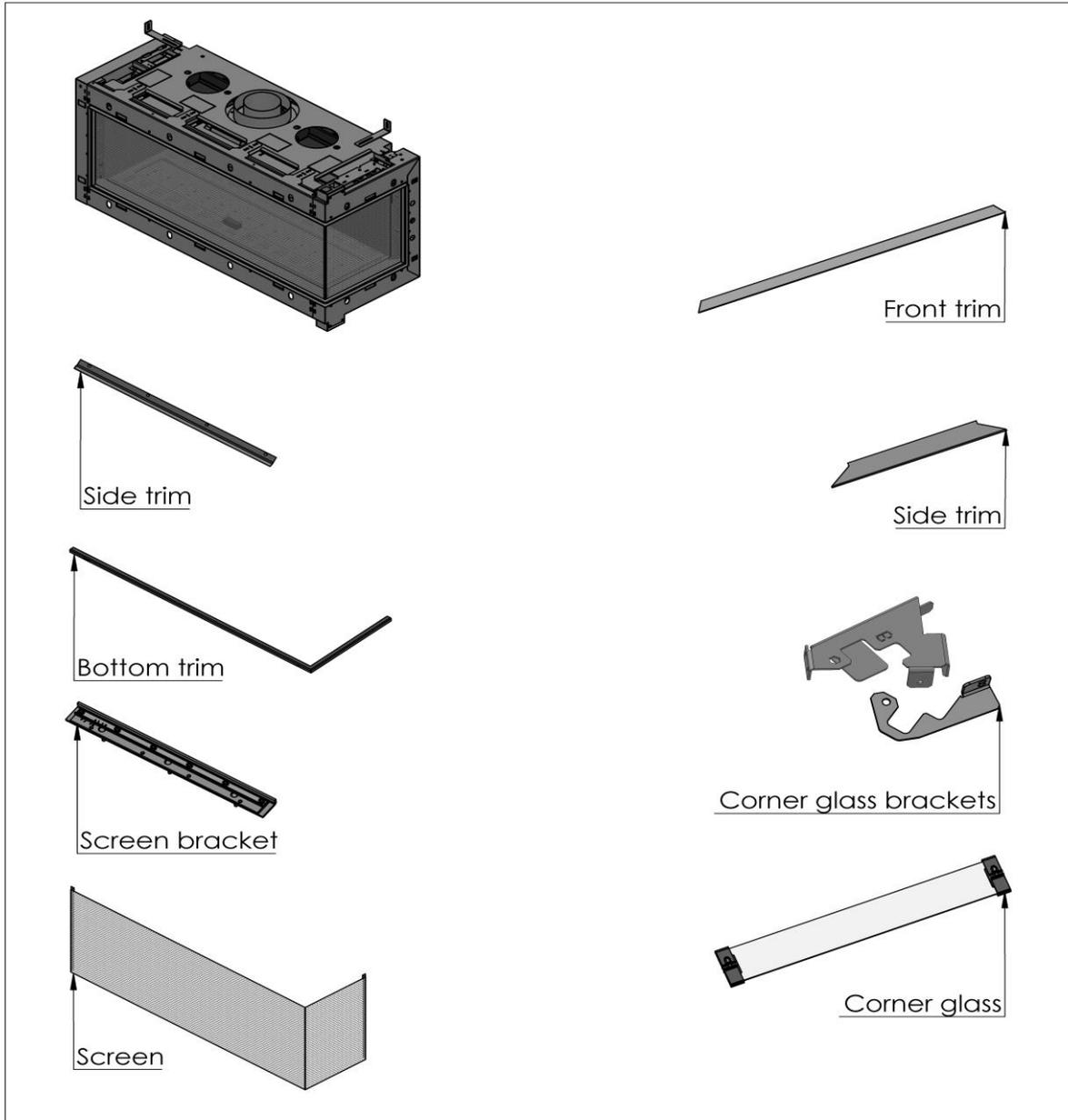
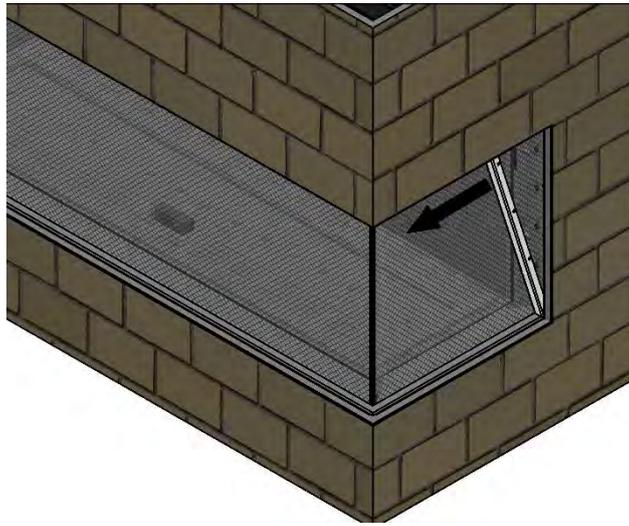


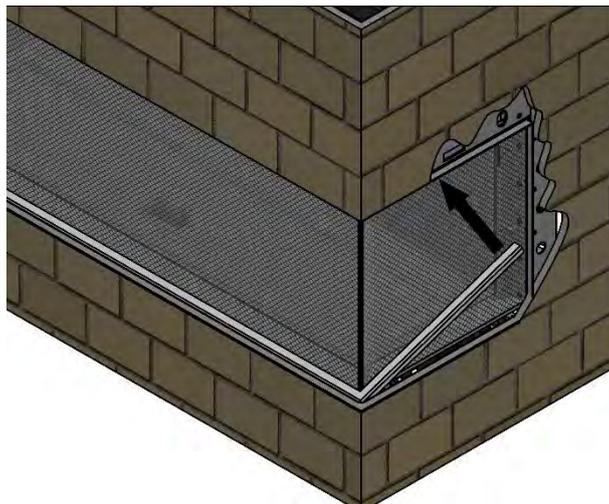
Figure 20: Protective Screen: Parts

**To remove the protective screen:**

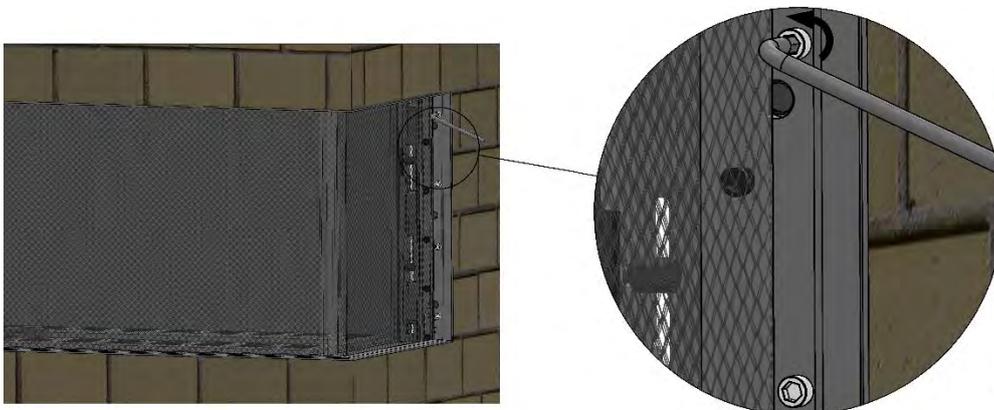
1. Remove the side trim by pulling out from the top.



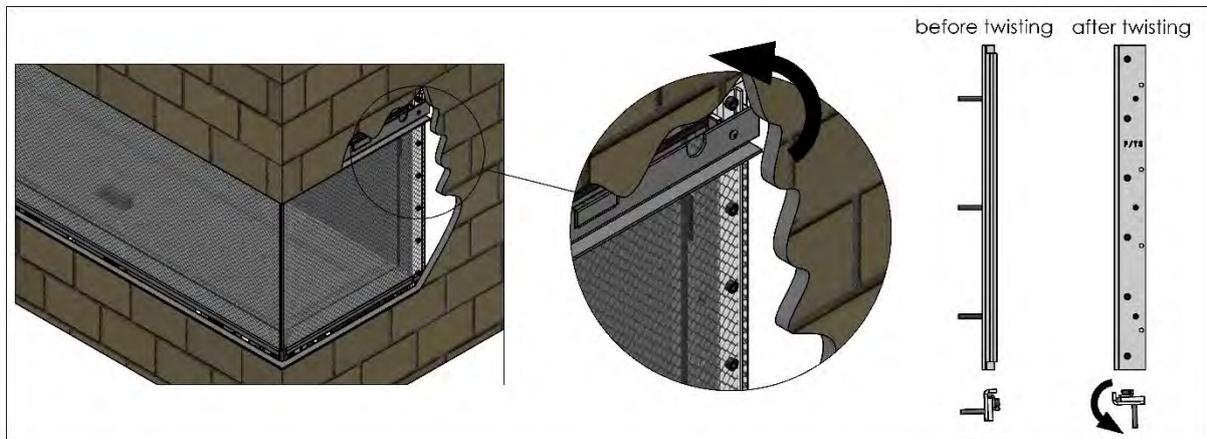
2. Remove the bottom trim by pulling up from the end.



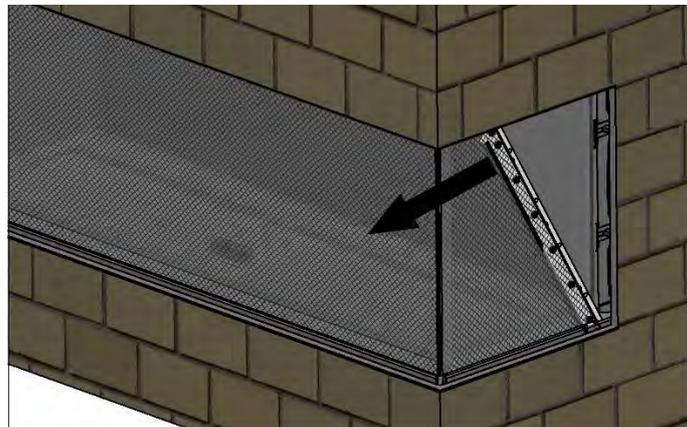
3. Remove the 4-5mm hex bolts with a 5mm Allen wrench.



4. Remove the protective screen:  
Twist the screen bracket 90 degrees.



Gently tilt the screen bracket from the top down and towards you.



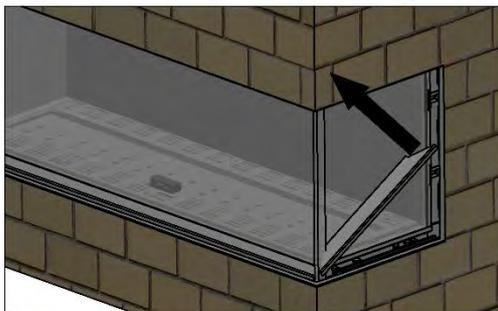
Carefully remove the screen. Roll it up and set it aside.



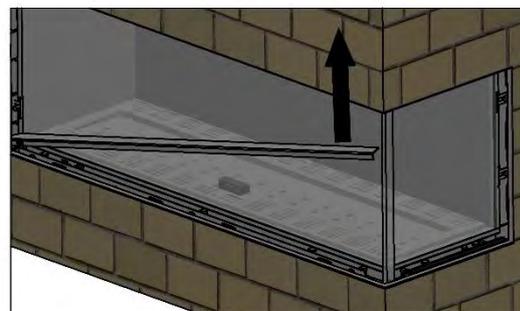
**NOTE:** If access to the firebox is needed, continue with the following steps.

5. Remove the trims in front of the glass:  
Lift the trim up from the end, and remove the trim.

side trim

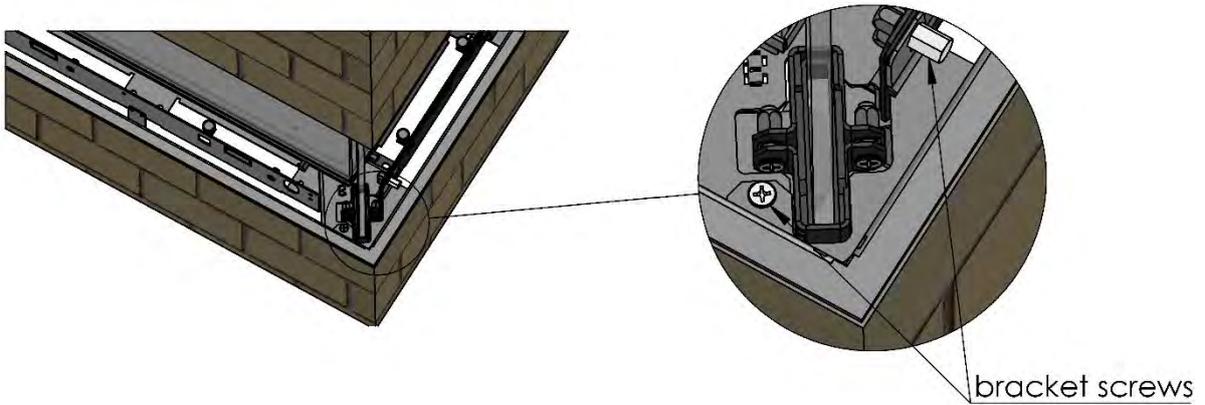


front trim

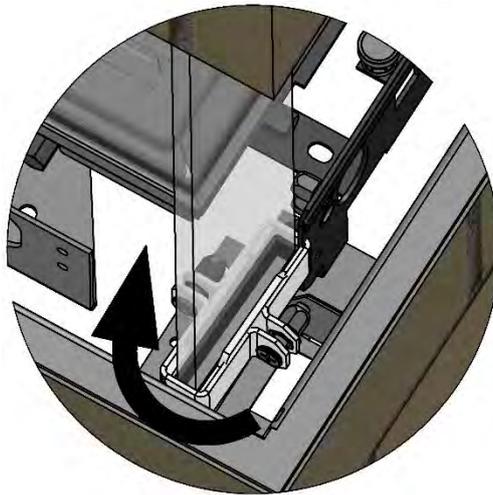


6. Remove the corner glass (only if necessary):

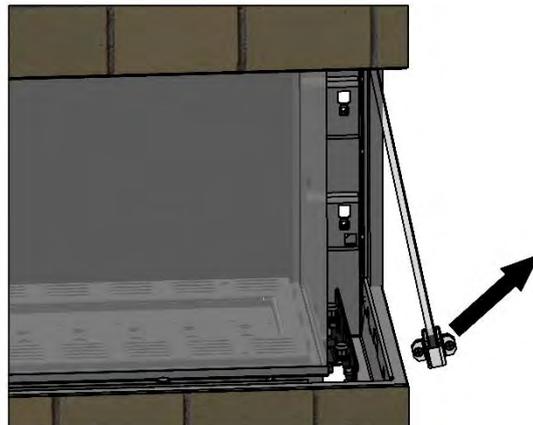
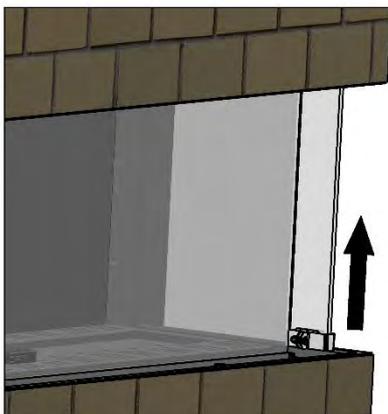
Remove the two screws from the bottom bracket, and then remove the bracket.



While holding the glass corner, remove the upper bracket. Then, rotate the glass corner.



Lift up the glass corner, as shown in the picture on the left. Then, tilt the glass corner by pulling down from the bottom to the right (as shown in the picture on the right), and remove it.



### Removing/Assembling the Inner Glass (Screen Heat Barrier Units)

The procedure below shows how to remove the inner glass panes of ORTAL fireplace units with a screen heat barrier. To re-install the glass, perform the steps in the reverse order.

