

ORTAL Heating Solutions Ltd.

INSTALLATION & OPERATION MANUAL



The ORTAL direct vent (and ORTAL power vent with separate manual) gas appliances have been tested and approved by CSA for safety and efficiency for use with either Natural Gas (NG) or Propane (LPG).

Standard references:

ANSI Z21.88/CSA 2.33-2014- Vented Gas Fireplace Heaters

CLASS 2901 84 – DOMESTIC HEATERS (GAS) Vented Fireplace – Certified to US Standard

CLASS 2901 04 – DOMESTIC HEATERS (GAS) Vented Fireplace

Pictured Above: ORTAL's Clear 110 TS

Patent Pending for screen barrier glass bracket: USSN 60/040,074

Version: February 24, 2015

Removal of Inner 5/8" Type X Drywall Requirement

We are happy to announce that Ortal, Lyric, and Wilderness fireplaces are approved to be installed without an inner layer of 5/8" Type X Drywall inside the chase. This approval applies to all Ortal-manufactured built-in fireplaces sold in the North American market, with exception of the Ortal Traditional 90 & 110.

The temperatures inside the cavity can reach up to 90°F above room temperature and the appliances are meeting these criteria and approved by CSA with no requirement to use the inner layer of 5/8" Type X Drywall.

Figure 1 below illustrates framing installation without the inner layer of 5/8" Type X Drywall inside the chase.

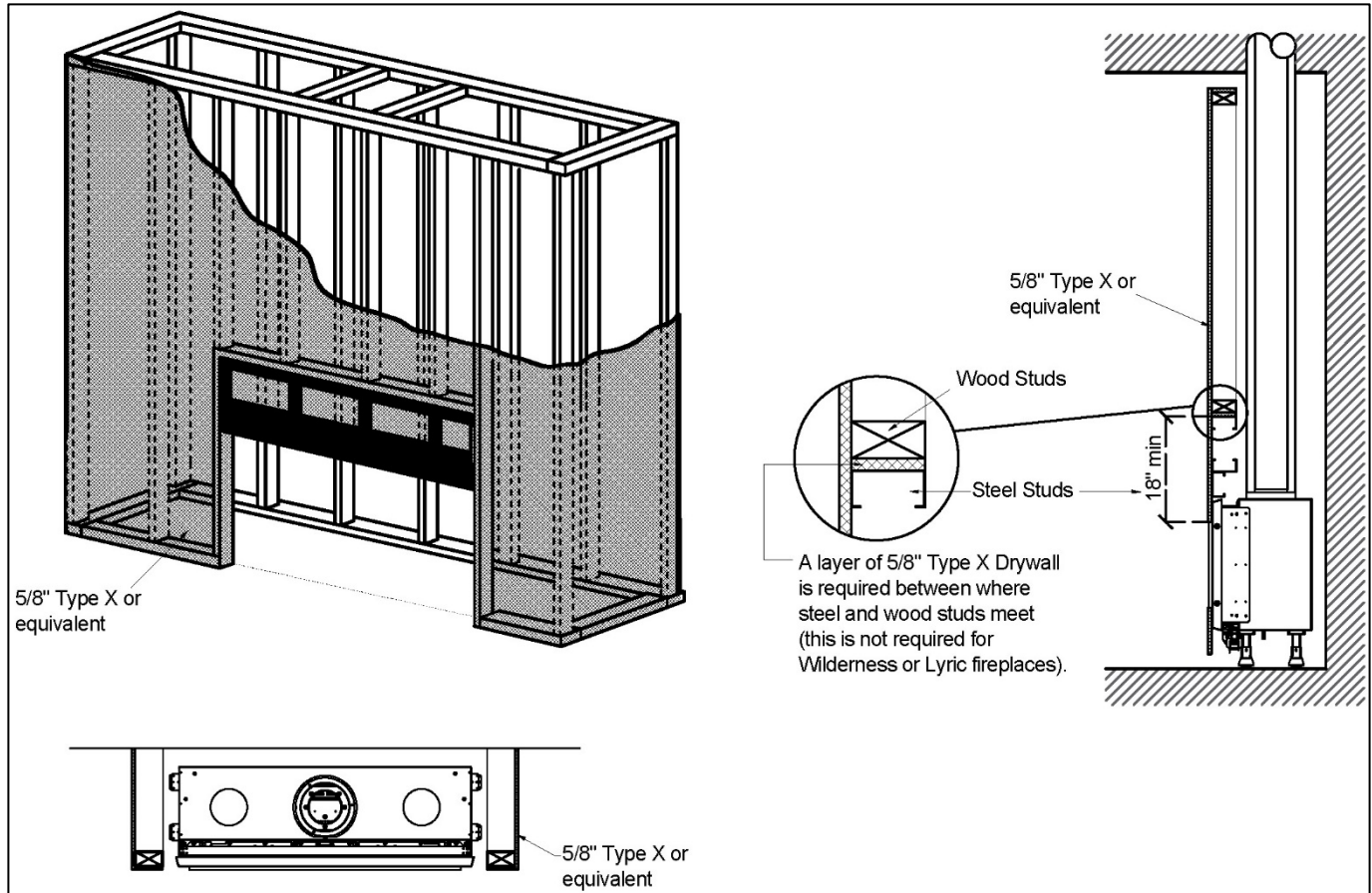


Figure 1: Framing Installation without Inner 5/8" Type X Drywall Layer

In addition, heat release requirements for Wilderness series fireplaces have been updated to match the requirements for the rest of the Ortal series fireplaces, as detailed in the Ortal Installation Manual: Built-In Models (V2) pages 6-8.

All other framing and building requirements remain unchanged.

We will be working over the next several weeks to update all our manuals and technical documents with this information. In the meantime, this document serves as official approval letter to permit installations that follow these new installation instructions. This document supersedes all current and previous manuals.

Warmly,

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ORTAL HEATING SOLUTIONS FIREPLACE MANUAL
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NOTE: Diagrams and illustrations are not to scale. (Clearance diagrams).

All fireplace drawings with dimensions are available on our website under
Products>Downloads>Diagram

INTRODUCTION

Company Profile

Welcome to ORTAL and ORTAL USA.

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 North America 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 CSA and CE certified. ORTAL fireplaces are available in North American through ORTAL USA 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 and Ortal USA

FIREPLACE SAFETY INFORMATION & WARNINGS



DANGER



**HOT GLASS WILL
CAUSE BURNS**

**DO NOT TOUCH GLASS
UNTIL COOLED**

**NEVER ALLOW CHILDREN
TO TOUCH GLASS**

A barrier designed to reduce the burn hazard from the glass viewing area is provided with this appliance and shall be installed.

DANGER

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

If the information in these instructions 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.

SAVE THESE INSTRUCTIONS

Make yourself fully aware of all the following instructions 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.

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.

Immediately call your gas supplier from a neighbor's phone. Follow the gas supplier's instructions.

If you cannot reach your gas supplier, call the fire department.

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: Screen 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.

WARNING: Glass Handling

The glass must ONLY be removed by an authorized &/or qualified installer. The authorized technician should ONLY remove the glass with the glass vacuum holders supplied by the manufacturer. Lower the glass to rest in a safe place. This is to prevent damage to the glass edges.

Step 1. Prepare a safe place for the glass to rest.

Step 2. Remove the glass using the vacuum holder.

Step 3. The glass can now be rested safely.

WARNING: Electrical Grounding

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

WARNING: Gas Appliance

This appliance is only for use 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.

Applicable standards are Vented Gas fireplace heaters ANSI Z21.88 / CSA 2.33a and gas-fired appliances for use at high altitudes CAN/CGA 2.17-M91.

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.

In the case of models supplied with a door fitted in the frame of the heater, **ONLY** an authorized qualified installer may open this door. The end user must **NOT** open the door, as this may be unsafe and may result in voiding the manufacturer's warranty.

ALL the warnings and instructions apply to ALL the models.

PRODUCT LISTING

Certifications and Codes

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

These gas fireplace appliances are CSA certified and approved for indoor use and can be specialized with certain requirements for indoor outdoor use (i.e. tunnel models). For indoor installation they must be installed 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 and ORTAL USA requirements in addition to any local codes that may apply. If none exist then the current CSA installation code must be followed:

- USA, ANSI Z223.1/NFPA 54
- Canada, CSA B149

The appliance must be properly connected to an M&G DuraVent chimney venting system. Refer to the specific appliance to determine vent size and pathway requirements.

1. Consult the authority having jurisdiction to determine the need for a permit PRIOR to starting the installation.
2. 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.
3. Before starting, take careful note of ALL the WARNINGS in this manual.

Product List: Models and Burners

Burners and venting for models can be seen in the table below. Adaptors are not required.

Burner	Models	Chimney size
30 (Series 40)	<ul style="list-style-type: none"> • Clear 40/ RS/LS/TS/ Tunnel, • Stand Alone 40 TS • Clear 4070H/RS/LS/TS/Tunnel • Clear 4090H/RS/LS/TS/Tunnel • Small Square, Classic Corner, Modern Corner 	4x6
45 (Series 75 & 80)	<ul style="list-style-type: none"> • Clear 60x80/ Tunnel • Clear 75/RS/LS/TS, Stand Alone 75/TS/Hood • Space Creator 75 • Clear 75H TS, Clear 7565/Tunnel • Clear 80/RS/LS/TS, • Clear 8070H/RS/LS/TS • Classic F 75/80 • Island 75 • Clear 100x90 (note: uses 5x8 vent pipe) 	4x6
100 (Series 110, 120 & 130)	<ul style="list-style-type: none"> • Clear 110, Clear 110 RS/LS/TS/Tunnel • Stand Alone 110 • Clear 110 H/ Tunnel • Clear 130/RS/LS/TS/Tunnel/Top • Island 130 • Space Creator 120/Mini/Medium 	5x8
135 (Series 150 & 170)	<ul style="list-style-type: none"> • Clear 150/H/ RS/LS/TS/Tunnel, • Space Creator 150 • Stand Alone 150 • Clear 170/ RS/LS/TS/ Tunnel 	5x8
160 (Series 200)	<ul style="list-style-type: none"> • Clear 200/H/RS/LS/TS/Tunnel, Space Creator 200 • Clear 20070H/RS/LS/TS • Clear 250/RS/LS/TS/Tunnel 	5x8
Two Burners	<ul style="list-style-type: none"> • Clear 250/RS/LS/TS/ Tunnel • Clear 350/ RS/LS/TS/ Tunnel • Clear 400/ RS/LS/TS/ Tunnel • 4 Glass 2 burners <p>Refer to Appendix A for specific information relating to these Two Burner models.</p>	5x8

FIREPLACE CLEARANCES

Minimum Clearances to Combustible Materials

Appliance and Vent Clearances

The appliance is approved with maintained minimum clearance to combustible materials as shown in the diagrams provided.

Non-combustible materials, such as surrounds and other appliance trim, may be installed on the appliance face so long as it maintains the minimum clearances 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. They must not cover any portion of the removable glass panel or the control compartment.

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

Definitions:

“Flat”: walls surrounding finish in the same plane as the fireplace.

“Offset”: walls surrounding finish in a different plane as the fireplace and there is 90 degree (usually) between the plane of the fireplace and the plane of the wall. Maximum 3” horizontal space between the two planes.

Access Panels 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. If using wood studs they must be covered completely with non-combustible material and have the gaps sealed with a non-combustible fire sealant. We recommend using 5/8" Type X fire rated drywall 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.

Heat Release is required for all models with the exception of the Stand Alone. This allows for heat building up within the fireplace chase to be released back into the space which then helps keep the fireplace wall cool. It must be located at the top of the fireplace chase and recommended to be placed a maximum of 6 inches below the fireplace chase ceiling. It can be located on the front, sides or back of the fireplace chase so long as it is being released into an interior space and not outdoors. A minimum air space is required per series:

- Minimum 124 sq. in. of free air space for Series 40-130
- Minimum 200 sq. in. of free air space for Series 150-200

This is the minimum required but can always be greater. The heat release can be added as a louver or as a reveal. If using a louver, please make sure that the free airspace allowed in the louvered area is equal or greater than the minimum square inches required per unit.

Fireplace Legs

All Ortal built-in fireplaces (Clear Front, LS, RS, TS, and Space Creator) come standard with legs that measure 8.3" 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 units do come with leg extensions which can raise the height to an approximate 15-16". A platform may also be built if needed to elevate the firebox higher. The legs cannot be removed.

Front Stand Alone models come with legs that are used for transportation purposes only. These are connected with a bolt that can be removed once unit is installed on site. Since these do not have legs, they can only be wall mounted.

For multi-sided Stand Alone units, the legs are hidden by a metal skirt. These units can be installed to stay on the floor or wall mounted.

Clearance Diagrams on following pages.