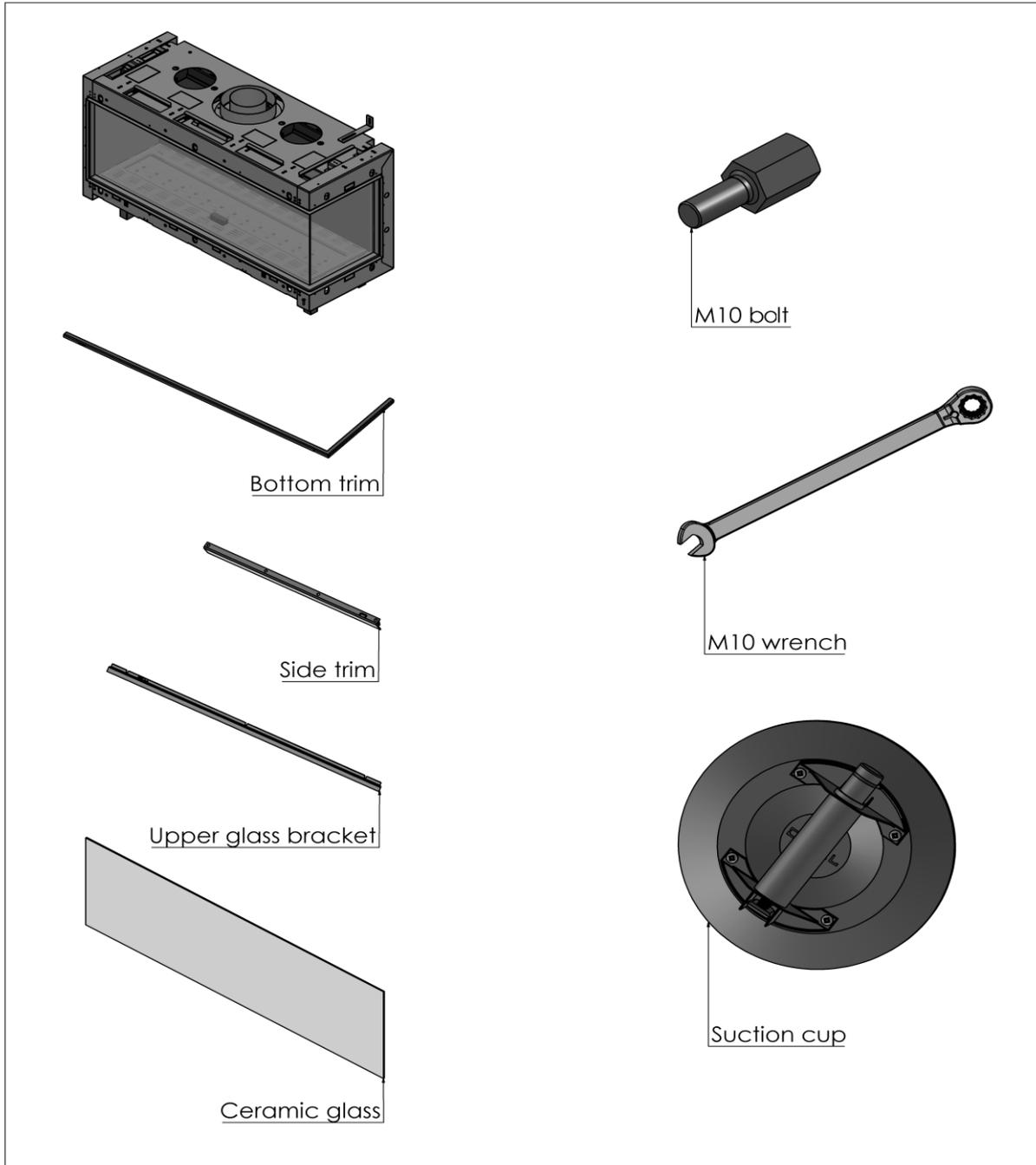
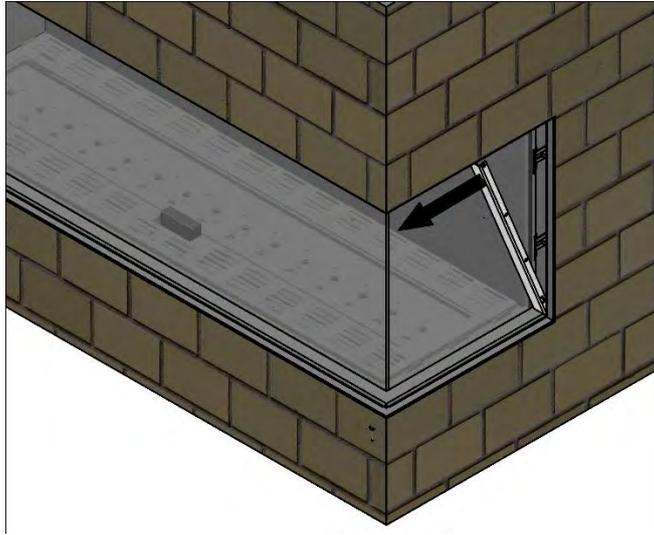


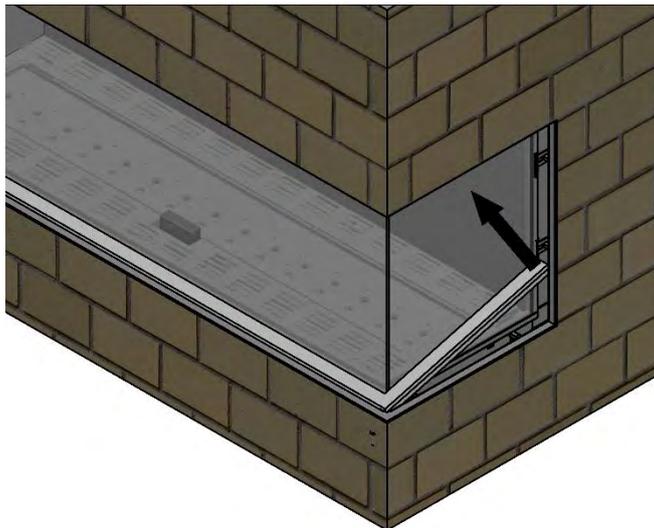
Figure 21: Inner Glass: Parts

**To remove the inner glass:**

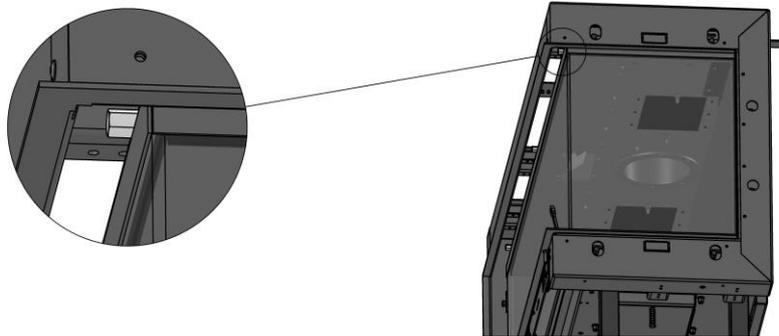
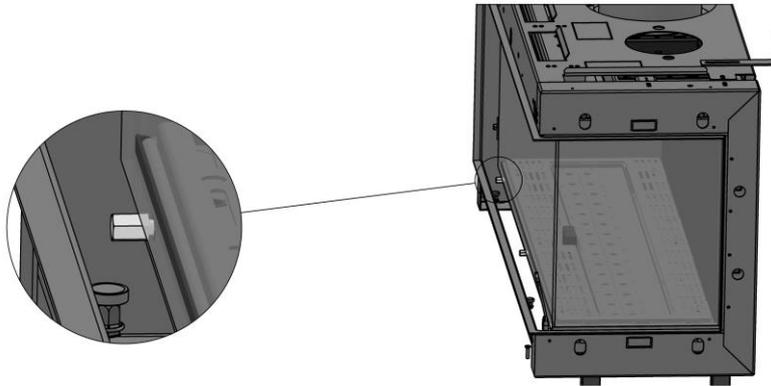
1. Remove the side trim by pulling out from the top.



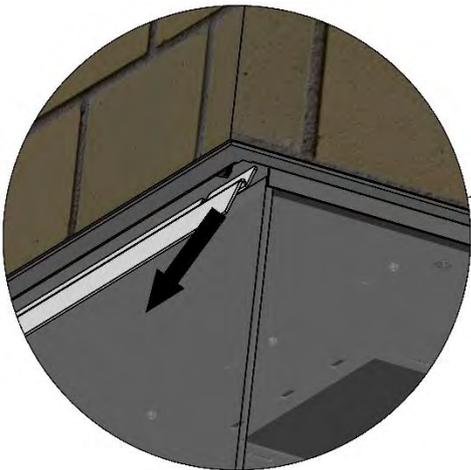
2. Remove the bottom trim by pulling up from the end.



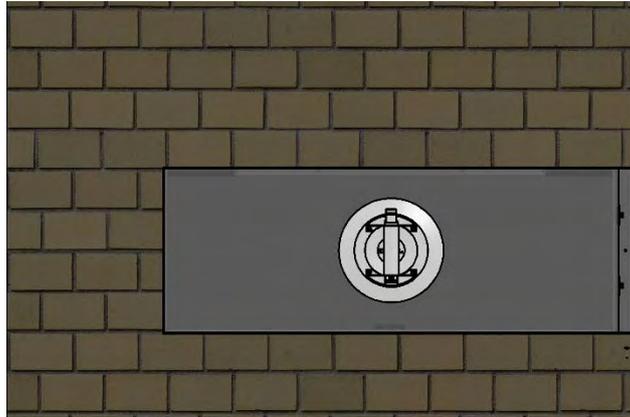
3. Loosen all the (M10) bolts from the upper and lower brackets.  
Do NOT remove the bolts.



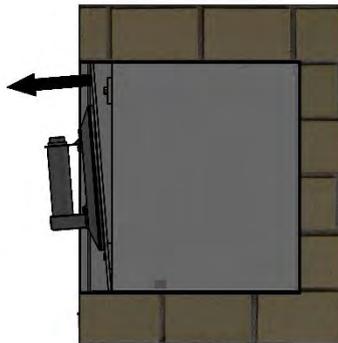
4. Remove the upper glass bracket.  
Do NOT remove the bottom bracket.



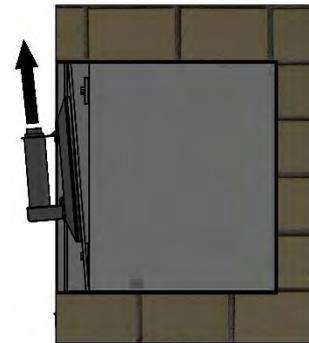
5. Attach the suction cup as shown. Make sure that the line on the suction cup bottom is not showing.



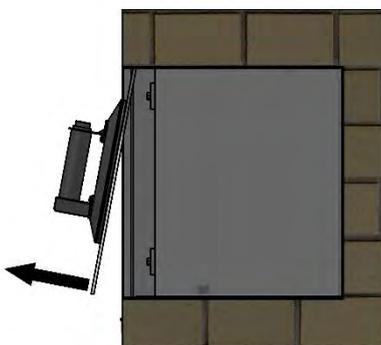
6. Remove the front glass by performing the following steps while holding the button of the suction cup down.
  - A. Tilt the top side of the glass forward.
  - B. Lift the glass up.
  - C. Tilt the bottom side of the glass forward.
  - D. Pull the glass down and out.



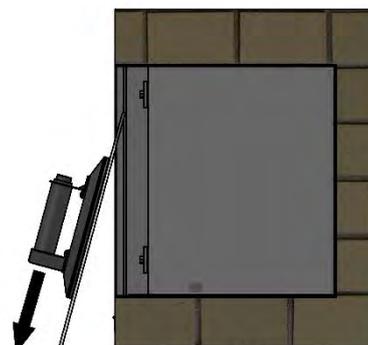
(A)



(B)



(C)



(D)

7. If necessary, remove the side glass using the same technique described in Step 6.

### Removing/Assembling the Back Panel

The procedure below shows how to remove the back panel of the unit. The procedure is relevant for units that include a reflective panel or granite.

To re-install the panel, perform the steps in the reverse order.

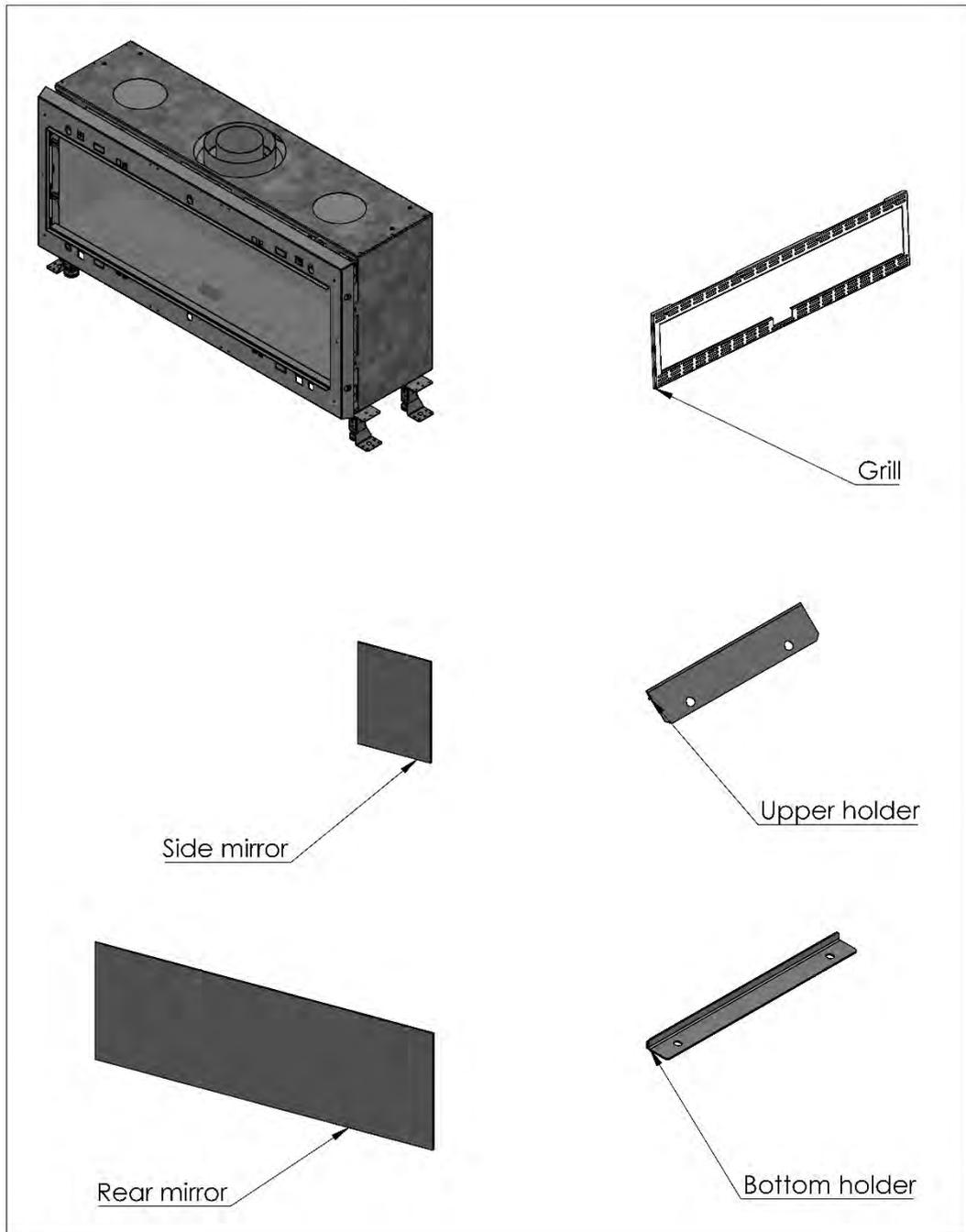
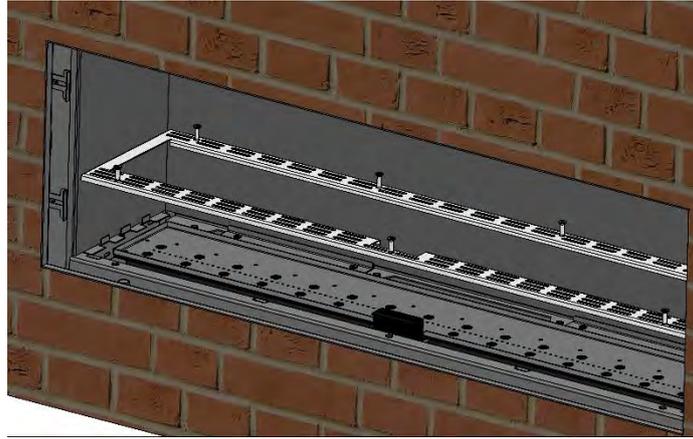