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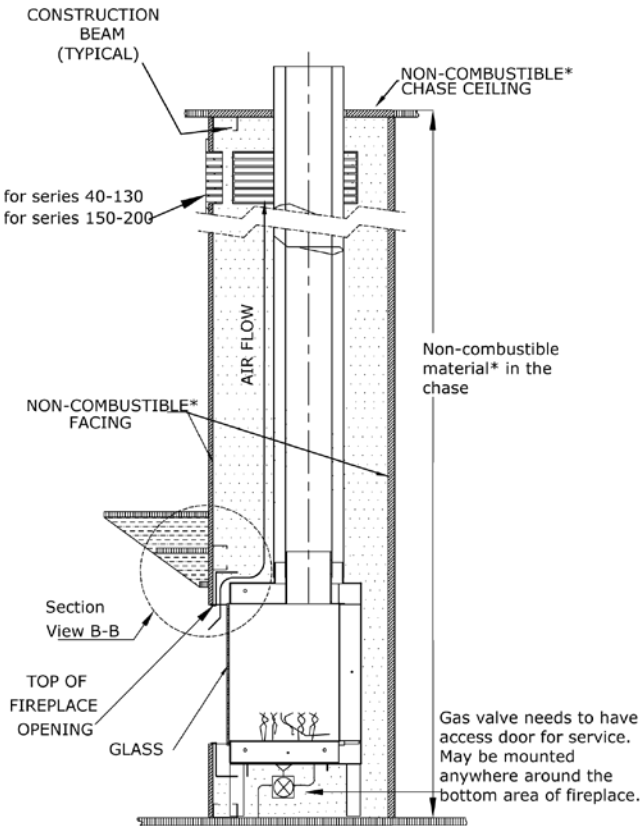
TS/LS/RS/Space Creator FLAT FIREPLACE MANTEL (SECTION B-B & SIDES) CLEARANCES

CAUTION

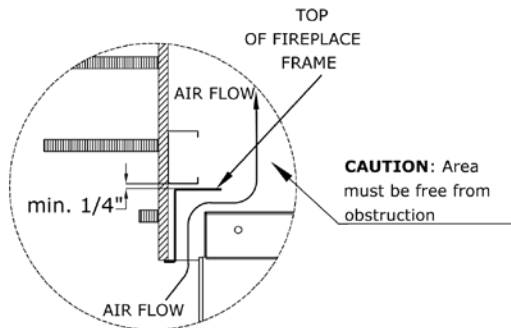
Vent Opening

Min. 124 sq. in. for series 40-130

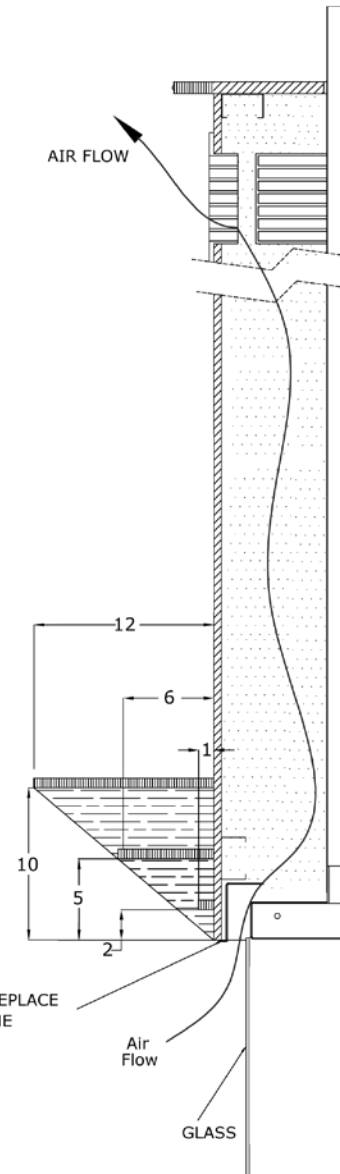
Min. 200 sq. in. for series 150-200



**SECTION
VIEW B**



**Section Detail
View B-B**



**SECTION DETAIL
VIEW B-1B**

*Non-combustible materials: Materials applicable for the installation of ORTAL fireplaces within the specified clearance dimensions are described as non-combustible materials. However, exception is made only for fire rated 5/8" type X gypsum wallboard UL authorized or equal, a combustible material may be used and is recommended by the manufacturer.

CAUTION: Air flow area, must be free from any obstruction in order to allow heat from the cavity to be released.

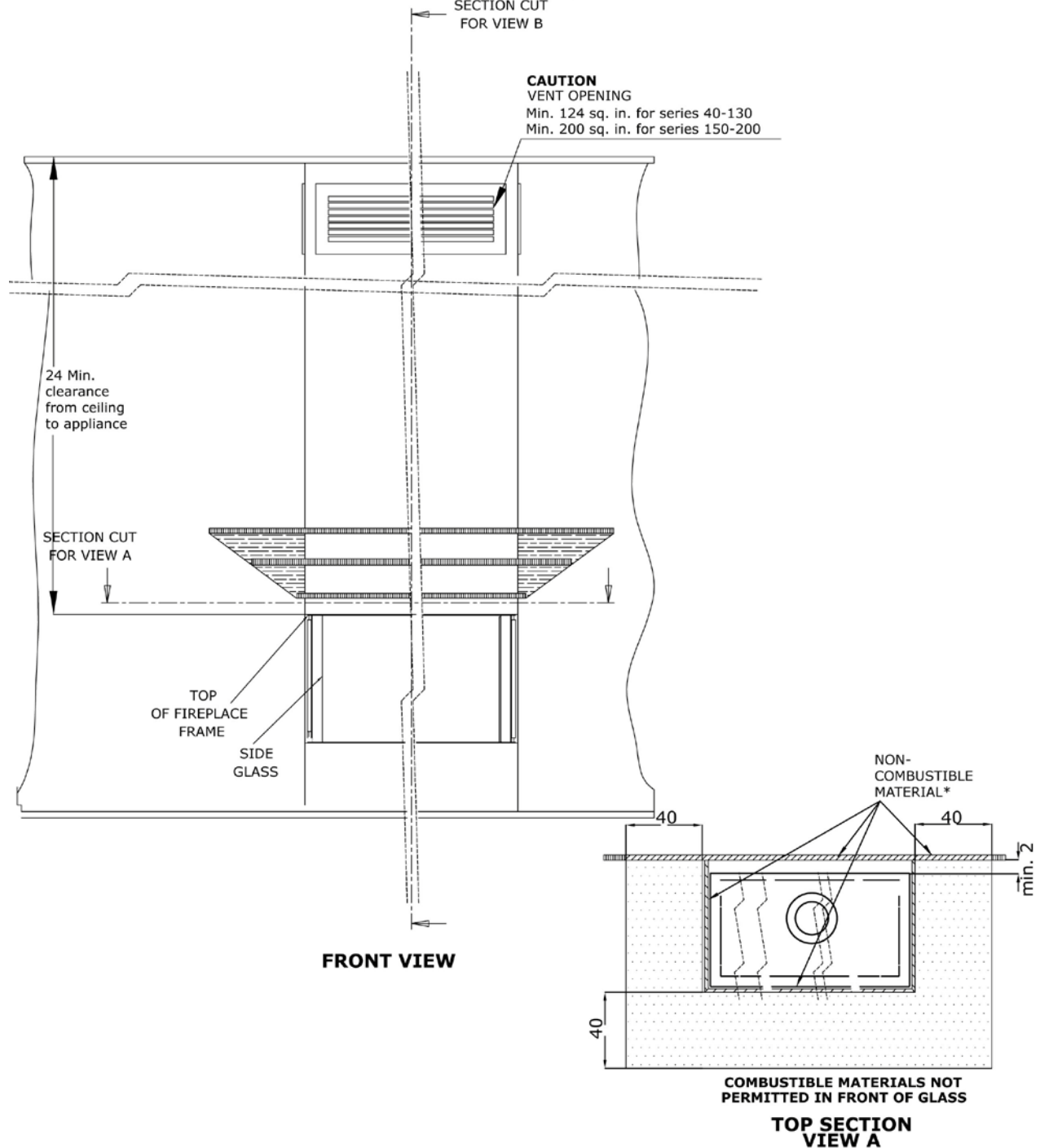
Non-combustible* Combustible Allowed Free from obstruction

Drawing not to scale

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TS/LS/RS/Space Creator FLAT FIREPLACE MANTEL (FRONT & TOP) CLEARANCES



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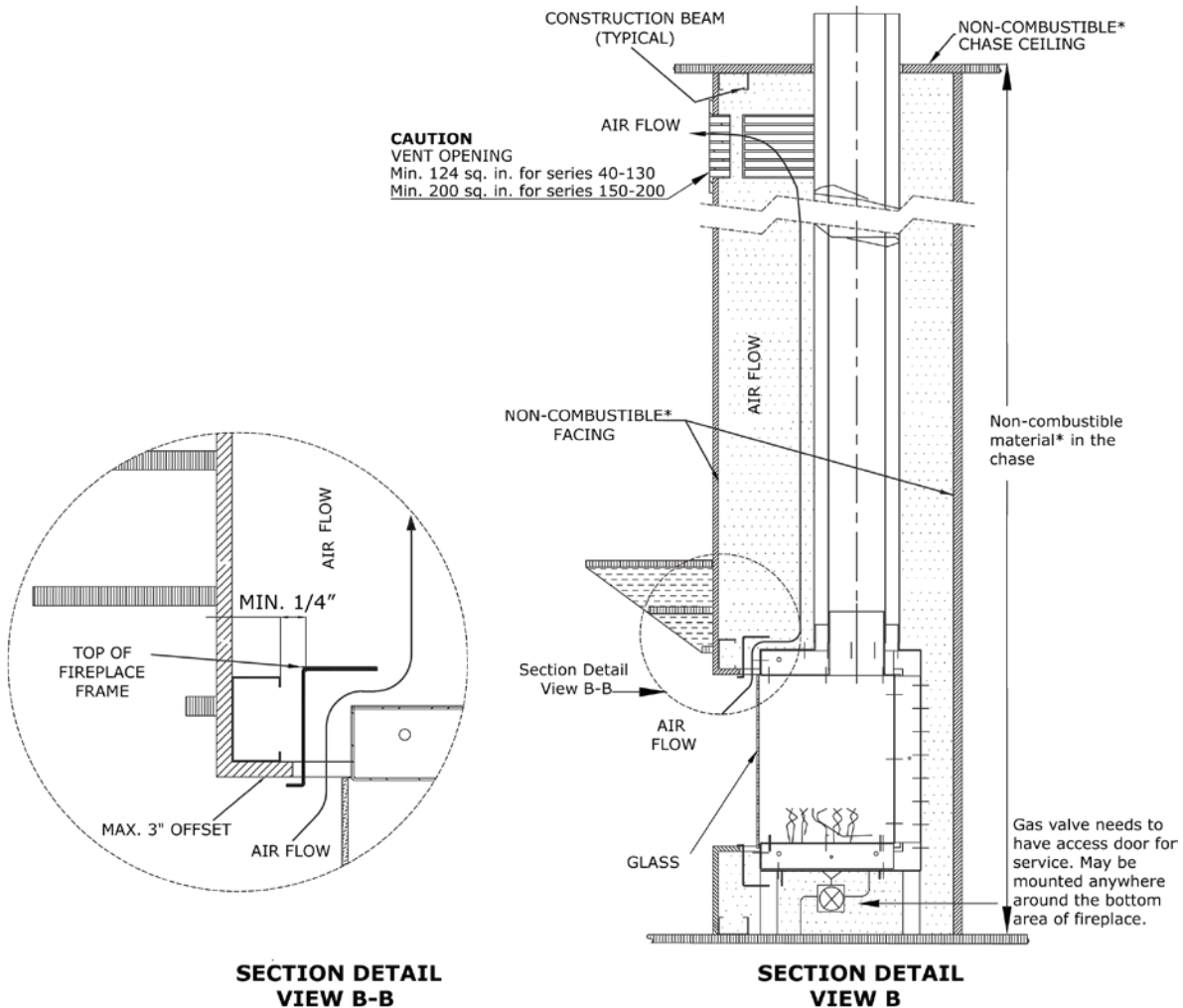
Non-combustible*
 Combustible Allowed
 Free from obstruction

Drawing not to scale

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TS/LS/RS/Space Creator OFFSET FIREPLACE MANTEL (SECTION B-B & SIDES) CLEARANCES