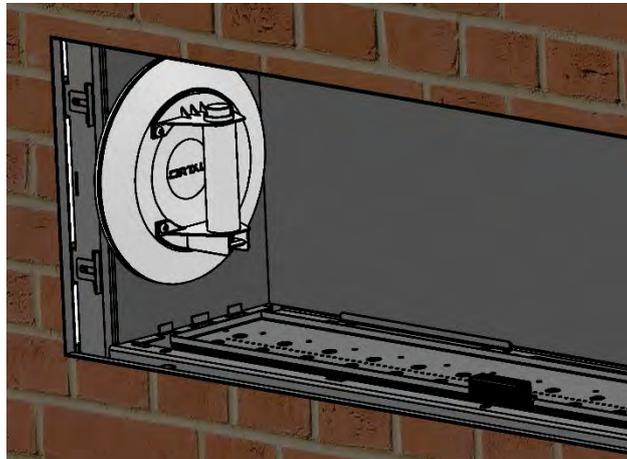
Figure 22: Back Panel: Parts

#### To remove the back panel:

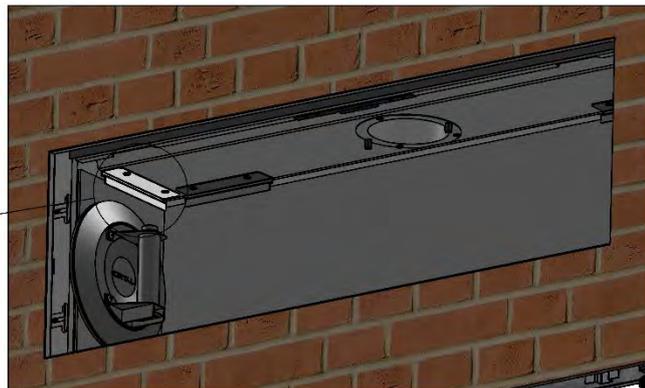
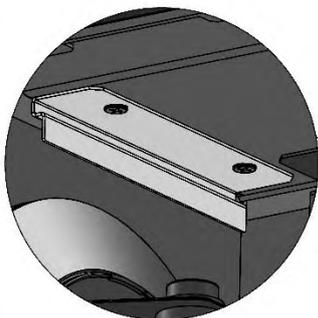
1. Remove the front glass and the front heat barrier (Fireplace Heat Barrier on page 80).
2. Remove the grill screws. Lift the grill and pull it out.



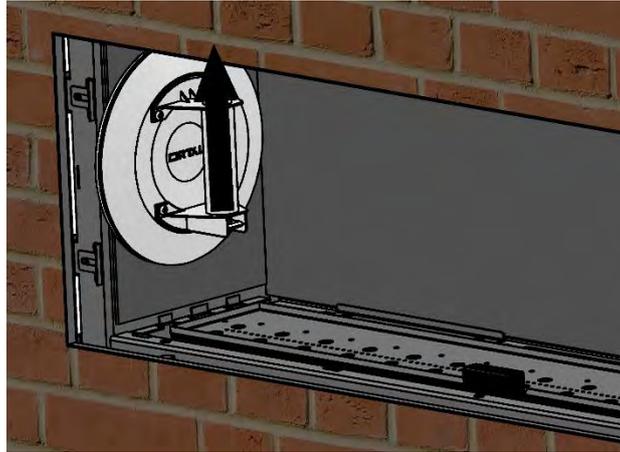
3. Remove the upper panel holders:  
Hold the panel, using a suction cup.



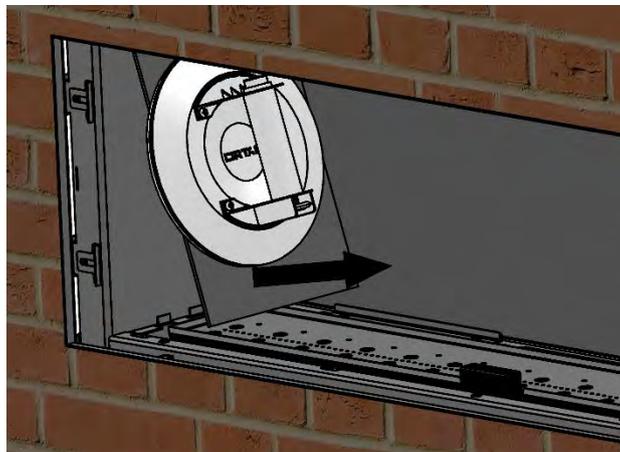
Remove the screws from each holder, and take the holders out.



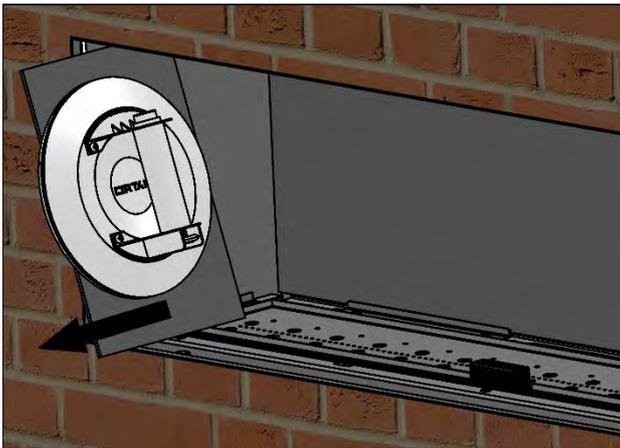
4. Remove the side panel:  
Lift the panel up, as shown:



Tilt the panel from the bottom, and pull it towards the fireplace center.

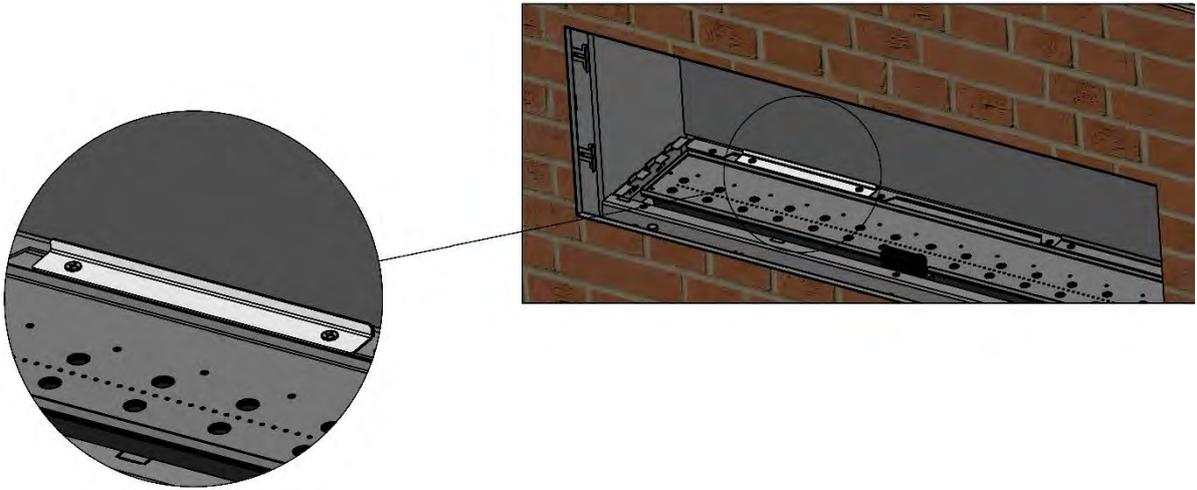


Pull the panel out and remove it.

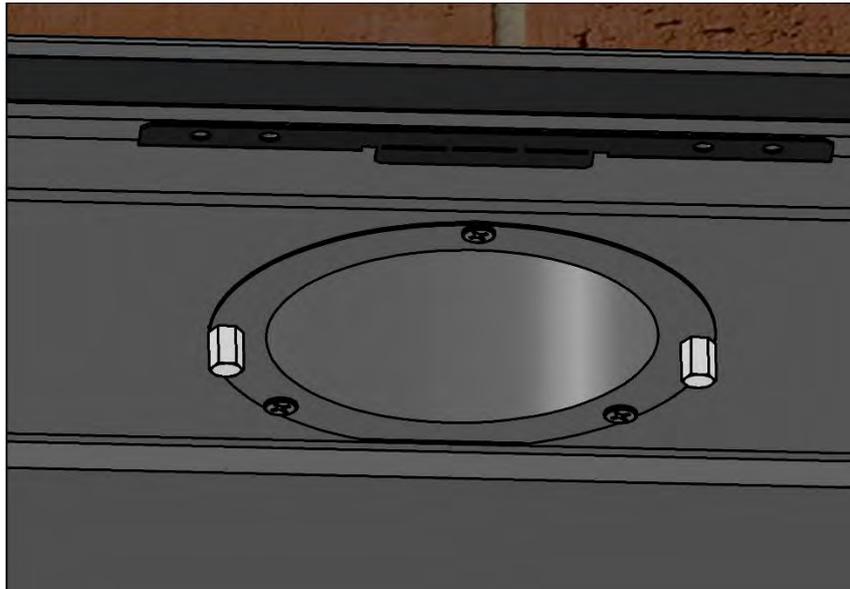


If necessary, remove the other side panel in the same manner.

5. Remove the rear panel:  
Remove the bottom holders (if present).



If the screws on the starter collar are type (M10), remove them as shown in the figure below.  
Do NOT remove Phillips screws from the starter collar.



Remove the rear panel in the same manner as the side panel (see Step 4).

### 75/65 Front Bricks Installation

The following procedure provides guidelines for installing front bricks.

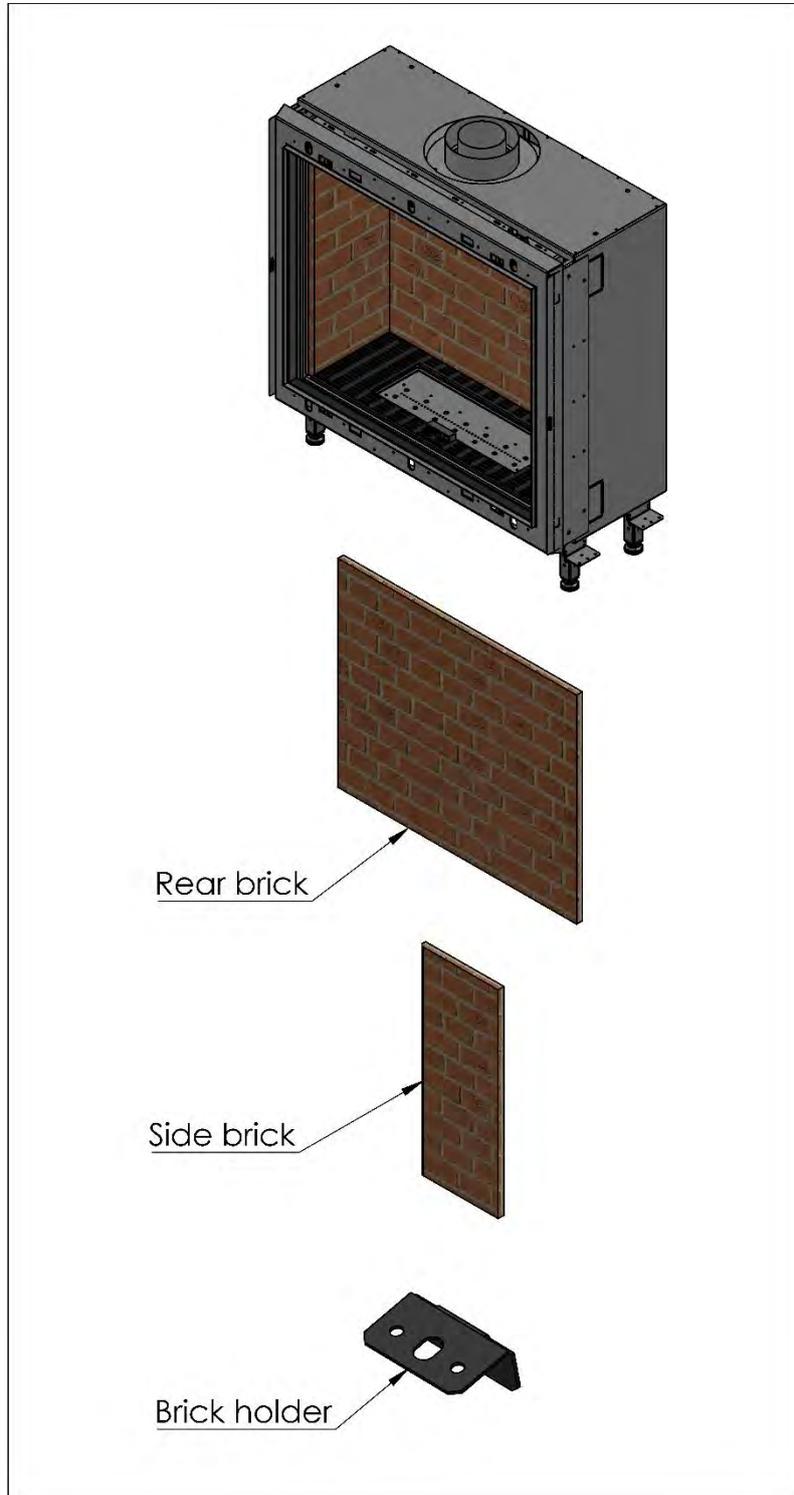


Figure 23: Components for Front Bricks Installation

**To install front bricks:**

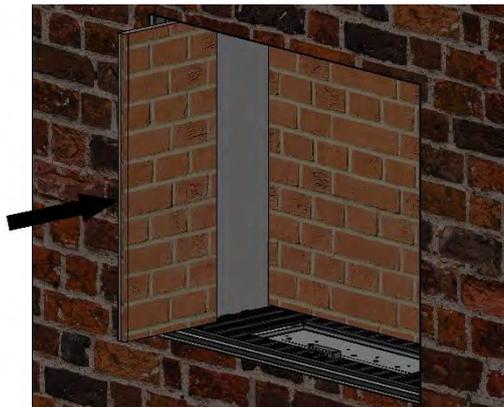
1. Remove the heat barrier and the glass (Fireplace Heat Barrier on page 80).
2. Insert the rear brick.



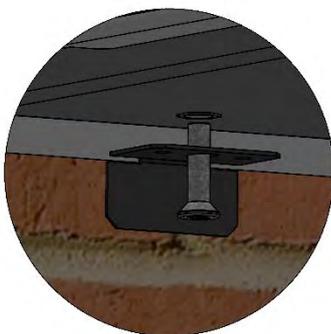
**NOTE: The side bricks hold the rear brick.**



3. Insert the left and right-side bricks.



4. Insert the right and left brick holders, as shown.



Traditional Bricks Installation

The following procedure provides guidelines for installing traditional bricks.

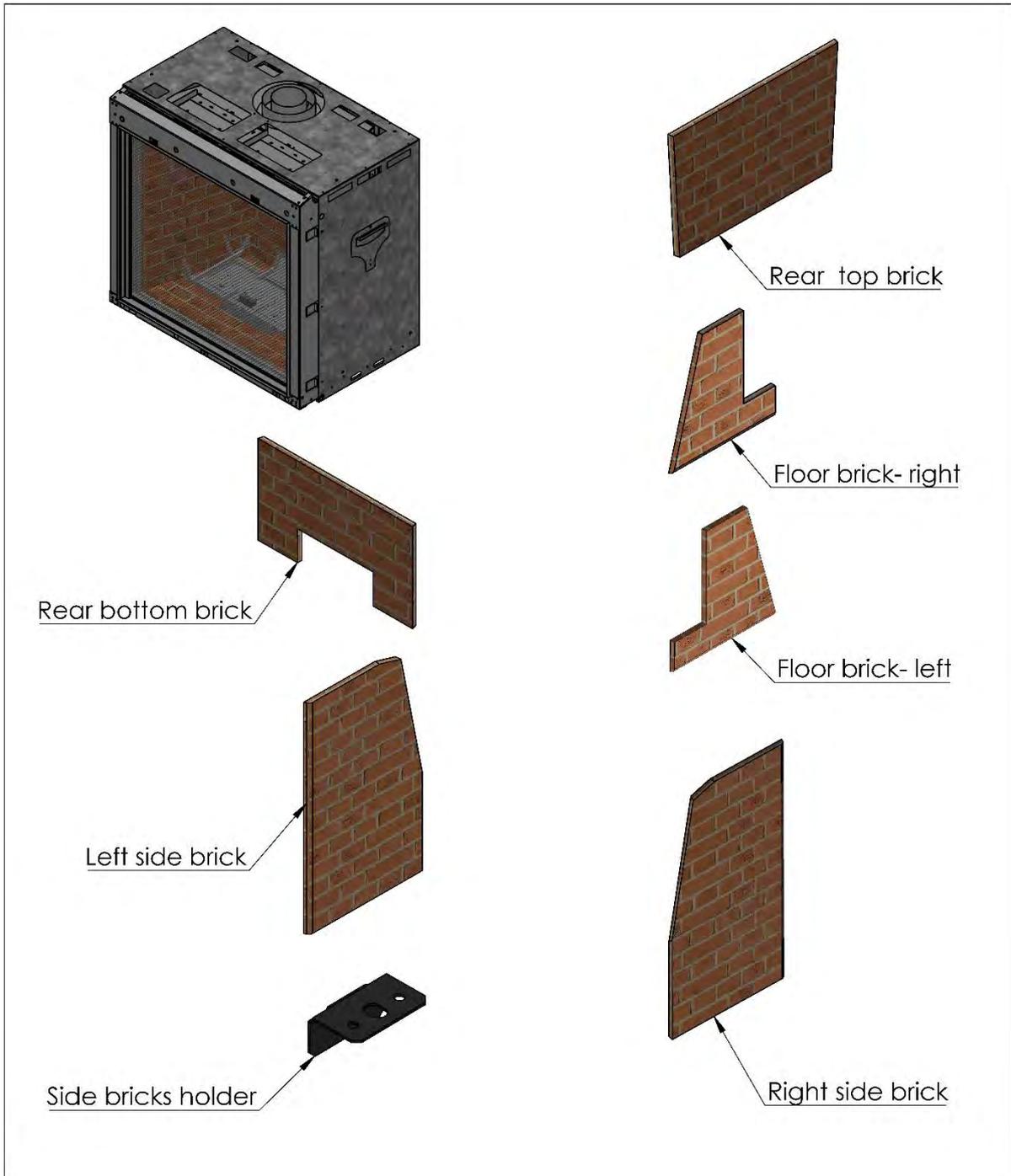
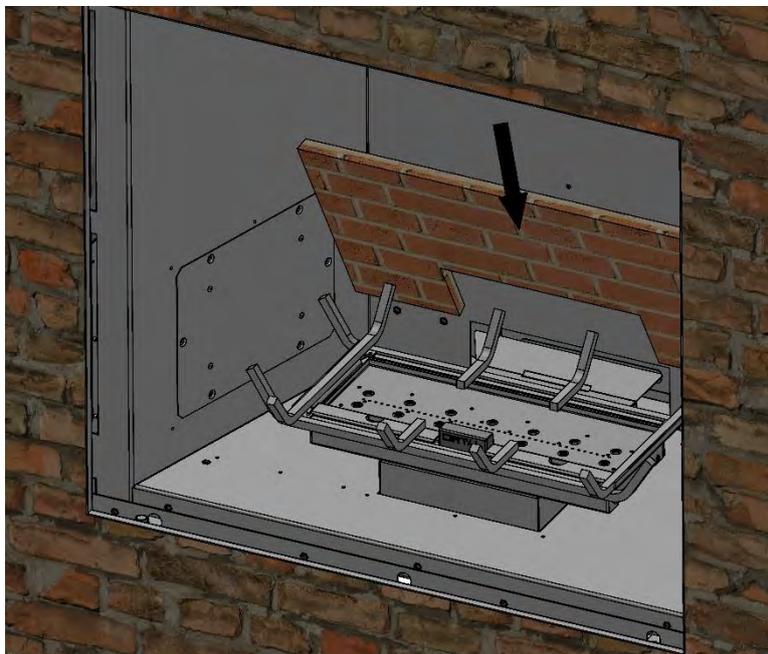


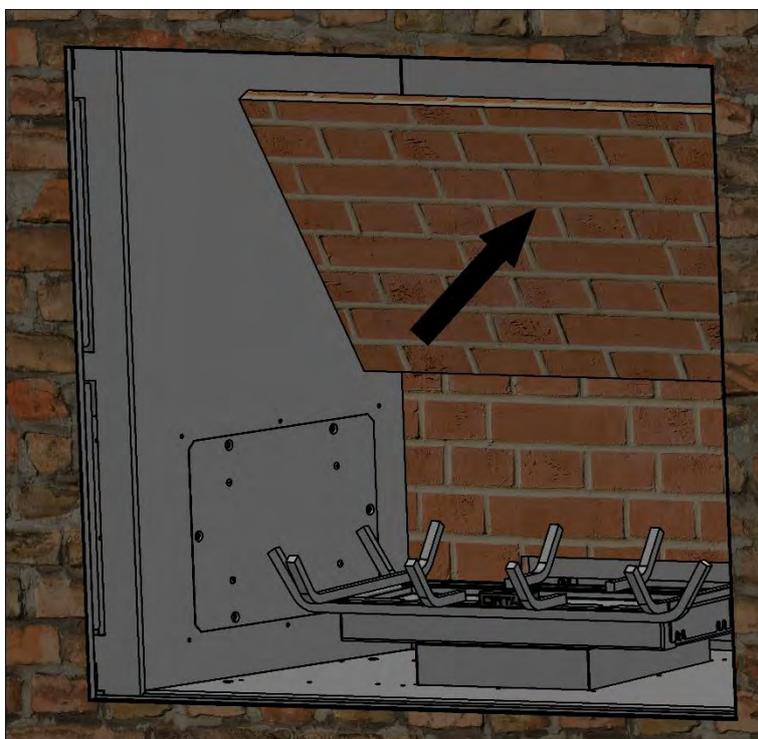
Figure 24: Components for Traditional Bricks Installation

**To install traditional bricks:**

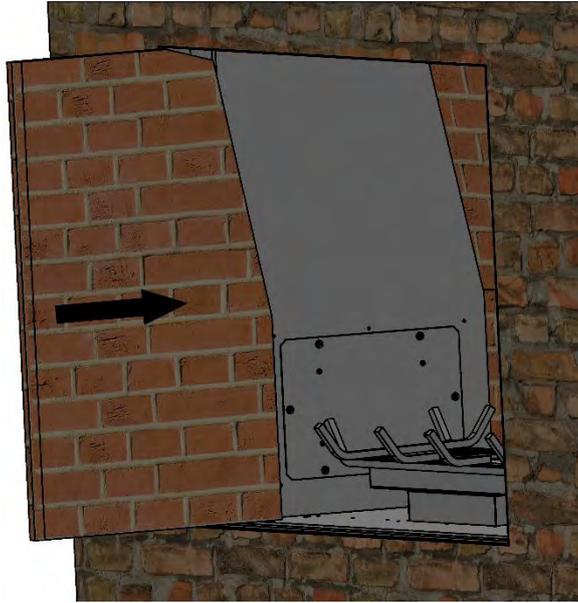
1. Remove the heat barrier and the glass (Fireplace Heat Barrier on page 80).
2. Insert the rear lower brick.



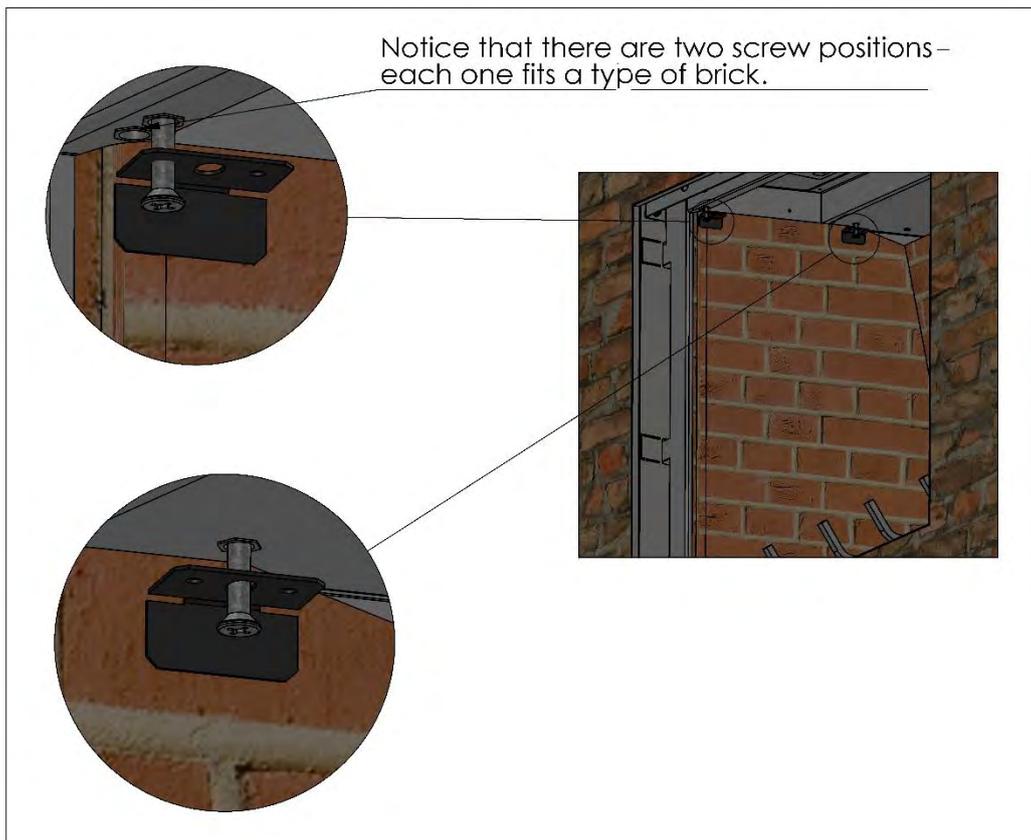
3. Insert the rear upper brick.



4. Insert the side bricks.

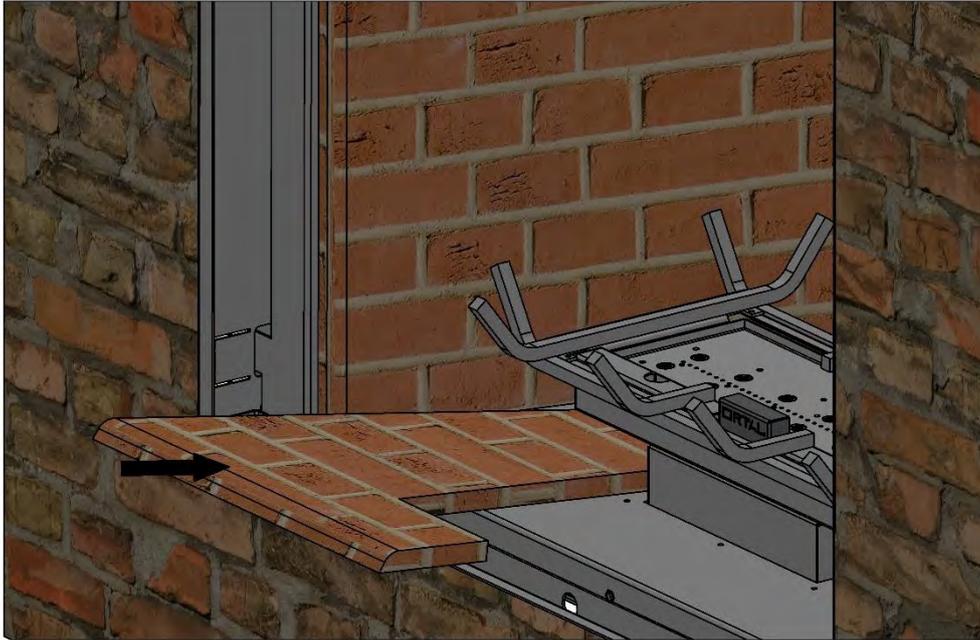


5. Insert the brick holders for each side, as shown.

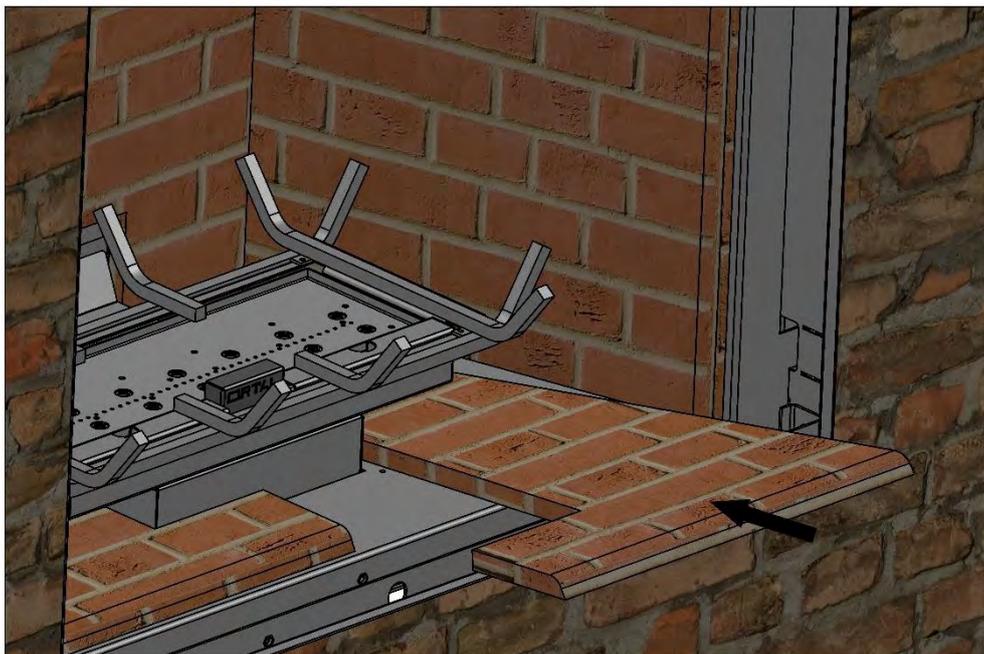


**NOTE: The side bricks hold the rear bricks.**

6. Push the right and left floor bricks into place, as shown.



(a)



(b)

## Remote Control Setup and Operation

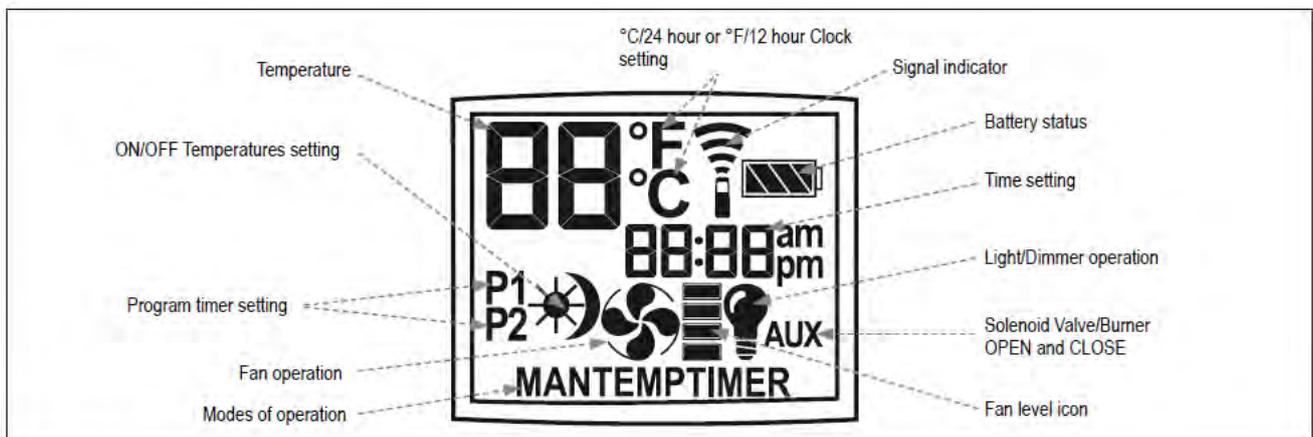
This section provides safety information and instructions for setting up and operating the remote control.