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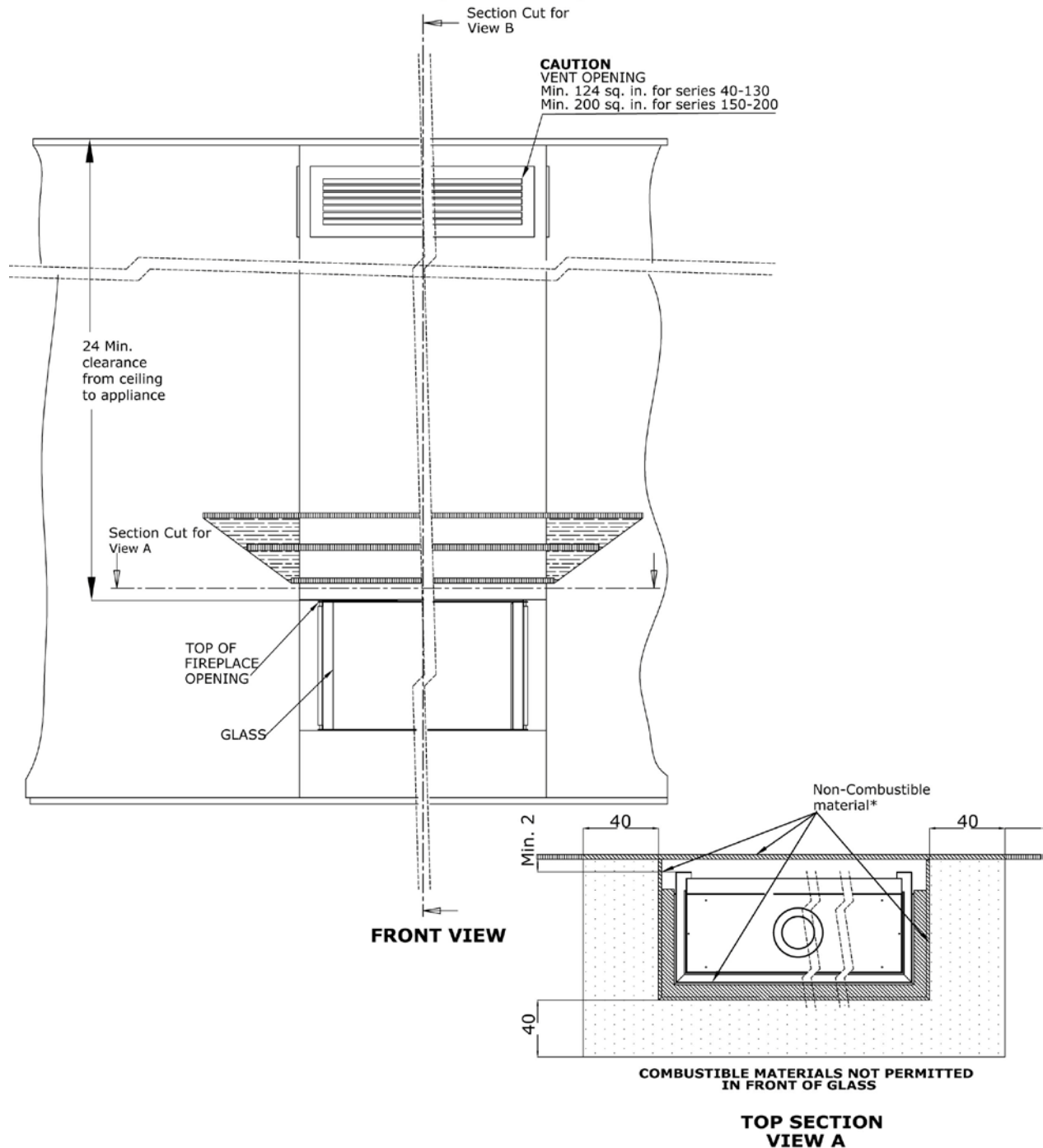
Non-combustible*
 Combustible Allowed
 Free from obstruction

Drawing not to scale

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TS/LS/RS/Space Creator OFFSET FIREPLACE MANTEL (FRONT & TOP) CLEARANCES



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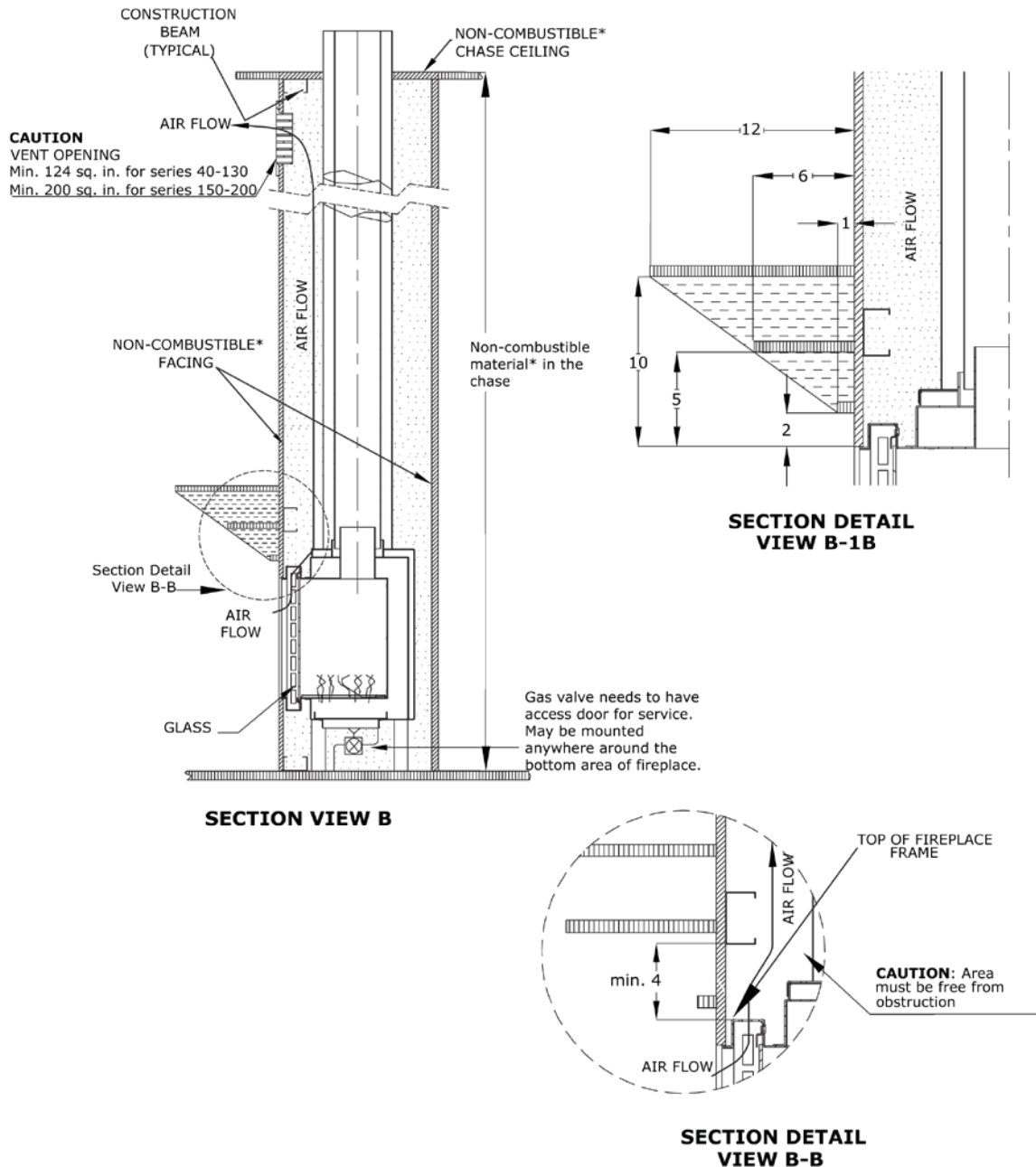
Non-combustible*
 Combustible Allowed
 Free from obstruction

Drawing not to scale

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CLEAR FRONT FLAT FIREPLACE MANTEL (SECTION B-B AND SIDES) CLEARANCES



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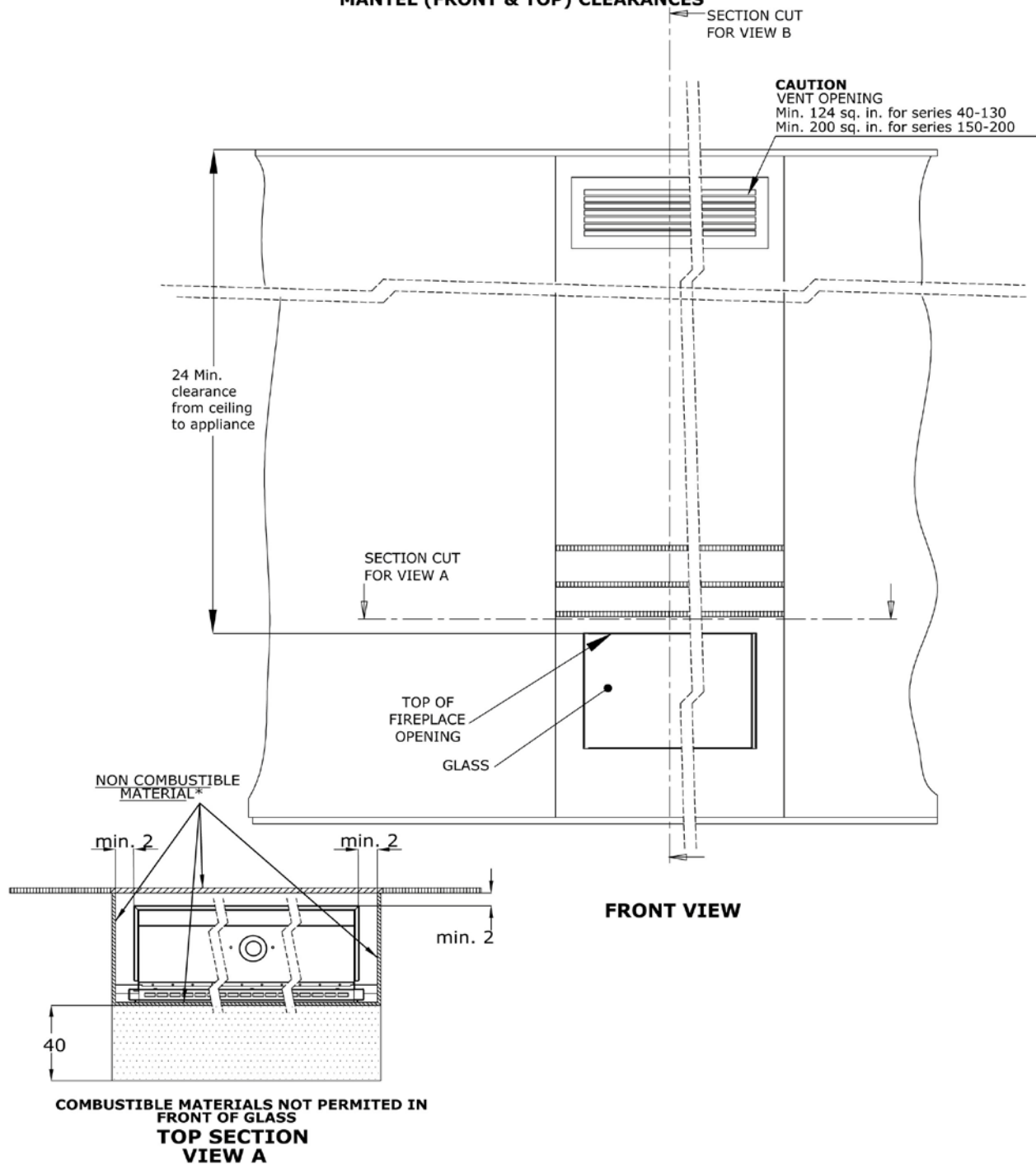
Non-combustible* Combustible Allowed Free from obstruction

Drawing not to scale

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CLEAR FRONT FLAT FIREPLACE MANTEL (FRONT & TOP) CLEARANCES

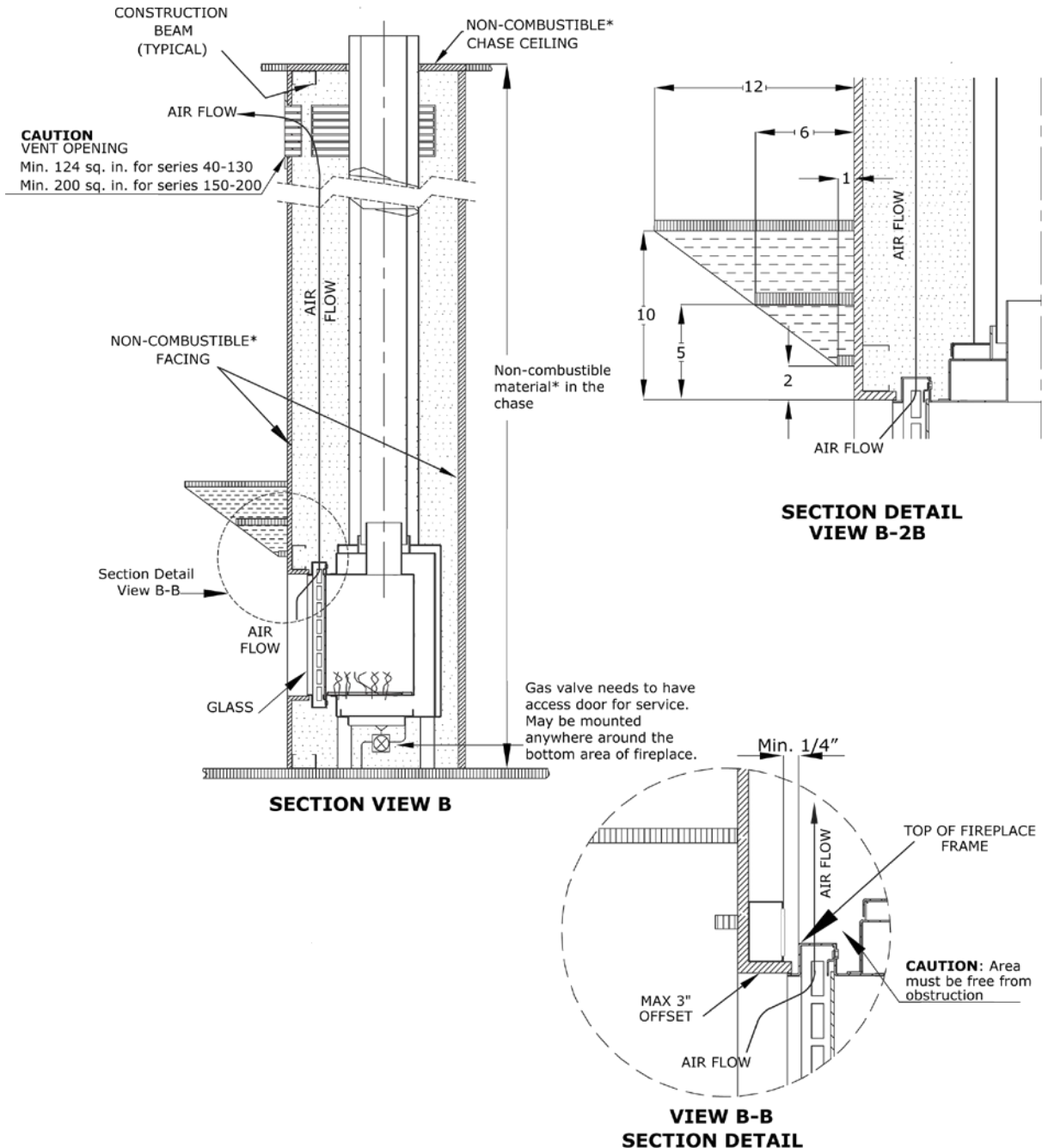


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Non-combustible* Combustible Allowed Free from obstruction