The redesigned GV60 handsets G6R-H...FB and G6R-H...FW operate exactly the same as the previous handset G6R-H...

Only the symbols on the buttons have changed. See the figure below for the corresponding symbols.

KEY ASSIGNMENTS		
G6R-H...FB(W)		G6R-H...
	=	
	=	
	=	
	=	
	=	

New style
Old style



## Radio Frequency Handset

315 MHz for Australia and New Zealand. Operation is subject to the following conditions:

- This device may not cause harmful interference
- This device must accept any interference received, including interference that may cause undesired operation.

Changes or modifications not expressly approved by the party responsible for compliance could void the user's authority to operate the equipment.



**NOTE: Wiring of valve and receiver must be completed before starting ignition. Failure to do so could damage the electronics.**

## Setting the Electronics Code

Follow these guidelines to set the code on the radio frequency handset.

A code is selected automatically for all Mertik Maxitrol electronics from among 65,000 random codes available. The receiver has to learn the code of the handset:

- Press and hold the receiver's reset button (see figure 21) until you hear two (2) beeps. The first beep is short and the second beep is long. After the second beep, release the reset button.
- Within the subsequent 20 seconds press the  (small flame) button on the handset until you hear two additional short beeps confirming the code is set. If you hear one long beep, this indicates the code learning sequence has failed or the wiring is incorrect.

**NOTE:** This is a one time setting only, and is not required after changing the batteries of the handset or receiver.



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## Batteries

### Handset:

- 3 x "AAA" (alkaline recommended).
- Low battery indicator on handsets with display.
- Handsets without display: the red LED gets darker.
- Battery replacement is recommended after 2 years.
- The handset may display options that are not available on all fireplaces

### Receiver:

- 4 x 1.5V "AA" (alkaline recommended).
- Low battery indication: Frequent beeps for 3 seconds when motor turns.
- The AC Mains Adapter must be used for all units except screen units with no options.
- The module for fan speed control and light/dimmer includes mains power together with batteries in the receiver for automatic backup in case of power outage.



**NOTE:** Double glass and power vented units will not operate during a power failure, and need to be run with the AC Adapter.

- Without using a mains adapter, battery replacement is recommended at the beginning of each heating season.



**NOTE:** Only the Mertik Maxitrol AC Mains Adapter or one pre-approved by Mertik Maxitrol can be used. Use of other adapters can render the system inoperable. The handsets, receivers, wall switches switch panels and touchpads are not interchangeable with previous electronics.

## Operating Instructions

Some options on the remote may not be available on all fireplaces. For complete operating instructions, please refer to the Homeowner's manual.

### TO TURN ON APPLIANCE

#### ⚠ WARNING

When pilot ignition is confirmed, motor turns automatically to maximum flame height.

- Turn MANUAL knob on valve to the **ON**, full counter-clockwise ↺ position (see figure 24, page 9).
- Place ON/OFF switch (if equipped) in **I** (ON position).

#### Handset



- Simultaneously press the OFF and 🔥 (large flame) buttons until a short beep confirms the start sequence has begun; release buttons.
- Continuing beeps confirm the ignition is in process.
- Once pilot ignition is confirmed, there is main gas flow.
- After main burner ignition the handset will automatically go into manual mode (CSA version, CE version).

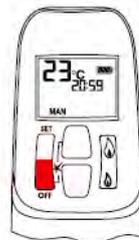
#### Wall Switch/Touchpad/Switch Panel

- Press button "B" (see figure 22) until a short beep confirms the start sequence has begun; release button.
- Continuing beeps confirm the ignition is in process.
- Once pilot ignition is confirmed, there is main gas flow.

#### ⚠ WARNING

If the pilot does not stay lit after several tries, turn the main valve knob to **OFF** and follow the instructions "TURN OFF GAS TO APPLIANCE" (page 9).

### TO TURN OFF APPLIANCE



#### Handset

- Press **OFF** button.

#### Wall Switch/Touchpad/Switch Panel

- Press button "B" (see figure 22).

1. **STOP!** Read the safety information included before proceeding.
2. Turn main valve knob to the **OFF**, full clockwise ↻ position.
3. Turn **MANUAL** knob to the **MAN**, full clockwise ↻ position.
4. Place **ON/OFF** switch (if equipped) in **O** (**OFF** position).
5. Wait five (5) minutes to clear out any gas. Verify that no gas is in the area around the appliance, including near the floor. **If you detect gas STOP! Follow "WHAT TO DO IF YOU SMELL GAS" in the safety information on page 3.** If no gas is present, proceed to step 6.
6. Place **ON/OFF** switch (if equipped) in **I** (**ON** position).
7. With the **MANUAL** knob in **MAN** position a manual pilot valve operator and piezo ignitor (optional) are accessible.
8. Fully push down manual pilot valve operator and hold in, to start pilot gas flow (see figure 24).

**IGNITION WITH MATCH:**

Immediately light the pilot with a match, while continuing to hold in the manual pilot valve operator for about one (1) minute after the pilot is lit. Release manual pilot valve operator. If pilot does not stay lit, wait five (5) minutes and repeat.

**IGNITION WITH PIEZO IGNITOR:**

Change the ignition cable from the receiver to the valve (see figure 24). Push in the piezo ignitor to ignite. If pilot does not stay lit, wait five (5) minutes and repeat.

**▲ WARNING**

If the pilot does not stay lit after several tries, turn the main valve knob to **OFF** and proceed to step 12.

9. If applicable, replace pilot access panel before proceeding.
10. Turn **MANUAL** knob to the **ON**, full counter-clockwise ↻ position.
11. Turn main valve knob to the full **ON**, full counter-clockwise ↻ position.
12. If the appliance will not operate, follow the instructions "TURN OFF GAS TO APPLIANCE".

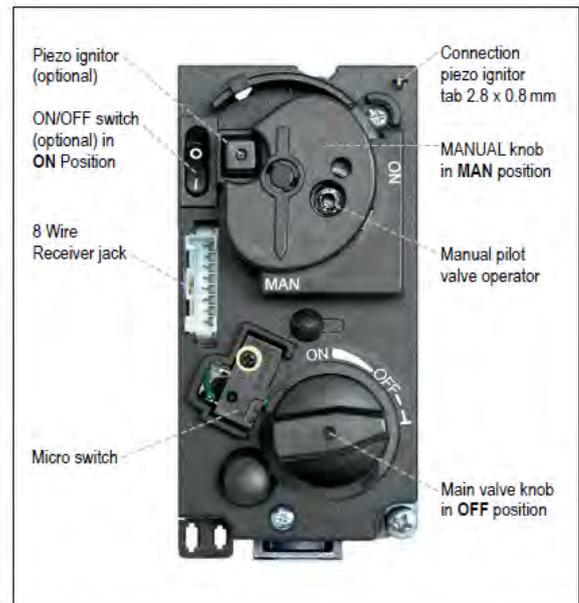


Figure 24: Combination control, cover

**TO TURN OFF GAS TO APPLIANCE**

1. Place **ON/OFF** switch (if equipped) in **O** (**OFF** position).
2. If gas control is accessible turn main valve knob to the **OFF** full clockwise ↻ position.

Interior Design Media

ORTAL offers media that is provided with the fireplace unit.

This section provides guidelines for safe placement of media.

**▲ WARNINGS –INSTALLING AND HANDLING MEDIA**

- DO NOT install the interior design media until appliance installation is complete, the gas line is connected and tested for leaks, and initial burner operation has been inspected and approved.
- ONLY install media provided by the manufacturer or otherwise specifically approved by the manufacturer for installation and operation with the unit.
- The size and position of the media was engineered to give the appliance a safe, reliable and attractive flame pattern. Any attempt to use different media in the fireplace will void the manufacturer's warranty and will result in incomplete combustion, sooting, and poor flame quality.
- Media materials get very hot and will remain hot up to one hour after gas supply is turned off. Handle media only when materials are cool.

- If media are not installed according to the installation instructions, flame impingement and improper combustion could occur and result in soot and/or excessive production of carbon monoxide (CO). Carbon monoxide is a colorless, odorless and toxic gas.

**⚠ The appliance is NOT designed to burn wood. Any attempt to do so could cause irreparable damage to the appliance and may result in property damage, personal injury and/or loss of life.**

#### Media Placement Guidelines

Follow the tips below for proper log media placement.

- Place the logs carefully to block as few ports as possible.



Figure 25: Burner Log Setup

- Logs must be placed in order and preset into location pins as shown:



- For 100 Burner log setup, logs must be placed in order and preset into location pins as shown:



- Do not block ports. This will cause delayed ignition.

## Cold Climate Insulation

Seal all cracks around your appliance with noncombustible material and wherever cold air could enter the room. It is especially important to insulate outside chase cavity between fastenings, and under the floor on which the appliance rests if the floor is above ground level. Gas line holes and other openings should be caulked or stuffed with un-faced fiberglass insulation.

If the fireplace is being installed on a cement slab, a sheet of plywood or other raised platform can be placed underneath to prevent cold transfer to the fireplace and into the room. It also helps to sheetrock inside surfaces and tape and caulk fire stops for maximum air tightness.

## Post-installation Procedures

The following sections present post-installation operations.

### Initial Burning Period

Following installation of an ORTAL fireplace, there is a 12-hour minimum burning period. This 12-hour period must include a minimum of 4 hours of continuous burning.

During this time, the customer/installer may notice:

- The glass developing a white or “cloudy” film
- An unusual smell

Both the film and the smell are due to the paint on the fireplace metal heating and “burning off”. This is normal. The cloudiness and odor will disappear after the 12-hour period elapses and the installer returns to service the fireplace and complete startup.

### Final Inspection Procedure

When the 12-hour burning period is complete, the installer returns and performs the final inspection, which includes:

1. Cleaning the glass with a ceramic glass cleaner (otherwise the white film will remain)
2. Checking the interior media
3. Checking for gas leaks
4. Adjusting the restrictor (if necessary)
5. Performing an overall check to make sure that everything is working properly

When these activities are complete, initial startup is concluded and the fireplace may be operated by the owner.

### Final Checks and Customer Instruction

Before releasing the unit to the customer for use without installer supervision, the installer must ensure that the appliance is burning correctly. In addition, the installer must:

- Review and explain unit operation to customer
- Review and explain safety warnings to customer
- Review and explain to the customer that glass is hot during and after operation
- Review and explain maintenance requirements to the customer
- Review and explain warranty requirements to the customer
- Explain that if any questions or concerns arise, to contact the local ORTAL dealer/installer or ORTAL directly for support.

## Operating Warnings

ORTAL direct vent gas fireplace heaters are sealed combustion, air-circulating gas fireplaces designed for residential applications.

For your safety, please read the following warnings carefully before lighting your fireplace. If you do not follow these instructions exactly, a fire or explosion may result, causing property damage, personal injury or loss of life.

 **WARNING – DO NOT OPERATE YOUR APPLIANCE IF:**

- The glass is NOT properly secured in place
- Connection points are not sealed (for appliances with glass-to-glass connections)
- Glass is cracked
- You smell gas
- Any part of the appliance has been under water
- You have any doubt about safe operation of the unit

If any part has been under water, do not use the appliance. Immediately call a qualified, professional service technician to inspect the appliance and to replace any parts of the control system and any gas controls which have been under water.

## Maintenance Instructions

The following sections provide maintenance information, checklists and logs:

- General Maintenance: Tips and Warnings on page 123
- Maintenance Frequency and Equipment Checklist on page 124
- ORTAL Factory Recommended installation Checklist on page 124
- ORTAL Product Service Log on page 126



**NOTE: Service recommendations presented are for standard ORTAL fireplace products. Custom fireplaces may have different recommended service periods and activities.**

### General Maintenance: Tips and Warnings



#### **WARNING – SERVICING**

- It is recommended that a qualified service technician perform a routine inspection at the beginning of each heating season.
- Turn off the gas **BEFORE** servicing the fireplace.



#### **WARNING – BURNER AND VENT INSPECTIONS**

- Periodic checks should be made of the burner for correct position and condition. Visually check the flame of the burner, making sure that the flames are steady. For any problem, call a qualified service technician.
- The venting system must be inspected before use. Annual inspection by a qualified field technician must be scheduled to ensure the flow of combustion and ventilation air.
- As a luminous effect appliance it may exhibit slight carbon deposition.



#### **WARNING – SUBMERGED PARTS**

- Do not use the appliance if any part has been under water, or if you suspect that it may have been under water. Immediately call a qualified, professional service technician to inspect the appliance and to replace any parts of the control system and any gas controls which have been under water.



#### **WARNING – HANDLING OF GLASS**

- NEVER operate the appliance without the glass properly secured in place.
- The glass must be removed **ONLY** by an authorized qualified installer.
- The technician should **ONLY** remove the glass with the suction cup supplied by the manufacturer. Lower the glass to rest in a safe place to prevent damage to the glass edges.



#### **WARNING – CLEANING THE UNIT**

- ALWAYS turn off the gas valve before cleaning.
- Do NOT clean when hot. Make sure unit has had time to cool prior to cleaning any surface or component, interior or exterior.
- Keep the unit clean by brushing and/or vacuuming at least once a year by a service technician.
- Only service technicians can open the fireplace to clean interior surfaces.
- CLEAN the glass when it starts to look cloudy. Use a damp cloth for cleaning the appliance and the door.

- Verify correct operation after servicing.

### Maintenance Frequency and Equipment Checklist

Under normal circumstances, the factory recommendation is to have the unit serviced at least once a year (annual service). Units meeting the following conditions should have more frequent service:

- Units installed in commercial/public spaces should be serviced every 3 months (quarterly).
- Units installed in climates near the ocean or in other settings where corrosion buildup is more likely should be serviced every 6 months (semi-annual service)

### Thermocouple Maintenance

The thermocouple should be replaced annually or as needed in all commercial installations, and in any residential unit where the fireplace is operated for an average of 10 hours or more per day.

For all other installations, the thermocouple should be replaced every three years or as needed.

### Recommended Maintenance Equipment

Before proceeding with service, read through the following checklist and make sure you have all the equipment you need.

#### TOOLS

- Suction cup
- 10mm wrench
- Manometer (for checking gas pressure)
- Razor blade
- Paper towel or soft cloth for cleaning glass
- Glass cleaner
- Flathead 2.4mm screwdriver
- #3 Phillips screwdriver
- 10mm T handle wrench

#### MATERIALS

- Silicon (carry more than you think you will need)
- Batteries: 4xAA and 3xAAA

### ORTAL Factory Recommended installation Checklist

Model Type: \_\_\_\_\_ Serial #: \_\_\_\_\_ Date: \_\_\_\_\_

**Before, during and after installing or servicing.**

**If there is any doubt, stop and call ORTAL.**

***If there is any NO answer, close the gas valve and correct.***

***If you cannot correct, discontinue operation, lockout unit and call ORTAL.***

Check if outside horizontal/vertical flue terminal is clean and unobstructed.

Check the louver/chase heat release is clean and unobstructed.

**Is there an access panel for valve and receiver maintenance?**

Is it clean and unobstructed?

Allows access to components?

YES IF NO, EXPLAIN

<input type="checkbox"/>	_____



ORTAL Product Service Log

Product Name/ Model Type: \_\_\_\_\_  
Serial Number: \_\_\_\_\_ Date of Service: \_\_\_\_\_

**Location Information**

Name: \_\_\_\_\_

Address: \_\_\_\_\_

City, State, Zip: \_\_\_\_\_

Is this unit installed in a Commercial/Public space or Residential? \_\_\_\_\_

Service call: ( ) Routine or ( ) special request. If requested, why? \_\_\_\_\_

**Service Technician**

Installation Technician Name: \_\_\_\_\_

NFI Gas Specialist ID #: \_\_\_\_\_

Technician Company Name: \_\_\_\_\_

Technician Signature and date: \_\_\_\_\_

Customer Company Name: \_\_\_\_\_

**Fireplace Customer/Owner**

Customer Individual Name: \_\_\_\_\_

Customer Signature and date: \_\_\_\_\_

**A copy of this service record to remain with the fireplace unit and Owner.**

**A copy of this service record to remain with the service technician.**

If any product or warranty concerns are present or replacement parts are required please provide a copy of the complete service record to:

## Warranty Policy

Below is the warranty policy of Ortal Ltd for Standard products sold and distributed in Australia & New Zealand. Warranties may vary for custom models.