Drawing not to scale

CLEAR FRONT OFFSET FIREPLACE MANTEL (SECTION B-B AND SIDES) CLEARANCES



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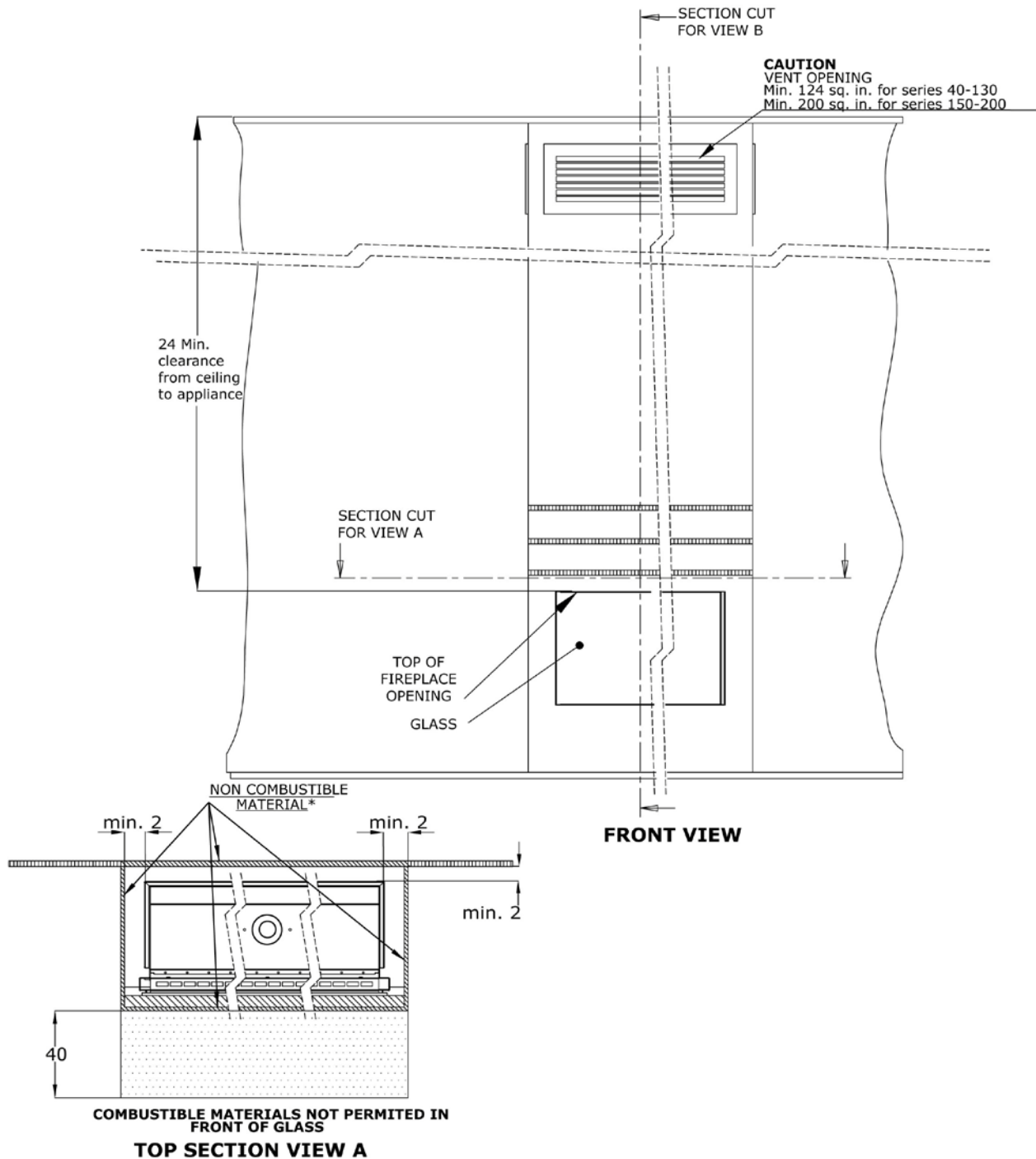
Non-combustible*
 Combustible Allowed
 Free from obstruction

Drawing not to scale

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CLEAR FRONT OFFSET FIREPLACE MANTEL (FRONT & TOP) CLEARANCES



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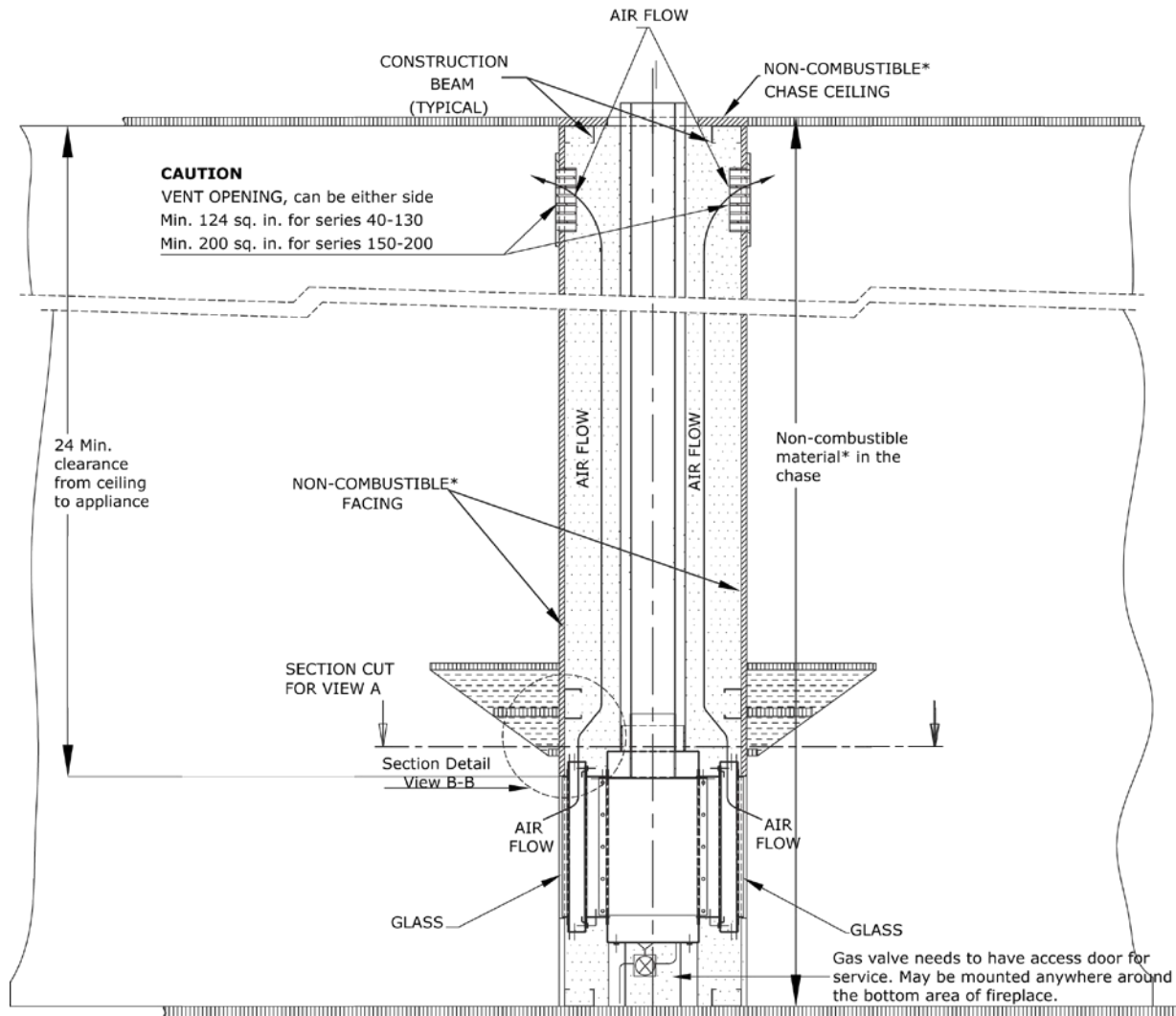
Non-combustible*
 Combustible Allowed
 Free from obstruction

Drawing not to scale

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TUNNEL FLAT FIREPLACE **MANTEL (SECTION) CLEARANCES**



PRINCIPAL SECTION VIEW B

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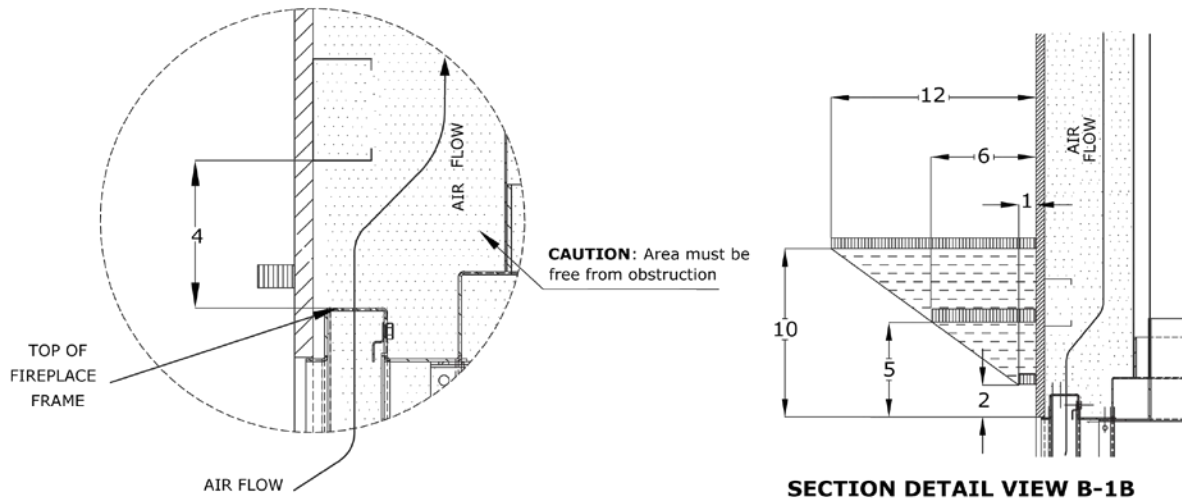
Non-combustible*
 Combustible Allowed
 Free from obstruction

Drawing not to scale

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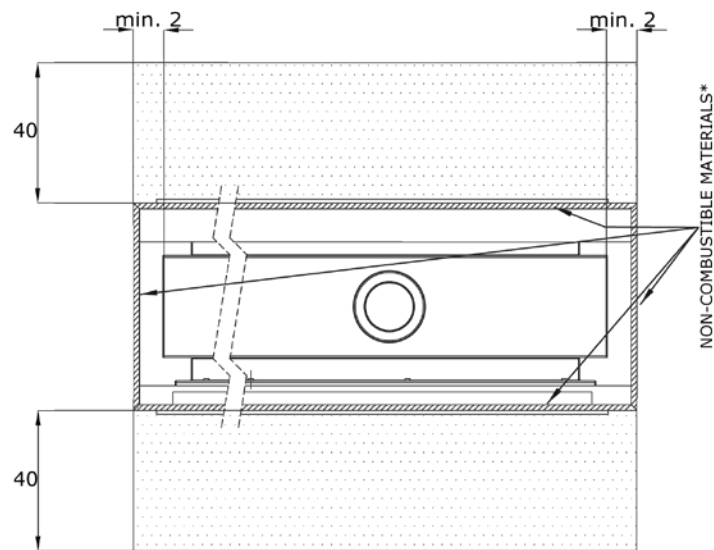
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TUNNEL FLAT FIREPLACE MANTEL (TOP AND SECTION DETAIL) CLEARANCES