### THE WARRANTY

The Ortal Ltd. Limited Warranty warrants your Ortal gas fireplace (“Product”) to be free from defects in materials and workmanship at the time of manufacture. The Product body and firebox carry the 10 Year Limited Warranty. Ceramic glass carries the 5 Year Limited Warranty against thermal breakage only. After installation, if covered components manufactured by Ortal are found to be defective in materials or workmanship during the Limited Warranty period and while the Product remains at the site of the original installation, Ortal will, at its option, repair or replace the covered components. If repair or replacement is not commercially practical, Ortal will, at its option, refund the purchase price or wholesale price of the Ortal product, whichever is applicable. Ortal will also pay Ortal prevailing labor rates, as determined in its sole discretion, incurred in repairing or replacing such components for up to five years. There are exclusions and limitations to this limited warranty as described herein.

### COVERAGE COMMENCEMENT DATE

Warranty coverage begins on the date of installation subsequent to the completion and return of the signed warranty card and to Ortal’s receipt of payment in full for the Product. In the case of new home construction, warranty begins on the date of first occupancy of the dwelling or six months after the sale of the Product by an independent Ortal dealer/distributor, whichever occurs earlier. The warranty shall commence no later than 24 months following the date of product shipment from Ortal, regardless of the installation or occupancy date.

### EXCLUSIONS AND LIMITATIONS

This Limited Warranty applies only if the Product is installed in the Australia and/or New Zealand and only if installed, operated and maintained in accordance with the printed instructions accompanying the Product and in compliance with all applicable installation and building codes and good trade practices. Printed instructions include those which direct the installer and/or owner to refer to the product information, diagrams, and operation and maintenance manuals available on Ortal’s website, [www.ortalheat.com](http://www.ortalheat.com). These can also be requested in digital format direct from Ortal’s office(s).

This warranty is non-transferable and extends to the original owner only. The Product must be purchased through a listed supplier of Ortal and proof of purchase must be provided. The Product body and firebox carry the 10 Year Limited Warranty from the date of installation. Vent components, trim components and paint are excluded from this Limited Warranty. The following components are part of the Limited Warranty and are warranted as follows:

- **Burner:** Repair or replacement for two years from the date of installation
- **Gas Components (including the valve):** Repair or replacement for one year from the date of installation
- **Gaskets:** Repair or replacement for one year from the date of installation
- **Interior Decorative Media:** Replacement for one year from the date of installation against thermal breakage only
- **Optional Blowers and Remote Controls:** Repair or replacement for one year from the date of installation. Water damage and batteries are entirely excluded.
- **Ceramic Glass:** Replacement for five years from the date of installation against thermal breakage only.
- **Labor Coverage:** Prevailing Ortal labor rates apply for the warranty period of components. Labor coverage is for actual repair and/or replacement of components. Troubleshooting is excluded.

**Parts not otherwise listed carry a 90-day warranty from the date of installation.**

**Whenever practicable, Ortal will provide replacement parts, if available, for a period of 5 years from the last date of manufacture of the Product.**

Ortal will not be responsible for: (a) damages caused by normal wear and tear, accident, riot, fire, flood, climate and weather corrosion or natural disaster; (b) damages caused by abuse, negligence, misuse, or unauthorized alternation or repair of the Product affecting its stability or performance. The Product must be subjected to normal use. The Product is designed to burn on either natural or propane gas only as determined by the costumer when originally purchased or changed after installation by an authorized installer only. Burning conventional fuels such as wood, coal or any other solid fuel will cause damage to the Product, will produce excessive temperatures and could result in a fire hazard.); (c) damages caused by failing to provide proper maintenance and service in accordance with the instructions provided with the Product; (d) damages, repairs or inefficiency resulting from faulty installation or application of the Product.

Ortal is not responsible for inadequate fireplace system draft caused by air conditioning and heating systems, mechanical ventilation systems, or general construction conditions which may generate negative pressure in the room in which the appliance is installed. Additionally, Ortal assumes no responsibility for drafting conditions caused by venting configurations, adjoining trees or buildings, adverse wind conditions or unusual environmental factors and conditions that affect the operation of the unit.

This Limited Warranty covers only parts and labor as provided herein. In no case shall Ortal be responsible for materials, components or construction, which are not manufactured or supplied by Ortal or for the labor necessary to install, repair or remove such materials, components or construction. Additional utility bills incurred due to any malfunction or defect in equipment are not covered by this warranty. All replacement or repair components will be shipped F.O.B. from the nearest stocking Ortal warehouse.

#### **LIMITATION ON LIABILITY**

It is expressly agreed and understood that Ortal's sole obligation and the purchaser's exclusive remedy under this warranty, under any other warranty, expressed or implied, or in contract, tort or otherwise, shall be limited to replacement, repair, or refund, as specified herein.

In no event shall Ortal be liable for any incidental or consequential damages caused by defects in the Product, whether such damage occurs or is discovered before or after repair or replacement, and whether such damage is caused by Ortal's negligence. Ortal has not made and does not make any representation or warranty of fitness for a particular use or purpose, and there is no implied condition of fitness for a particular use or purpose.

Ortal makes no expressed warranties except as stated in the Limited Warranty. The duration of any implied warranty is limited to the duration of this expressed warranty. No one is authorized to change this Limited Warranty or to create for Ortal any other obligation or liability in connection with the Product. Some states and provinces do not allow the exclusion or limitation of incidental or consequential damages, so the above limitations or exclusions may not apply to you. The provisions of the Limited Warranty are in addition to and not a modification of or subtraction from any statutory warranties and other rights and remedies provided by law.

#### **INVESTIGATION OF CLAIMS AGAINST WARRANTY**

Ortal reserves the right to investigate any and all claims against this Limited Warranty and to decide, in its sole discretion, upon the method of settlement.

To receive the benefits and advantages described in this Limited Warranty, the appliance must be installed and repaired by either a qualified or authorized Ortal installation technician. Refer to your dealer/distributor sales agreement for requirements. Contact Ortal at the address provided herein to obtain a listing of approved dealers/distributors and certified/authorized installer companies. **Ortal shall in no event be responsible for any warranty work done by an installer that is not approved without first obtaining Ortal's prior written consent.**

#### **HOW TO REGISTER A CLAIM AGAINST WARRANTY?**



In order for any claim under this warranty to be valid, you must contact the Ortal dealer/distributor from which you purchased the product. If you cannot locate the dealer/distributor, then you must notify Ortal in writing. Submission of a completed warranty claim is the preferred method of warranty claim notification. Ortal must be notified of the claimed defect in writing within 90 days of the date of failure. Notices should be directed to the Ortal Warranty Department or visit our website at [www.ortalheat.com/](http://www.ortalheat.com/)

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#### Manufacturer Contact Information

For all service issues, please contact your local dealer.

## Appendix A: Fireplace Troubleshooting Guide

This appendix provides information and guidelines for troubleshooting, including:

- Pre-troubleshooting Checklist on page 130
- Normal Sequence of Fireplace Operation on page 132
- Troubleshooting Pilot Problems on page 132
- Troubleshooting Thermocouple Problems on page 134
- Troubleshooting Main Burner Problems on page 135
- Troubleshooting Beeping on page 137
- Mertix Maxitrol External Source Operation on page 139

### Pre-troubleshooting Checklist

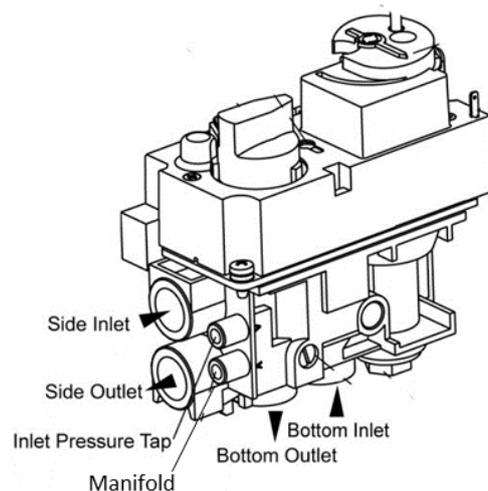
Before you begin troubleshooting, perform these steps:

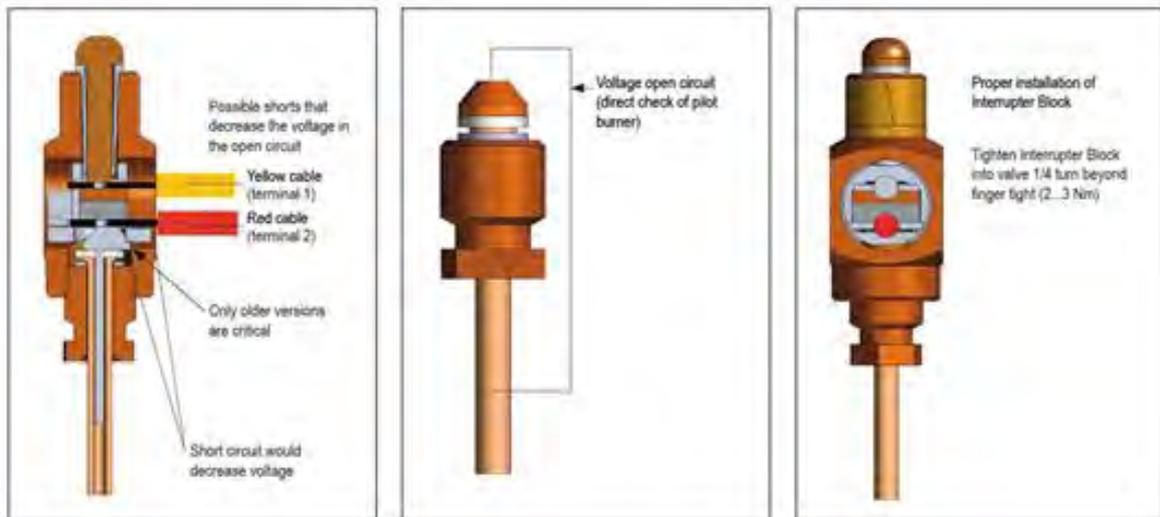
1. Check the batteries and 6V transformer connection.
2. Verify that the switch on the valve is on.



Figure 26: On/Off and Manual Pilot Valve Switches

3. Verify that the gas is on.
4. Using the purge port, purge the gas line of air up to the valve (see figure below).





5. Using the purge port, check the pressure of inlet/ supply (see figure above).  
Inlet pressure for NG should be 1.13kPa-2kPa  
Inlet pressure for LPG should be 2.75kPa-3kPa
6. Verify that the valve and receiver wires are properly connected and tight, and that the interrupter block is tight (hand-tight plus ¼ turn).

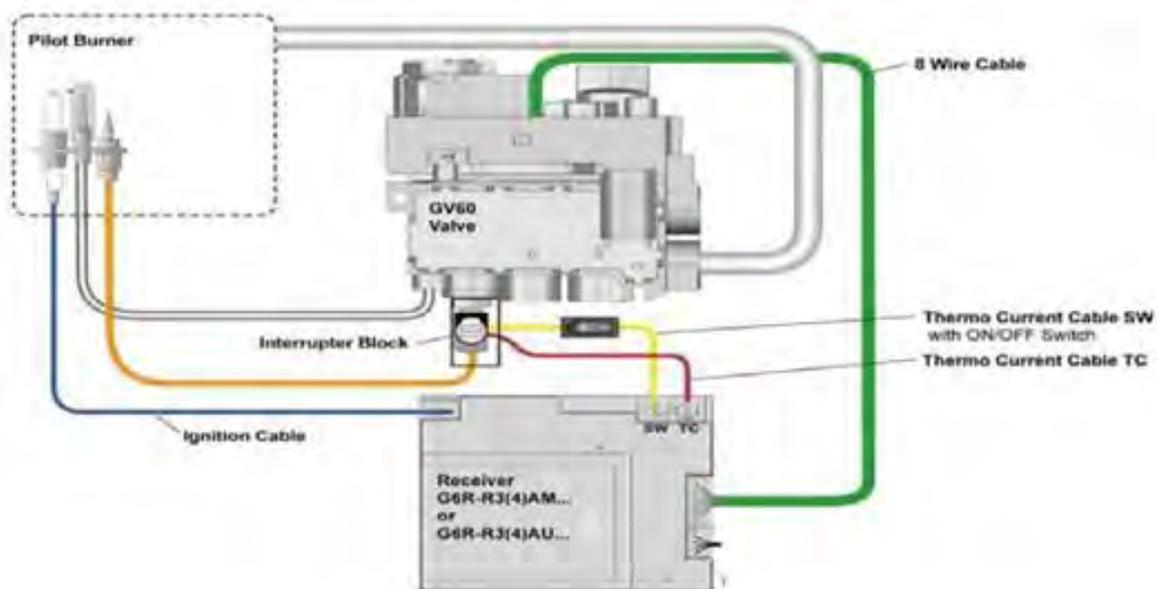


Figure 27: Valve/Receiver Wires and Interrupter Block

7. Verify that the manual pilot valve operator is in the ON position (Figure 26 on page 130).

## Normal Sequence of Fireplace Operation

Turn the fireplace on by pressing the Off and Flame Up buttons simultaneously (buttons 1 and 2 in the figure below).



Figure 28: ORTAL Remote Control

Once the fireplace is turned on, the following sequence of events will occur:

1. The system checks itself for any trouble. This is accompanied by sequential beeps.  
If there is a fault, weak batteries, the On/Off switch is off, or other issues, a single long beep will sound.
2. If the initial check is okay, the system initiates spark to the pilot and opens gas to the pilot.
3. Once the pilot is on, the pilot heats up the thermocouple.
4. When the thermocouple is heated to the specified temperature, it will allow the flow of the millivolt to the valve.
5. Once the millivolt is detected by the valve, the valve turns the solenoid for the main burner on. The fireplace is now fully on.

## Troubleshooting Pilot Problems

The following sections provide step-by-step instructions for troubleshooting issues related to the pilot. If these instructions fail to resolve the problem, please contact ORTAL.

**⚠ Before beginning, make sure that the glass protective film has been removed.**

### Spark But No Pilot

1. Review the Pre-troubleshooting Checklist on page 130.
2. Review the Normal Sequence of Fireplace Operation on page 132.
3. Make sure the inlet line is purged and that no air is present.
4. Make sure that the valve is mounted horizontally (unless it is a hanging Console Appliance unit).
5. To purge the pilot tube of any air, turn the unit on 5-10 times.

6. Verify that all wire connections are tight. Then, check that the interrupter block is screwed in tightly but not too tightly (tightening the interrupter block too much will break it). Refer to Figure 27 on page 131 for details.
7. If the problem is not resolved, call ORTAL.

#### No Spark to the Pilot

1. Review the Pre-troubleshooting Checklist on page 130.
2. Review the Normal Sequence of Fireplace Operation on page 132.
3. Locate the valve and receiver.
  - a) Once the receiver is located, pull it from the holder.
  - b) Disconnect the wire for the spark wire. Refer to Figure 27 on page 131 for details.
  - c) Put a small wire on the receiver spark wire port, and place the other side of the wire close to the metal body without touching (about 3mm). While watching the small wire, turn the unit on and see if there is a spark jumping from the wire to the body of the fireplace. If there is, proceed to the next step. If there is not, call ORTAL.
4. Remove the heat barrier and the glass. For instructions, refer to Fireplace Heat Barrier on page 80.
5. Remove the grill and the burner. For instructions, refer to Appendix B: Removal / Assembly of the Burner on page 140.
6. Remove the pilot assembly from the burner.
7. Reconnect the spark wire and disconnect the wire from the spark plug. Place the spark wire close to the metal body of the fireplace without touching (about 3mm). If there is no spark or a weak spark jumping from the wire, replace the wire. If the spark is strong and jumping, proceed to the next step.
8. If the problem is not resolved, replace the spark plug. Call ORTAL if a spark plug is needed.