SECTION DETAIL VIEW B-B

SECTION DETAIL VIEW B-1B



COMBUSTIBLE MATERIALS NOT PERMITTED IN
FRONT OF GLASS

TOP SECTION VIEW A

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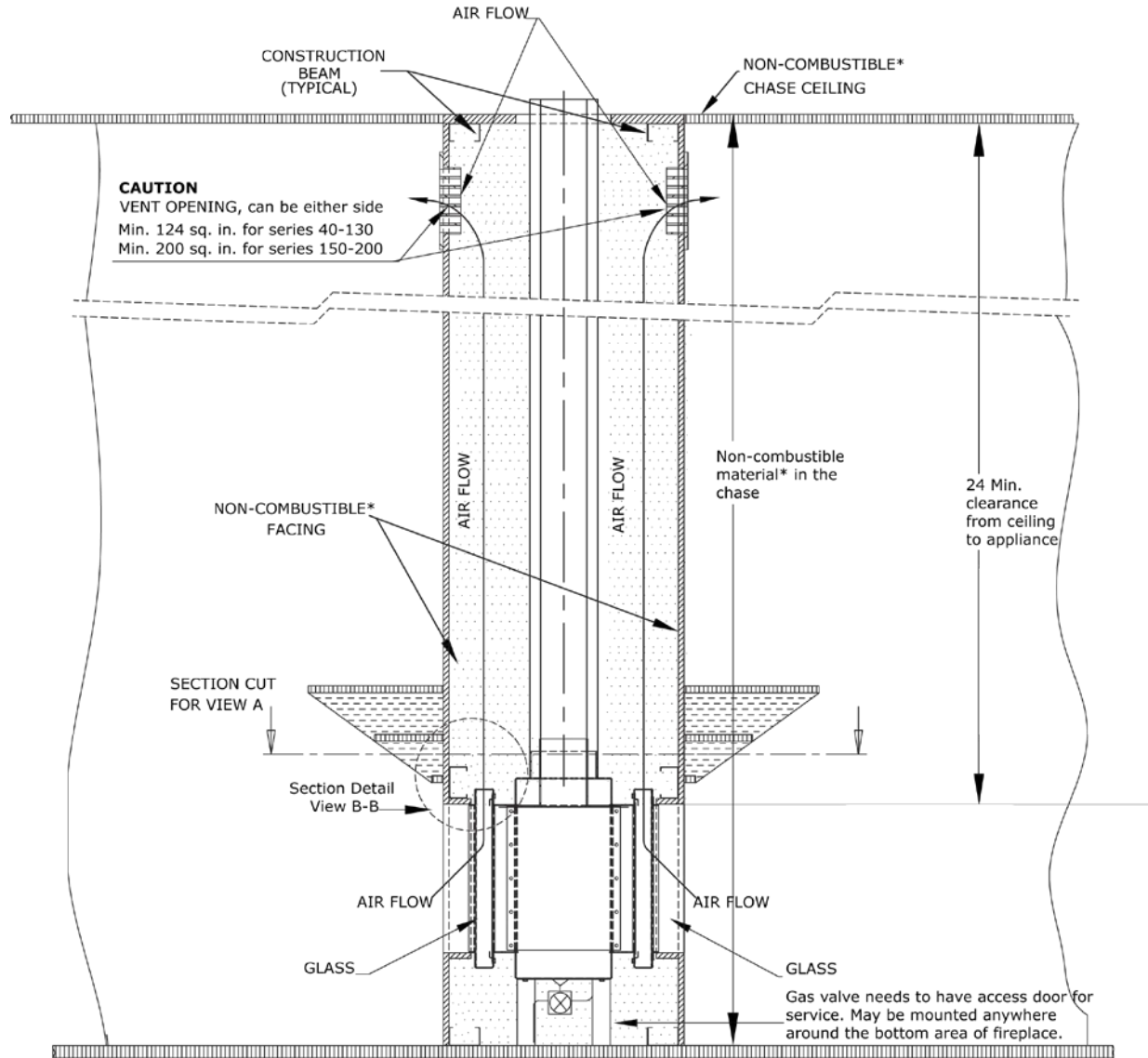
Non-combustible*
 Combustible Allowed
 Free from obstruction

Drawing not to scale

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TUNNEL OFFSET FIREPLACE MANTEL (SECTION) CLEARANCES



PRINCIPAL SECTION VIEW B

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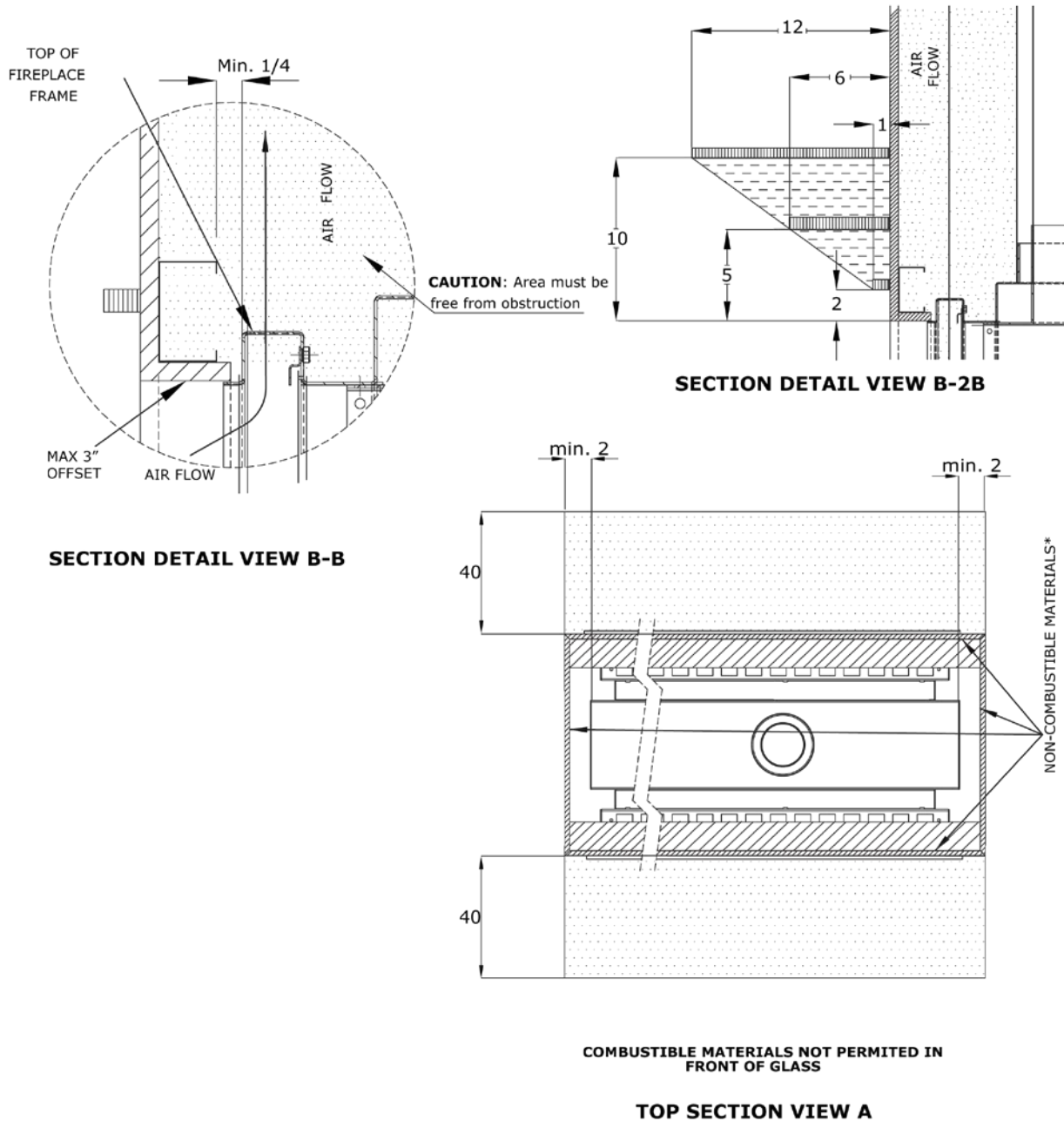
Non-combustible*
 Combustible Allowed
 Free from obstruction

Drawing not to scale

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TUNNEL OFFSET FIREPLACE **MANTLE (TOP AND SECTION DETAIL) CLEARANCES**



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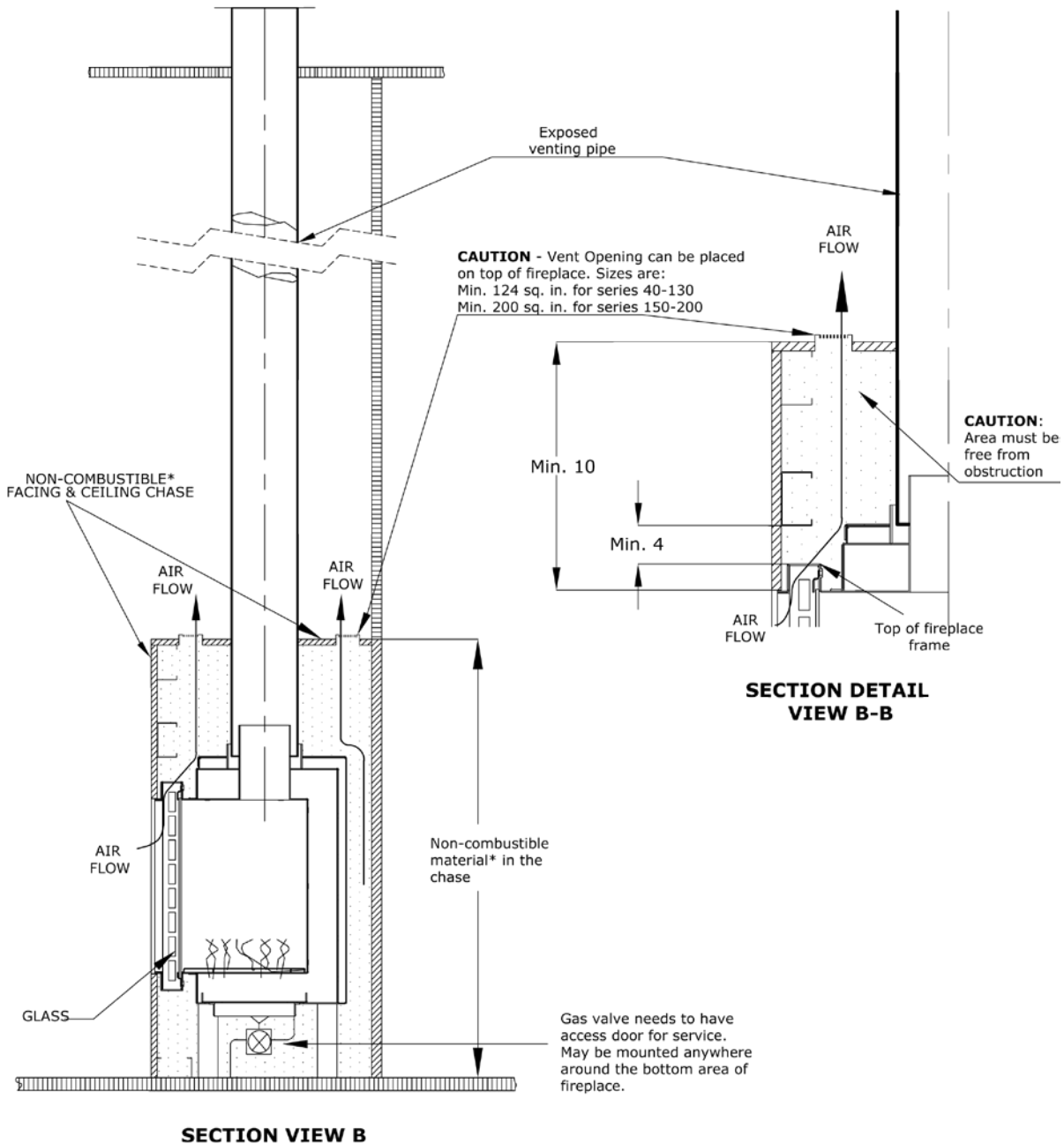
Non-combustible*
 Combustible Allowed
 Free from obstruction

Drawing not to scale

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SHELF DETAIL (SECTION B & B-B) CLEARANCES



*Non-combustible materials: Materials applicable for the installation of ORTAL fireplaces within the specified clearance dimensions are described as non-combustible materials. However, exception is made only for fire rated 5/8" type X gypsum wallboard UL authorized or equal, a combustible material may be used and is recommended by the manufacturer.
CAUTION: Air flow area, must be free from any obstruction in order to allow heat from the cavity to be released.

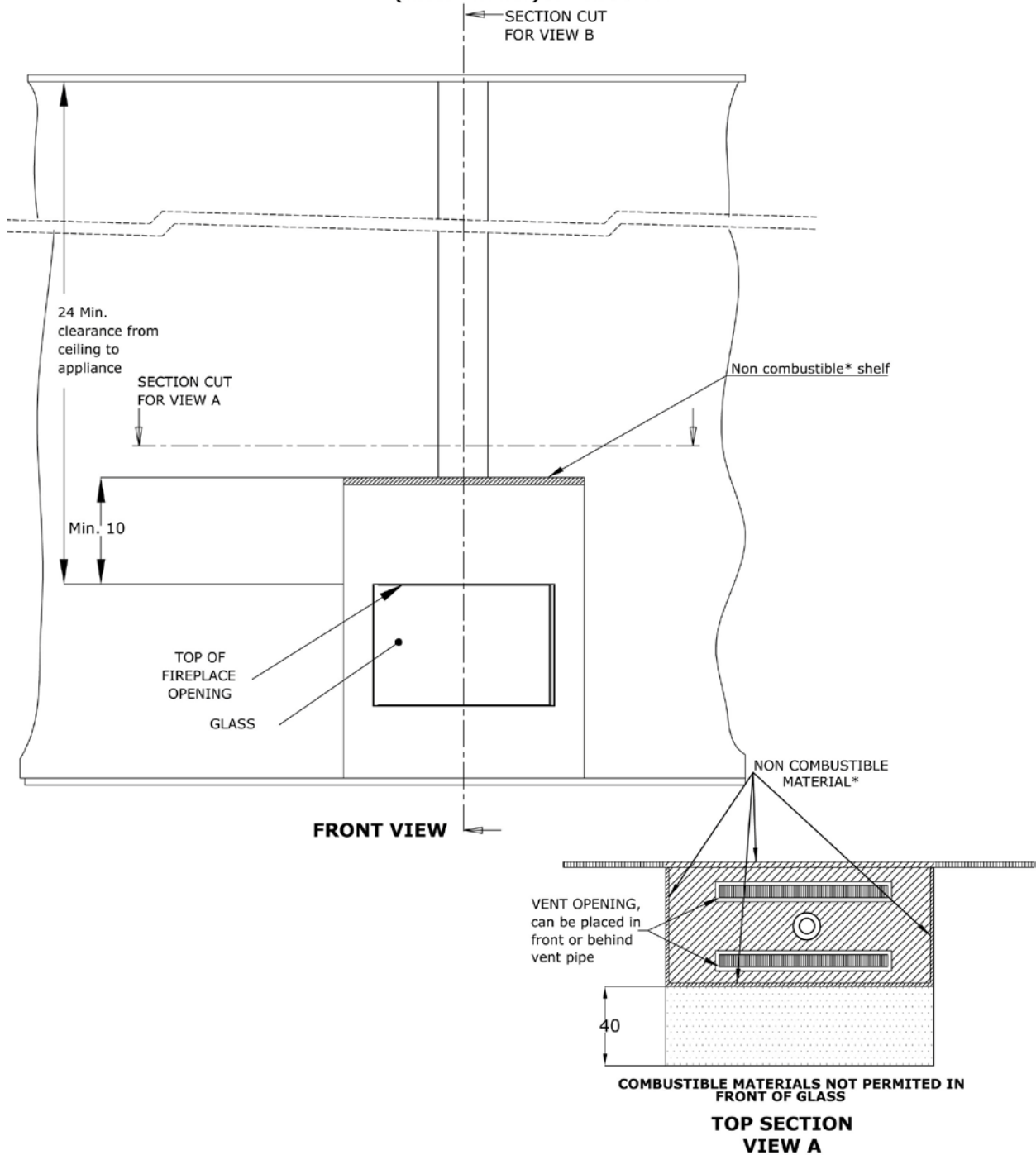
Non-combustible*
 Combustible Allowed
 Free from obstruction

Drawing not to scale




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SHELF DETAIL (FRONT & TOP) CLEARANCES



*Non-combustible materials: Materials applicable for the installation of ORTAL fireplaces within the specified clearance dimensions are described as non-combustible materials. However, exception is made only for fire rated 5/8" type X gypsum wallboard UL authorized or equal, a combustible material may be used and is recommended by the manufacturer.
CAUTION: Air flow area, must be free from any obstruction in order to allow heat from the cavity to be released.

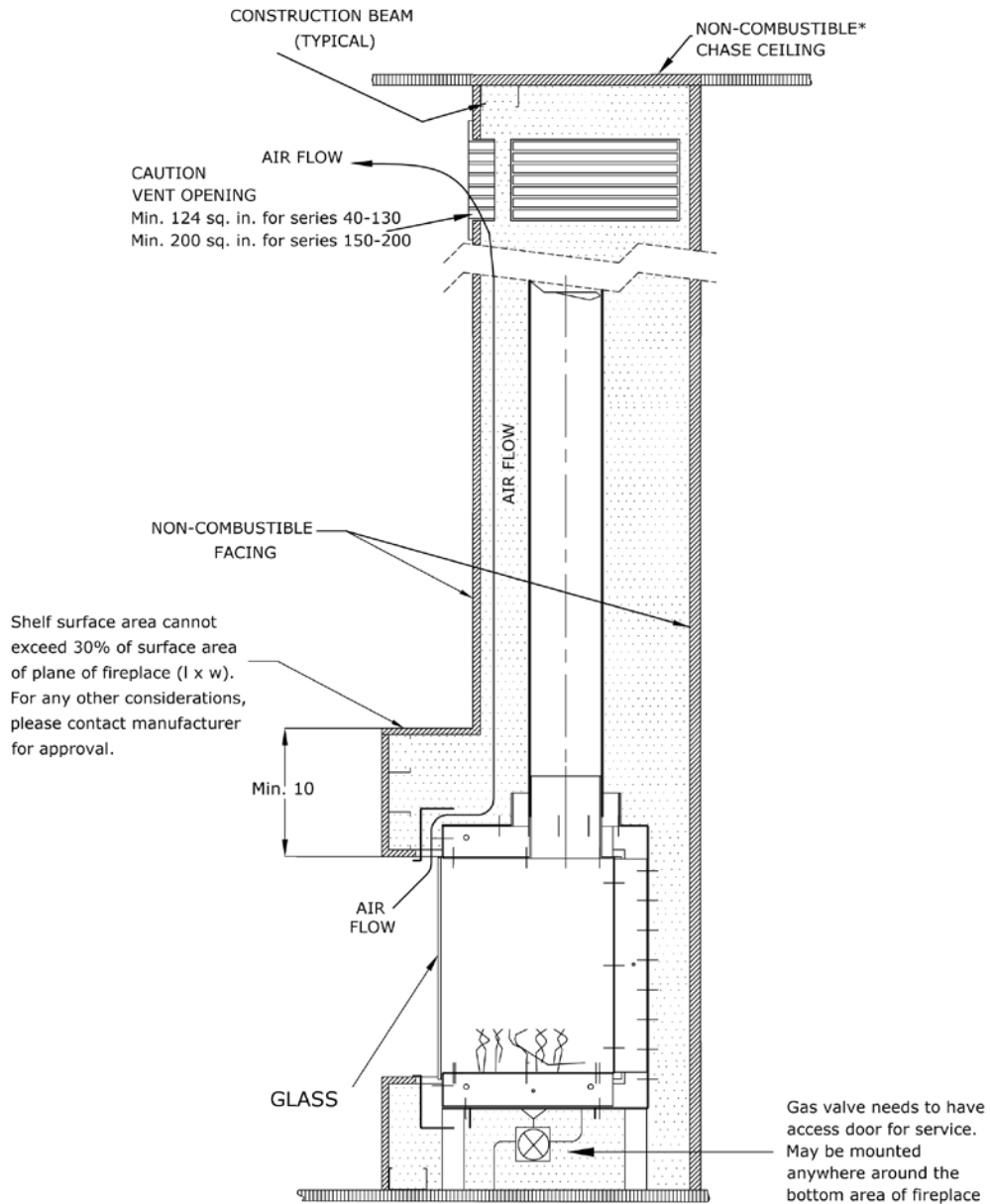
 Non-combustible*
  Combustible Allowed
  Free from obstruction

Drawing not to scale

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SHELF DETAIL (Section without exposing vent pipe) CLEARANCES



*Non-combustible materials: Materials applicable for the installation of ORTAL fireplaces within the specified clearance dimensions are described as non-combustible materials. However, exception is made only for fire rated 5/8" type X gypsum wallboard UL authorized or equal, a combustible material may be used and is recommended by the manufacturer. **CAUTION:** Air flow area, must be free from any obstruction in order to allow heat from the cavity to be released.

Non-combustible*
 Combustible Allowed
 Free from obstruction

Drawing not to scale



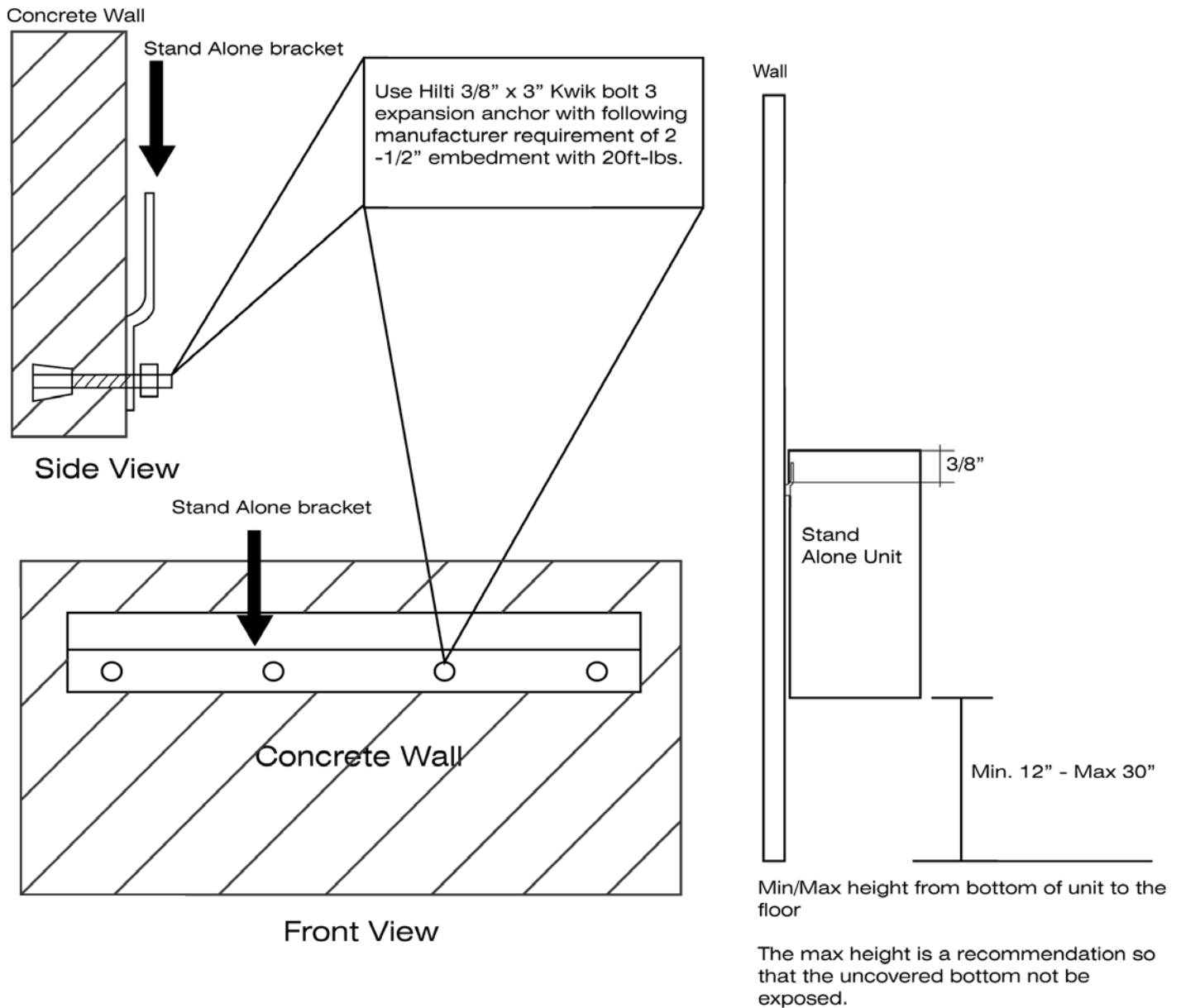
Stand Alone Models

Manufacturer's Recommendation for Wall Mounting

1. Concrete Wall
 - a. Position the unit at the desired height and mark the wall. Unit should have a minimum 12" and maximum 30" distance from the bottom of the unit to the floor.
 - b. Mount the Stand Alone hanging bracket using Hilti 3/8" x 3" Kwik bolt 3 expansion anchors with manufacturer's requirement of 2-1/2" embedment and torque to 20ft-lbs.
 - c. Attach the unit to the mounting bracket.
 - d. See Sketch 1 for detail.
2. Wood Stud Wall
 - a. Position the unit at the desired height and mark the wall. Unit should have a minimum 12" and maximum 30" distance from the bottom of the unit to the floor
 - b. Create an opening in the wall big enough to position the 4x8 blocks between the wood studs at the desired height.
 - c. Repair the opening with hardy backer board.
 - d. Make sure that the bracket has a minimum 4" extra hardy backer board material around it.
 - e. Mount bracket with a 3/8" x 4" lag bolts. Follow bracket manufacturer's installation requirements and then mount the unit.
 - f. See sketch 2 for detail.