#### Pilot Turns Off After Igniting But Before Burner Turns On

1. Replace the battery.
2. Review the Normal Sequence of Fireplace Operation on page 132.
3. Turn the unit on, and listen and look at the pilot section. Once the pilot is on, is the spark continuing to ignite the pilot? If it is, go to Troubleshooting Thermocouple Problems on page 134. If it is not, proceed to the next step.
4. Remove the heat barrier and the glass. For instructions, refer to Fireplace Heat Barrier on page 80.
5. Make sure the pilot assembly and the pilot hood screw are tight and that there is a gasket. Whenever the pilot assembly is disturbed, replace the gasket.
6. If the problem is not resolved, call ORTAL.

#### Pilot Turns Off After Igniting and After Burner Turns On

1. Review the Normal Sequence of Fireplace Operation on page 132.
2. Remove the heat barrier and the glass. For instructions, refer to Fireplace Heat Barrier on page 80.
3. Make sure that the valve is mounted horizontally (unless it is a hanging Console Appliance unit).
4. Turn the unit on and see if the pilot is still turning off after the burner turns on. If it turns off, make sure the flame from the pilot is hitting the thermocouple.

5. Verify that the pilot assembly and pilot hood screw are tight, and that the pilot assembly gasket is present and in good condition.
6. Review the restrictor tables (Fireplace Restrictors and Vent Arrangement on page 72) and check that the correct restrictor is in place.
7. If the problem is not resolved, call ORTAL.

## Troubleshooting Thermocouple Problems

The following sections explain how to check and test the thermocouple.

### Checking the Thermocouple

Perform these steps to check the thermocouple. Refer to Figure 27 on page 131 for details.

1. Place new batteries in the receiver.
2. Check for any breakage to the thermocouple from pilot assembly to the valve.
3. Check that the thermocouple is tightly connected to the interrupter block and that the thermo current cable is securely touching the end of the thermocouple.
4. Verify that the interrupter block is screwed into the valve properly and is finger-tight, plus  $\frac{1}{4}$  turn.
5. Verify that the thermo current cable TC is screwed into the receiver properly and is tight.
6. Verify that the thermo current cable SW is screwed into the receiver properly and is tight.
7. Verify that the thermo current cable SW is securely placed in the interrupter block.

### Testing the Thermocouple

Perform these steps to test the thermocouple. Do not begin testing until the thermocouple check has been completed.

1. Remove the heat barrier and the glass. For instructions, refer to Fireplace Heat Barrier on page 80.
2. Turn off gas to the unit.
3. Turn the unit on. While the spark is sparking, place a heat source to the thermocouple. Sparking should stop once the thermocouple senses that there is heat. If the spark does not stop, go to Step 5.
4. Check that the thermocouple is screwed properly into the interrupter block. Verify that the thermo current cable is screwed in tightly at the receiver, and that the other end is touching the head of the thermocouple at the interrupter block.
5. If the problem is not resolved, the thermocouple should be replaced. Complete a part claim/replacement form and call ORTAL for replacement.

## Troubleshooting Main Burner Problems

The tables below provide instructions for troubleshooting issues related to the main burner and the flame.

<b>Problem</b>	<b>Possible Causes</b>	<b>Recommended Actions</b>
Main burner does not turn on. Pilot is on, and valve on sequence is done.	Manual pilot valve operation is off.	Verify that the manual pilot valve operation is in the ON position.
Main burner turns off after a period of time.	<ul style="list-style-type: none"> <li>• Thermostat is set too low.</li> <li>• There is a problem with the flame.</li> </ul>	<p>Check whether the pilot stays on when the main burner turns off.</p> <ul style="list-style-type: none"> <li>• If the pilot stays on, make sure the remote thermostat is set to the desired temperature or to the highest temperature allowed on the remote, so the system does not turn the burner off.</li> <li>• If the pilot does not stay on, check the appearance of the flame before the fireplace turns off. Refer to Troubleshooting Flame Issues on page 136.</li> </ul>
Main burner is turning on and off.	The pilot flame is being intermittently deflected off the thermocouple.	Make sure the pilot assembly screw is tight and that the gasket is present and in good condition.

Troubleshooting Flame Issues

Problem	Possible Causes	Recommended Actions
There is a faint or blue flame.	<ul style="list-style-type: none"> <li>• Too much CO in the fireplace, due to CO backfeeding or an unapproved vent run.</li> <li>• Too much O2 in the fireplace.</li> </ul>	<ul style="list-style-type: none"> <li>• Review the vent run. If the size of the restrictor in the unit is incorrect, replace it with the correct size. If it is the right restrictor, check the pipe for proper connections and for termination blockage.</li> <li>• Review the vent run. If the size of the restrictor in the unit is incorrect, replace it with the correct size. If it is the right restrictor, replace it with a bigger one.</li> </ul>
The flame is jumping from the burner.	Too much draw in the fireplace.	Review the vent run. If the size of the restrictor in the unit is incorrect, replace it with the correct size. If it is the right restrictor, replace it with a bigger one.
Part of the burner is not turning on.	<ul style="list-style-type: none"> <li>• Too much CO in the fireplace, due to CO backfeeding or an unapproved vent run.</li> <li>• Too much media.</li> <li>• Burner ports are clogged.</li> </ul>	<ul style="list-style-type: none"> <li>• Review the vent run. If the size of the restrictor in the unit is incorrect, replace it with the correct size. If it is the right restrictor, check the pipe for proper connection.</li> <li>• Remove some of the media. No more than 70% of the burner and grill surface area should be covered.</li> <li>• Check burner ports for blockage.</li> </ul>
The flame is small.	Unit manifold pressure is incorrect.	Set the correct pressure.

Troubleshooting Beeping

**BEEPS 2008 ELECTRONIC**

CONFIRMATION OF A VALID SIGNAL also Reset, new Batteries	
FAILURE: Microswitch defect ON-OFF Switch open WIRING NOT COMPLETED LEARN FUNCTION FAILED	
LOW BATTERY (During the motor turns)	
SYMBOL FOR IGNITION SEQUENCE	
LEARNING FUNCTION	



**BEEPS 2010 ELECTRONIC**

CONFIRMATION OF A VALID SIGNAL also Reset, new Batteries	
FAILURE: Micro switch defect ON-OFF Switch open WIRING NOT COMPLETED LEARN FUNCTION FAILED	
LOW BATTERY (During the motor turns)	
SYMBOL FOR IGNITION SEQUENCE	
LEARNING FUNCTION	





Mertix Maxitrol External Source Operation

The following figure is taken from the Mertix Maxitrol guide.

**MERTIK MAXITROL**<sup>®</sup>

**gV60 Remote electronic ignition and Control system external source operation**



**Contact Options/Operation** **FOR OEM USE ONLY**

**⚠ WARNING**

**Fire or explosion hazard.** Attempted disassembly or re-pair of controls can cause property damage, severe injury or death. Do not disassemble the gas valve; it contains no serviceable components.

Read these instructions carefully and completely before installing or operating. Failure to follow them could result in a fire or explosion causing property damage, personal injury, or loss of life. Service and installation must be performed by a trained/ experienced service technician. The Mertik Maxitrol product should not be operated until it has been inspected and approved by the local code authority.

**What to do if you smell gas:**

- Do not operate any appliance.
- Do not touch any electrical switch; do not use any phone in your building.
- Immediately evacuate the area and contact the gas supplier. Follow the gas supplier's instructions.
- If you cannot reach the gas supplier, call the fire department.

Do NOT use this product if you suspect it has been subjected to high temperatures, damaged, tampered with, or taken apart.

Do NOT use a product if you suspect it has been under water or that liquid has seeped into the product. Any of these incidents can cause leakage or other damage that may affect proper operation and cause potentially dangerous combustion problems.

Do not store or use gasoline or other flammable vapors and liquids near this control or other appliances.

Use only your hand to push in or turn the gas control knobs. Never use tools. If a knob will not push in or turn by hand, do NOT try to repair it. Call a qualified service technician. Force or attempted repair can result in a fire or explosion.

**Description**

The GV60 will operate through an external source, such as a home automation system, by using the 5-wire pin connector on the receiver. A 1000 mm cable with Alex 2510-Z connector (part number G60-ZCE/1000) is available. The overall length of the cable should not exceed 8 m. Signal relays (gold contacts) or opto-couplers are recommended.

**⚠ WARNING**

It is the appliance manufacturer's responsibility to fully disclose any operation from a remote source that will create an unsafe operating condition. For Europe see GADAC guidance sheet B12.

**Contacts Options/Operation**

- **Ignition:** Close contact 1 and 3 simultaneously for 1 second. Fireplace automatically goes to high after ignition sequence.
- **UP FLAME:** Close contact 1. The contact needs to be closed for 12 seconds to turn the motor from end-stop to end-stop.
- **DOWN FLAME:** Close contact 3. The contact needs to be closed for 12 seconds to turn the motor from end-stop to end-stop.
- **Off:** Close contacts 1, 2, and 3 simultaneously for 1 second.

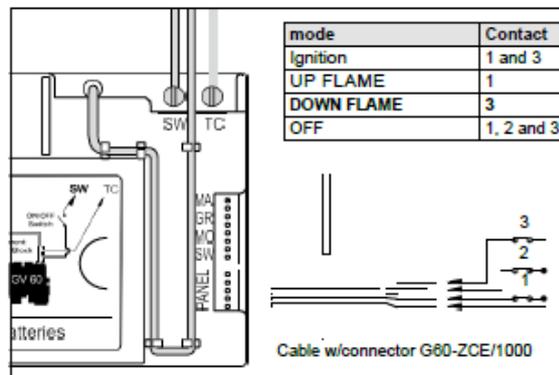


Figure 1: Wiring diagram and the operation sequence

**Possible modes of Operation**

**Mode 1**

The external source provides ON and OFF operation only. The Timer/Thermostat handset provides all other functions.

**NOTICE**

The Timer/Thermostat handset in Thermostatic Mode controls the room temperature even if the fire is turned on by the external source. If the handset is in Manual Mode, the fire will go to High Fire in the next cycle of external operation.

**Mode 2**

The external source controls the room temperature. The Timer/Thermostat handset must be set to Manual Mode (or use a standard handset). If the Timer/Thermostat handset is set to Thermostatic Mode, it will override the external source.

**NOTICE**

Frequent ON/OFF cycles will limit the life expectancy of the valve and will increase the battery consumption. The AC Mains Adapter may be used instead of batteries.

## Appendix B: Removal / Assembly of the Burner

The procedure below shows how to remove the burner. To re-install, perform the steps in the opposite order.

**! WARNING:** Before starting this procedure, make sure to disconnect the main gas supply to the unit.

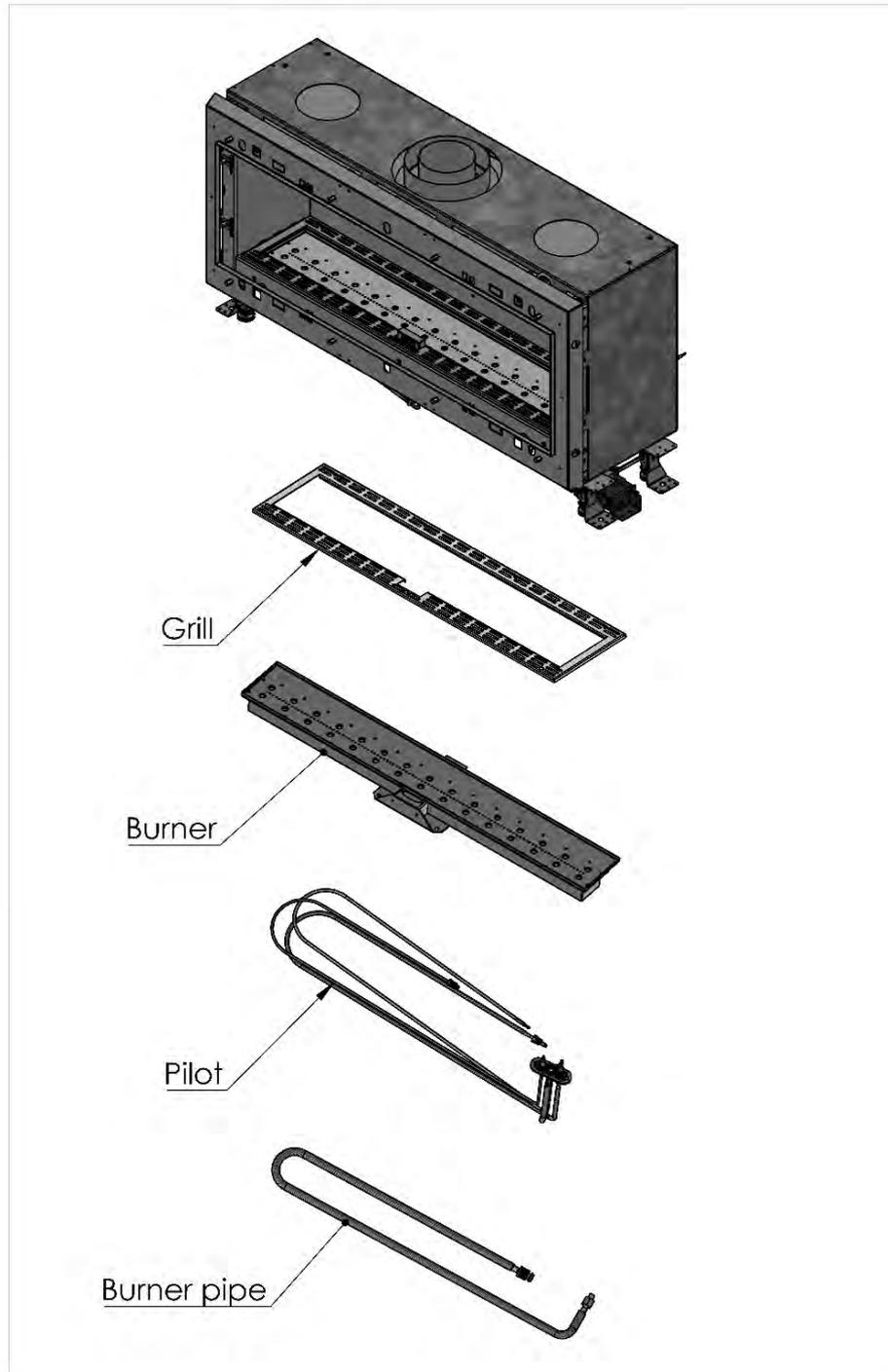
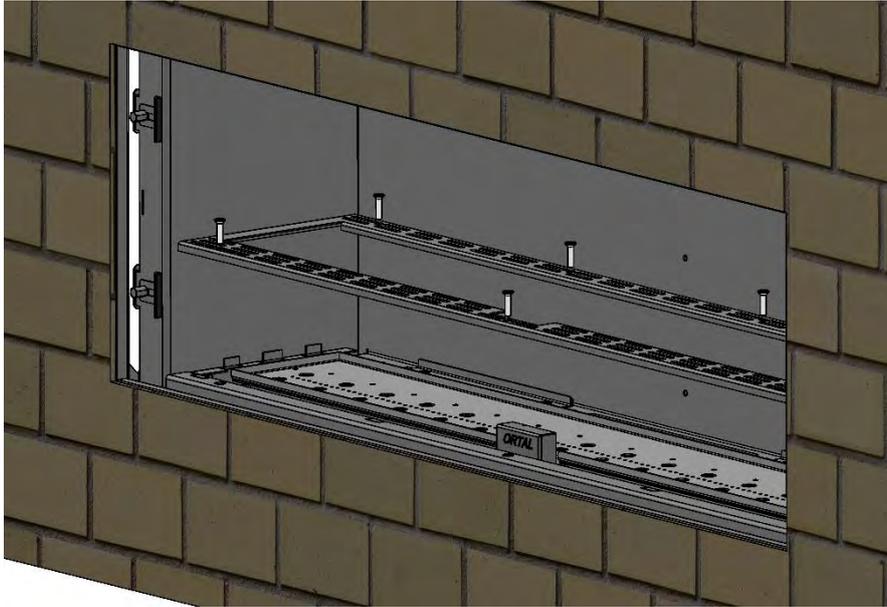


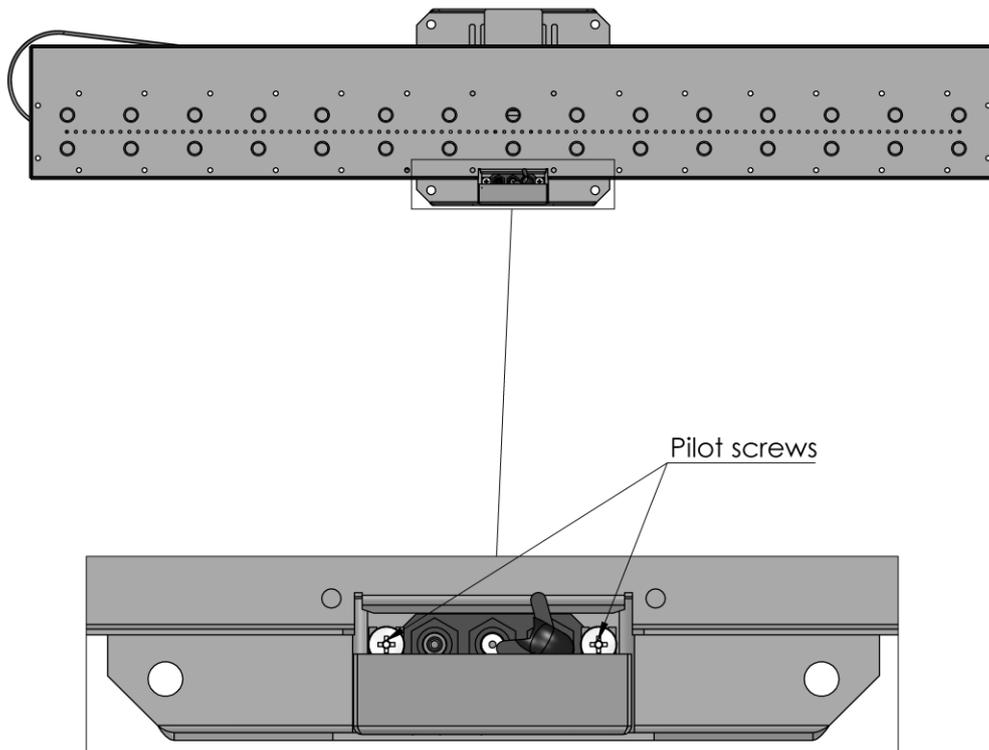
Figure 29: Burner Components

### To remove the burner:

1. Remove the front heat barrier and glass. For details, refer to Fireplace Heat Barrier on page 80.
2. Remove the grill screws and take the grill out.