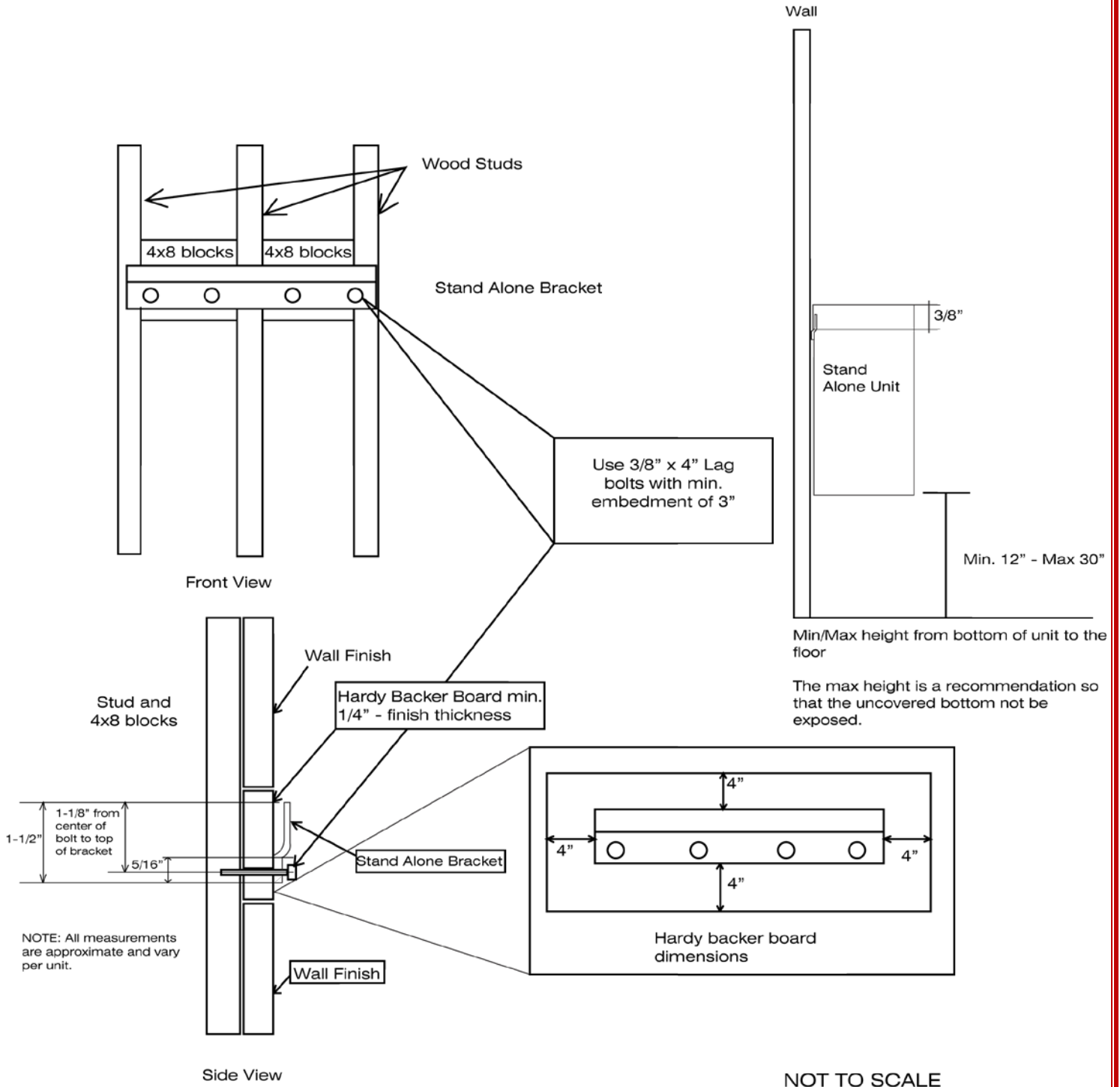
Note: All installations are to be completed per local building codes and safety requirements. The above recommendation does not take the place of reviewing and incorporating structural requirements set forth by the building engineer, local codes, etc.