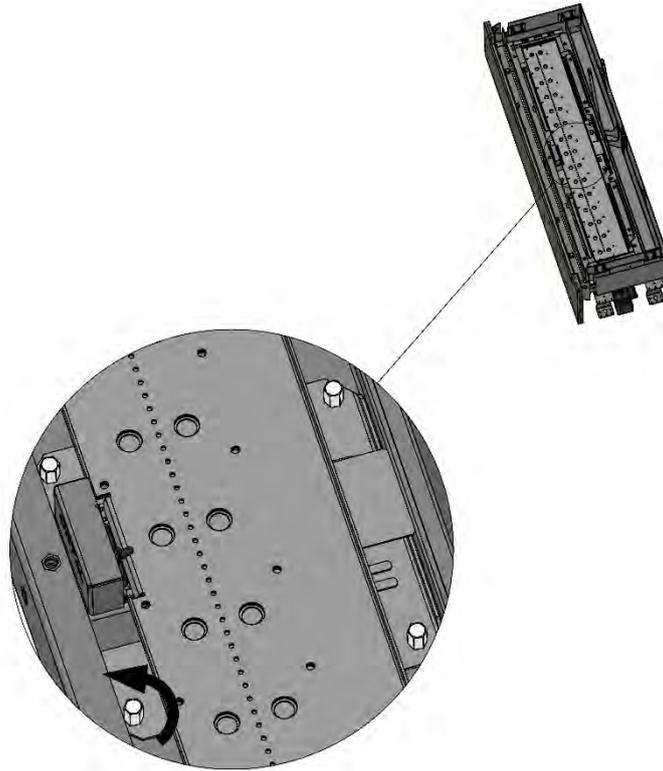


3. Disconnect the pilot by removing the two screws holding it.



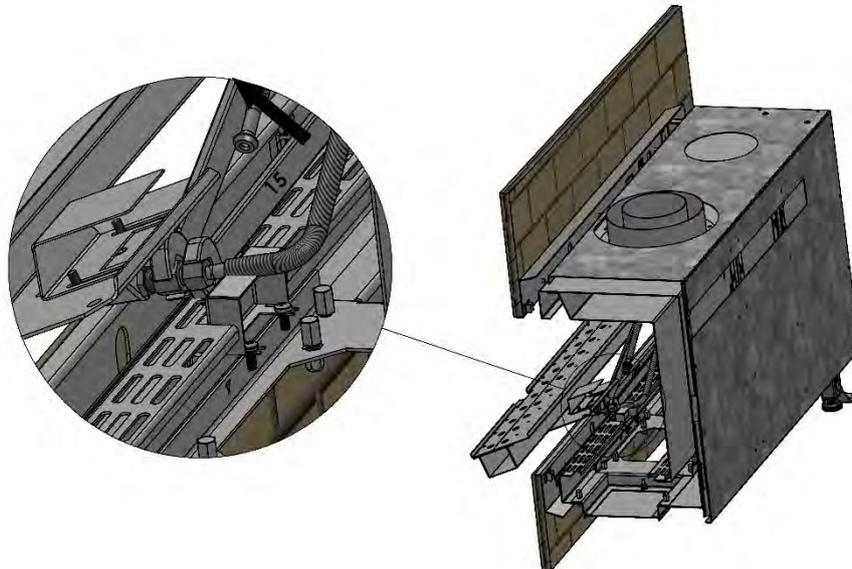
**NOTE: It is recommended to cover the work area with a blanket.**

4. Disconnect and remove the burner:  
Remove the four burner screws.



Lift the burner and pull it out of the fireplace.

Attach wrenches (15 and 17) as shown in the figure below. Then, hold wrench (17) and rotate wrench (15) until the gas pipe releases from the burner.



## Appendix C: Removal / Assembly of the Burner Base

The procedure below shows how to remove the burner base. To re-install it, perform the steps in the opposite order.

**⚠ WARNING:** Before starting this procedure, make sure to disconnect the main gas supply to the unit.

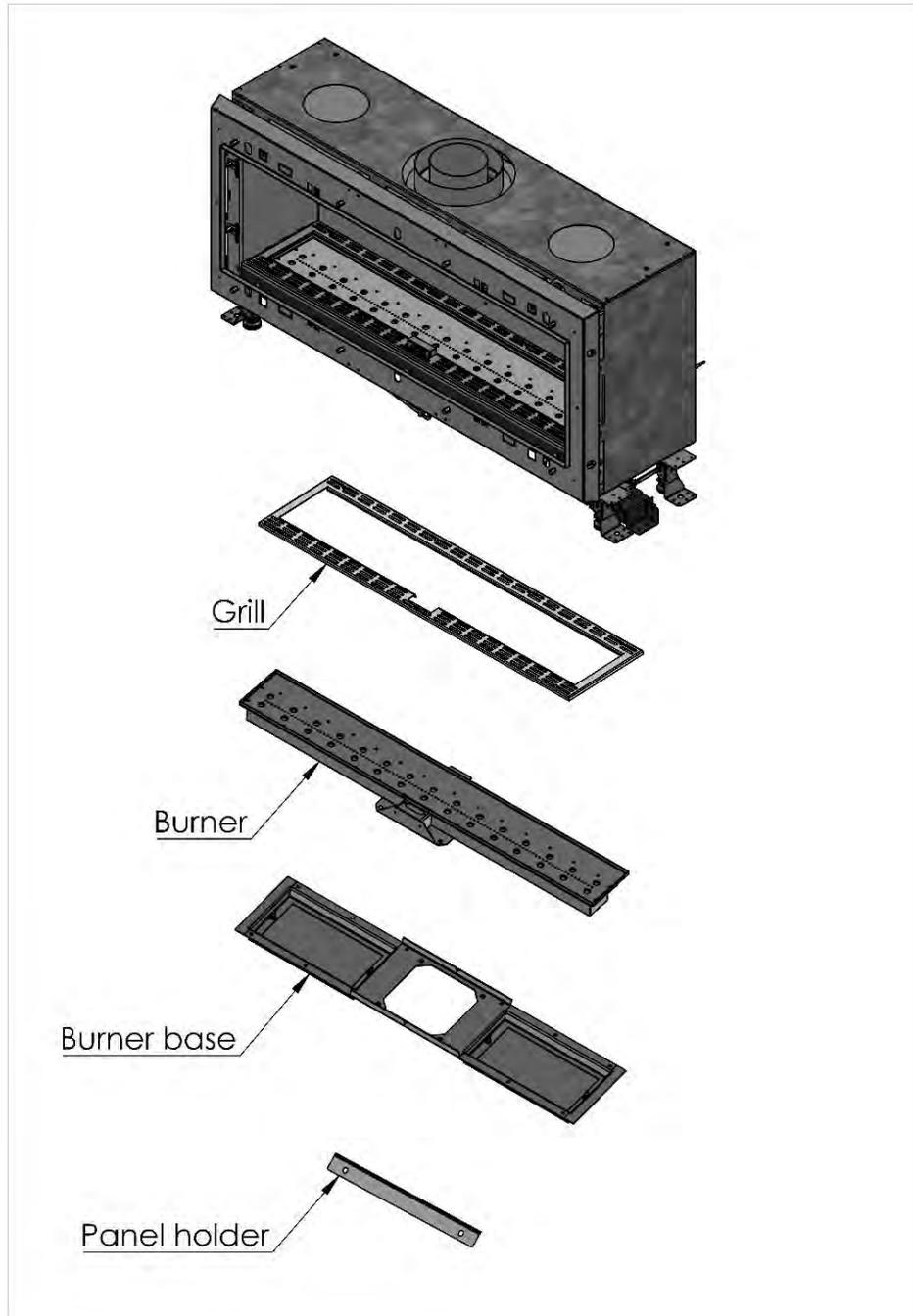
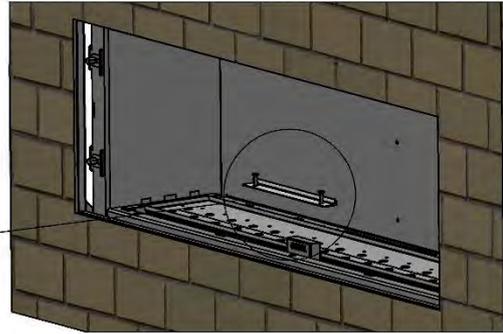
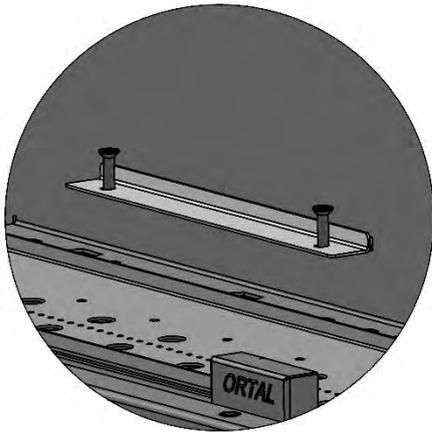


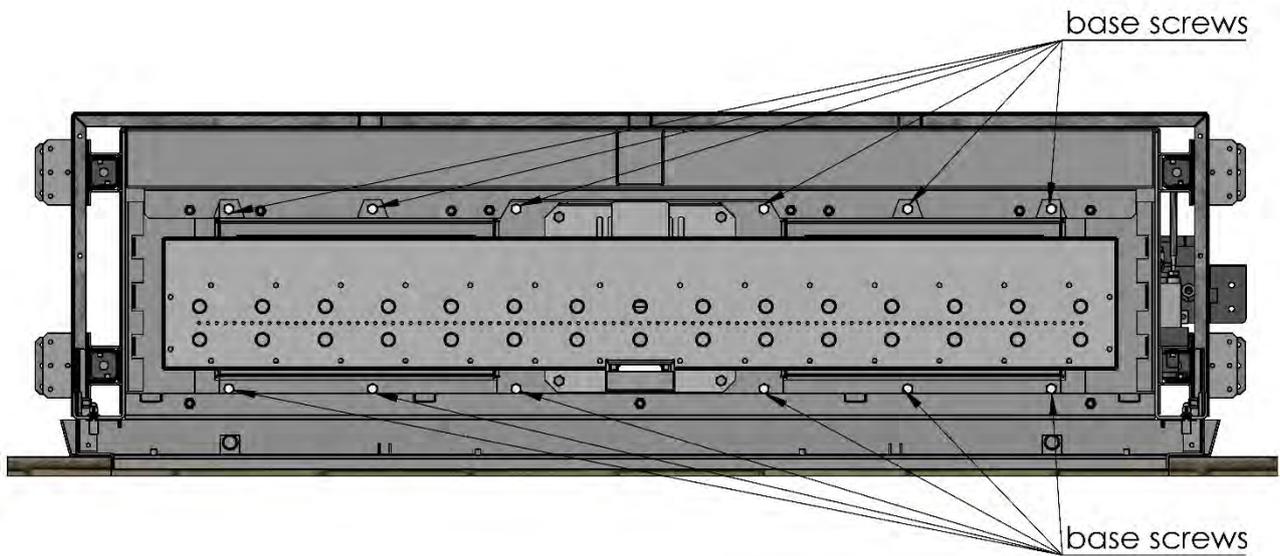
Figure 30: Burner Base Components

### To remove the burner base:

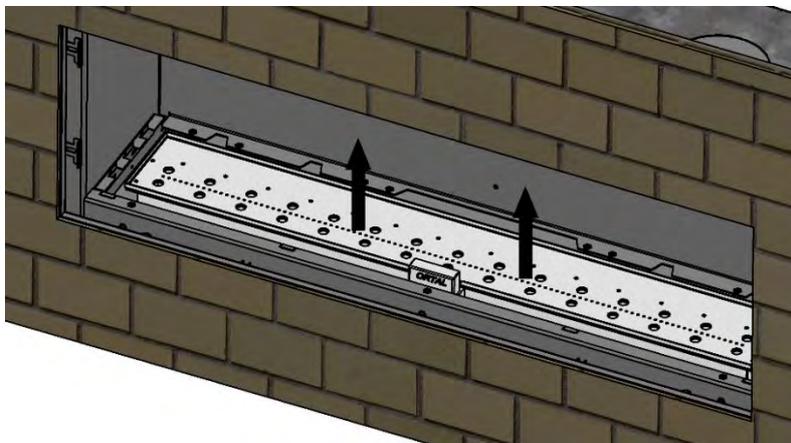
1. Remove the heat barrier and glass. For details, refer to Fireplace Heat Barrier on page 80.
2. Remove the back panel holders (as needed) by removing the screws holding them.



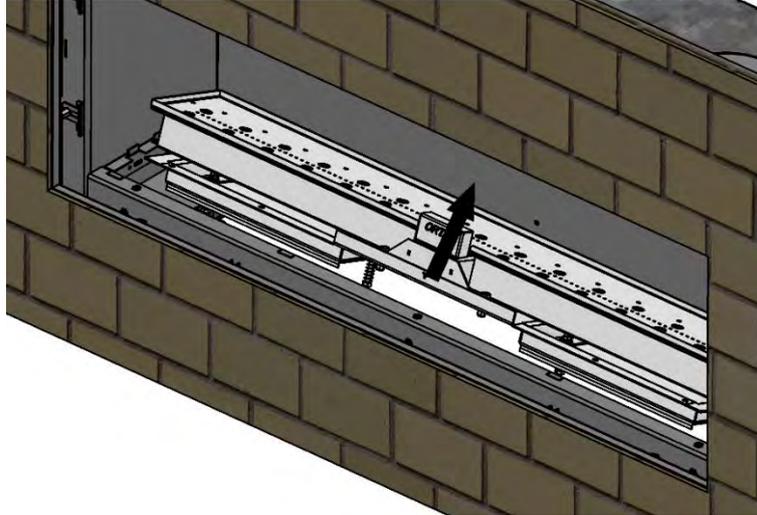
3. Remove the burner base:  
Remove the screws holding the base.



Pull the base until it releases.



Tilt the base as shown in the figure below.



Pull the base out, as shown.



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