Concrete Wall Mounting Detail Sketch 1

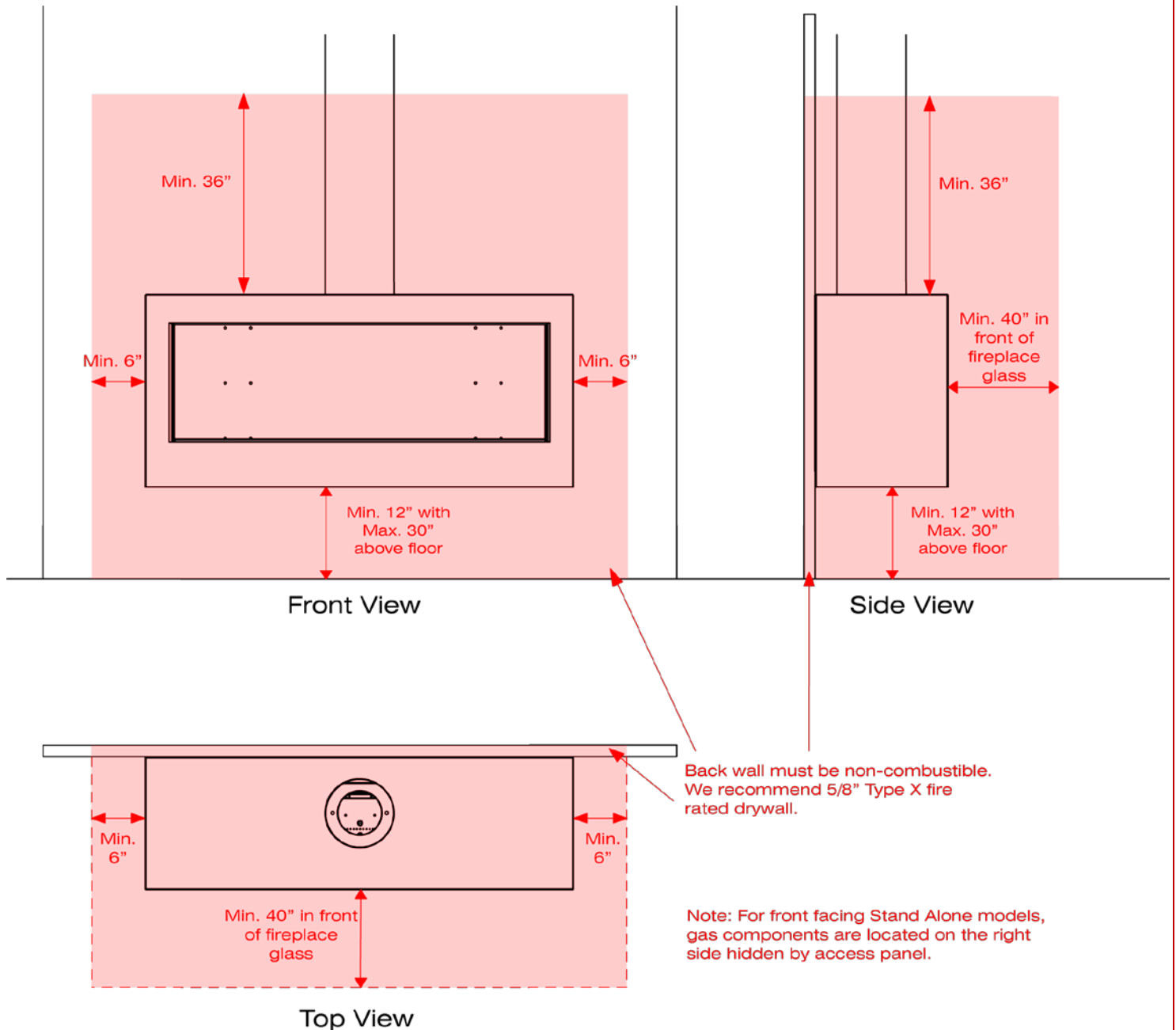


NOT TO SCALE

Wood Stud Mounting Detail Sketch 2

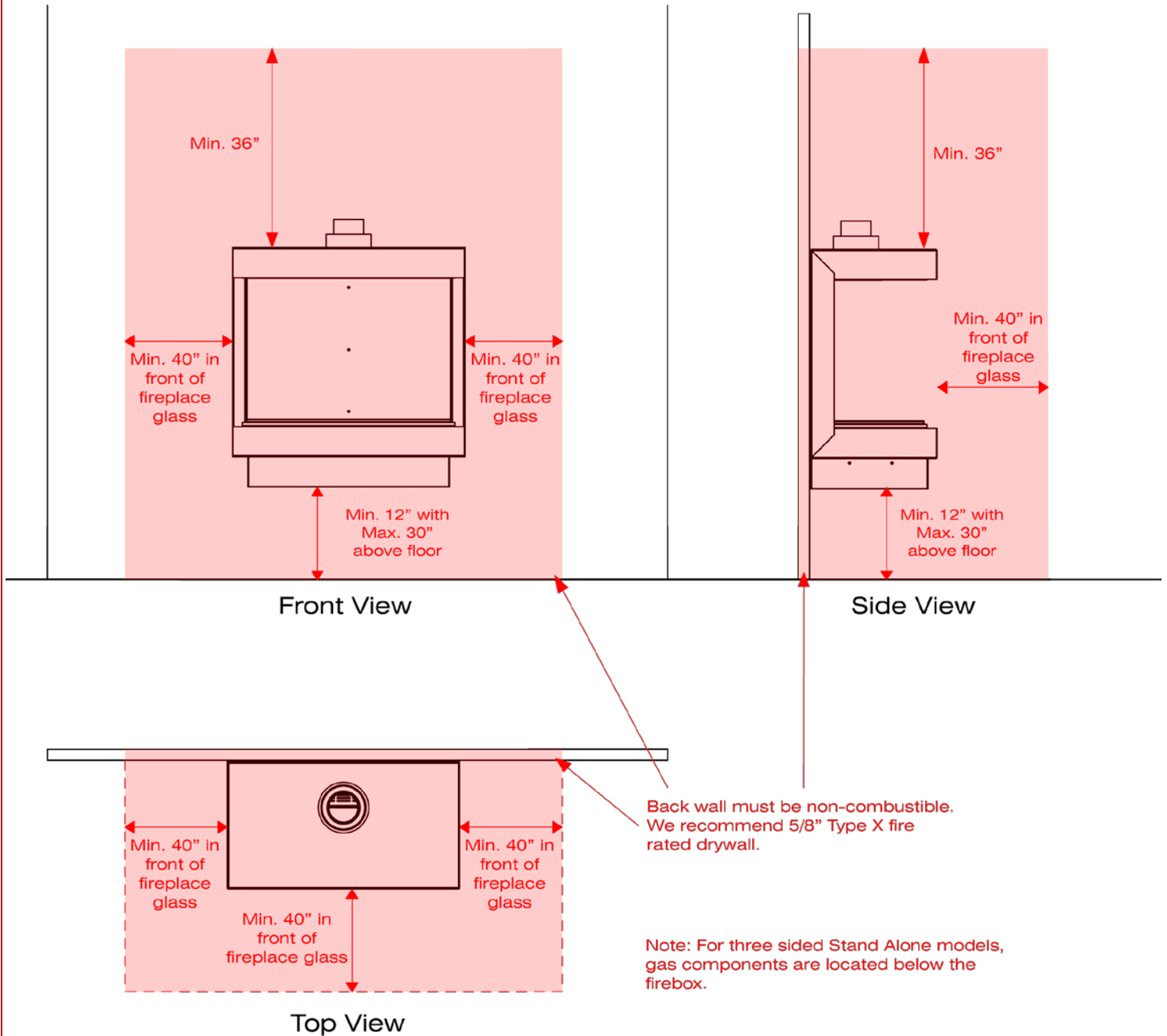


Stand Alone – Front facing models



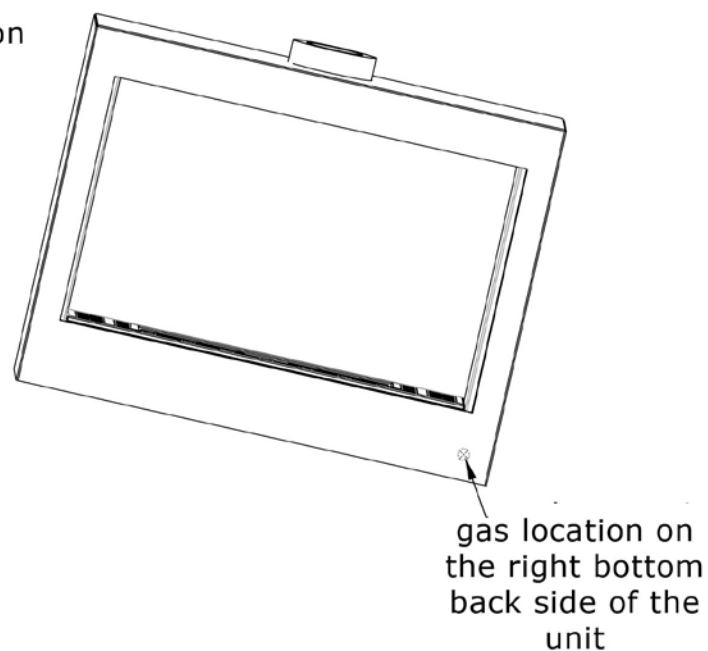
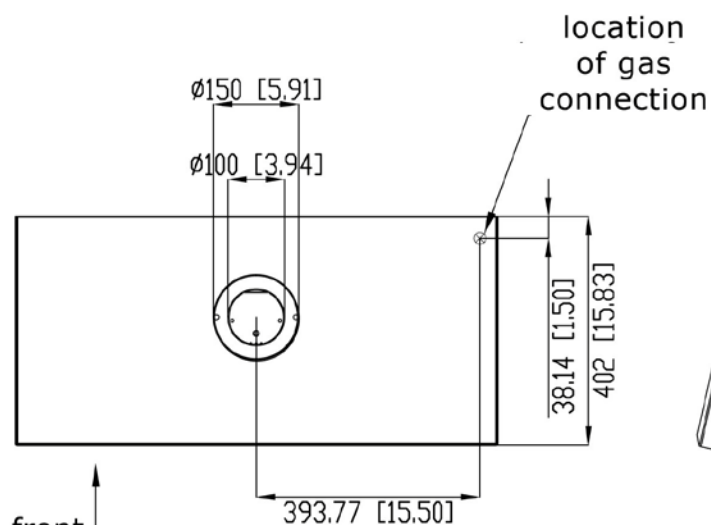
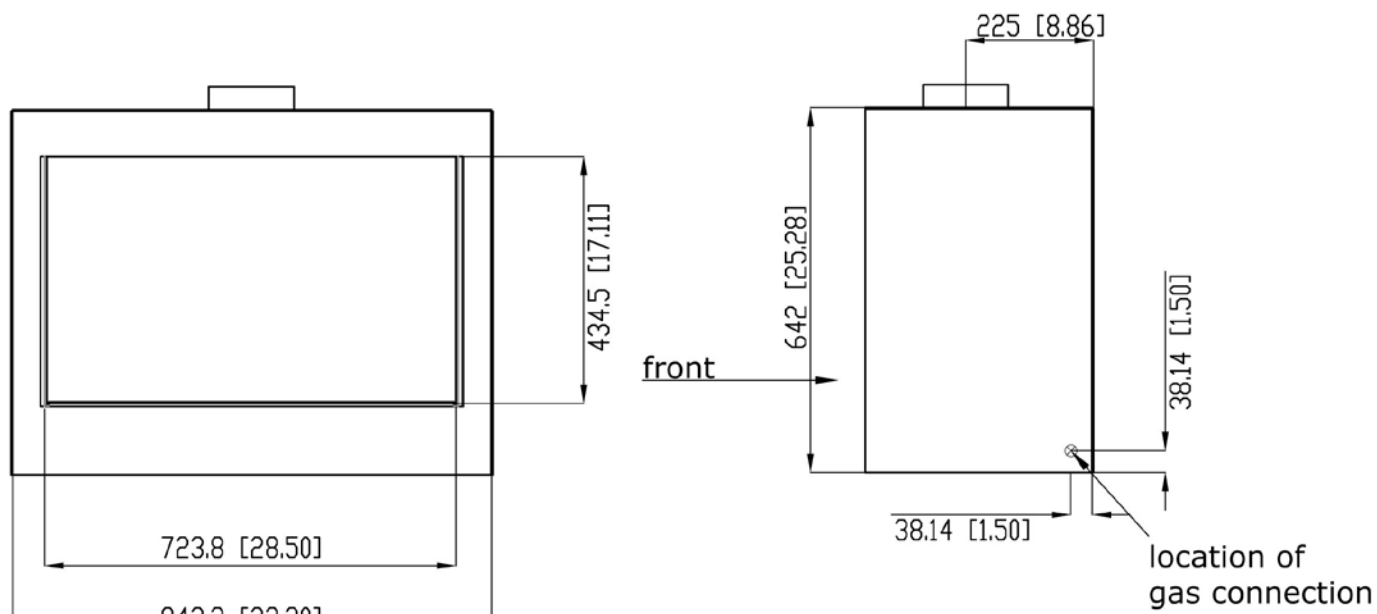
NOT TO SCALE

Stand Alone – Three Sided models

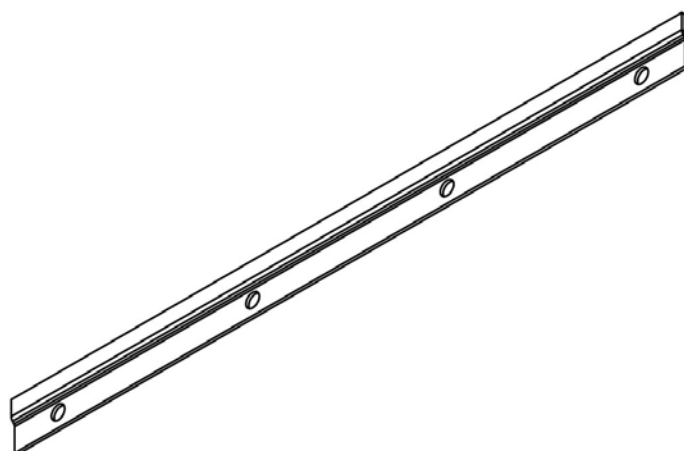
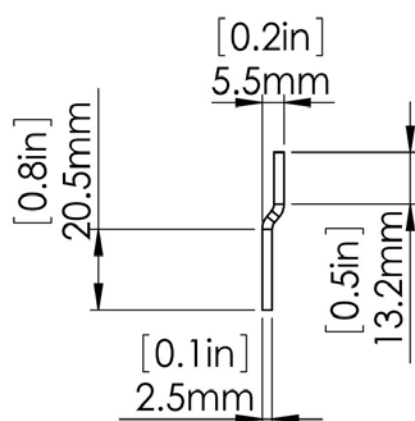
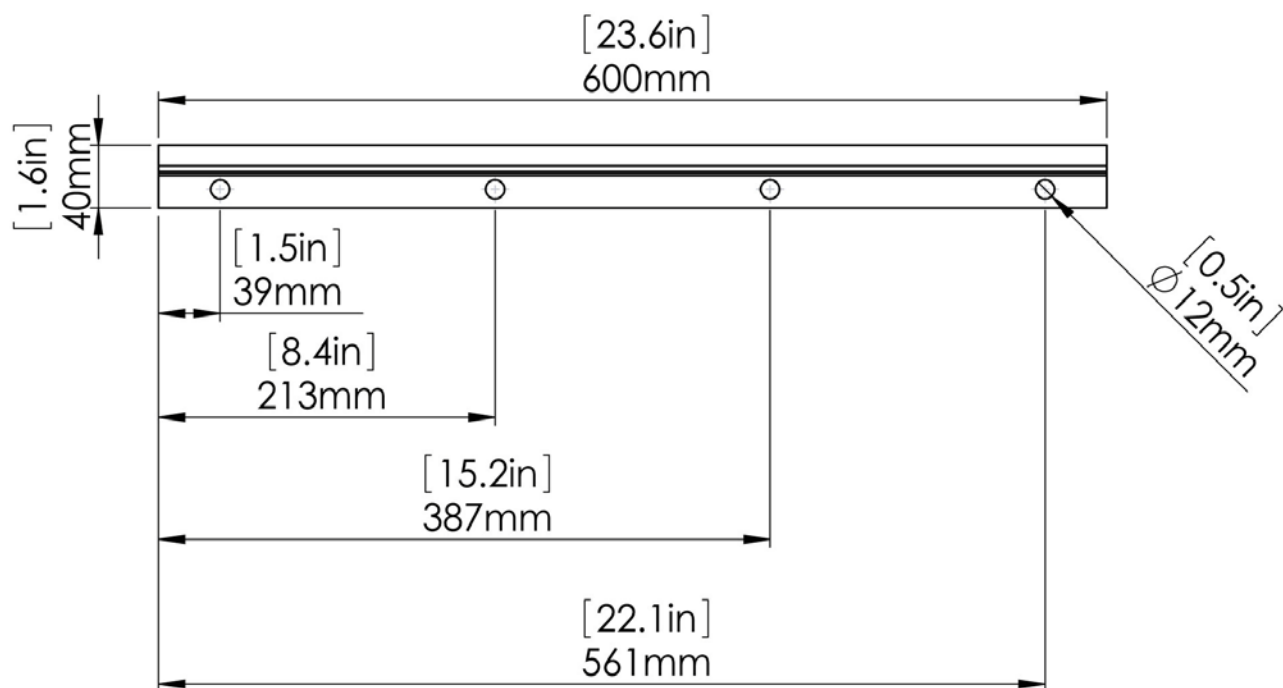


NOT TO SCALE

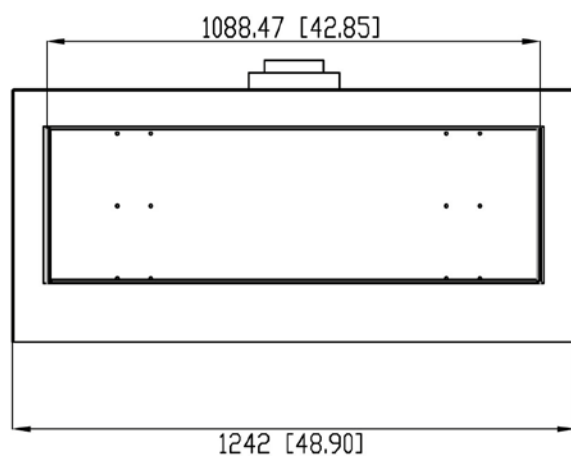
Stand Alone 75



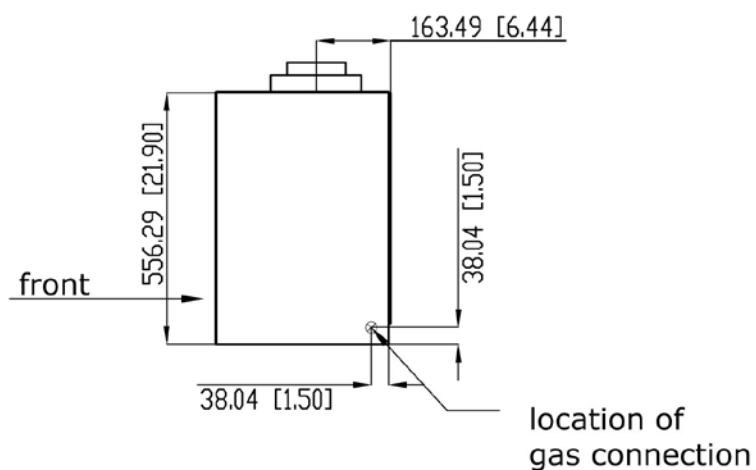
Stand Alone 75 bracket



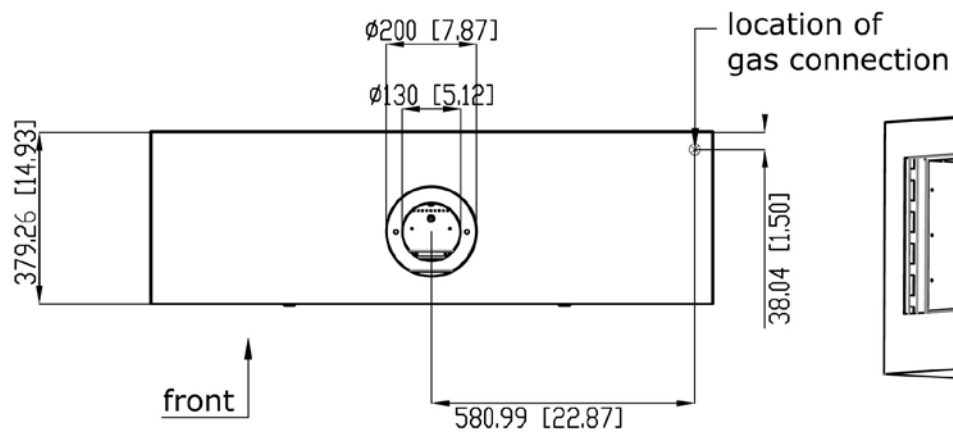
Stand Alone 110



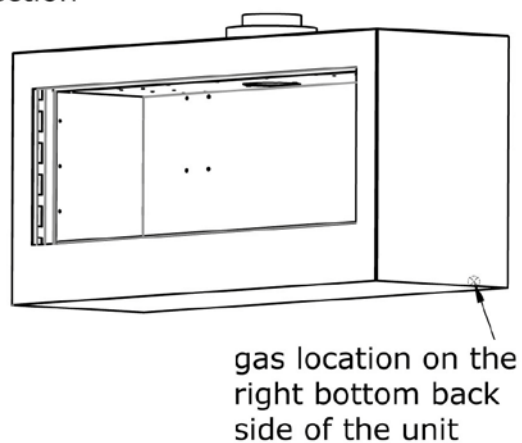
front view



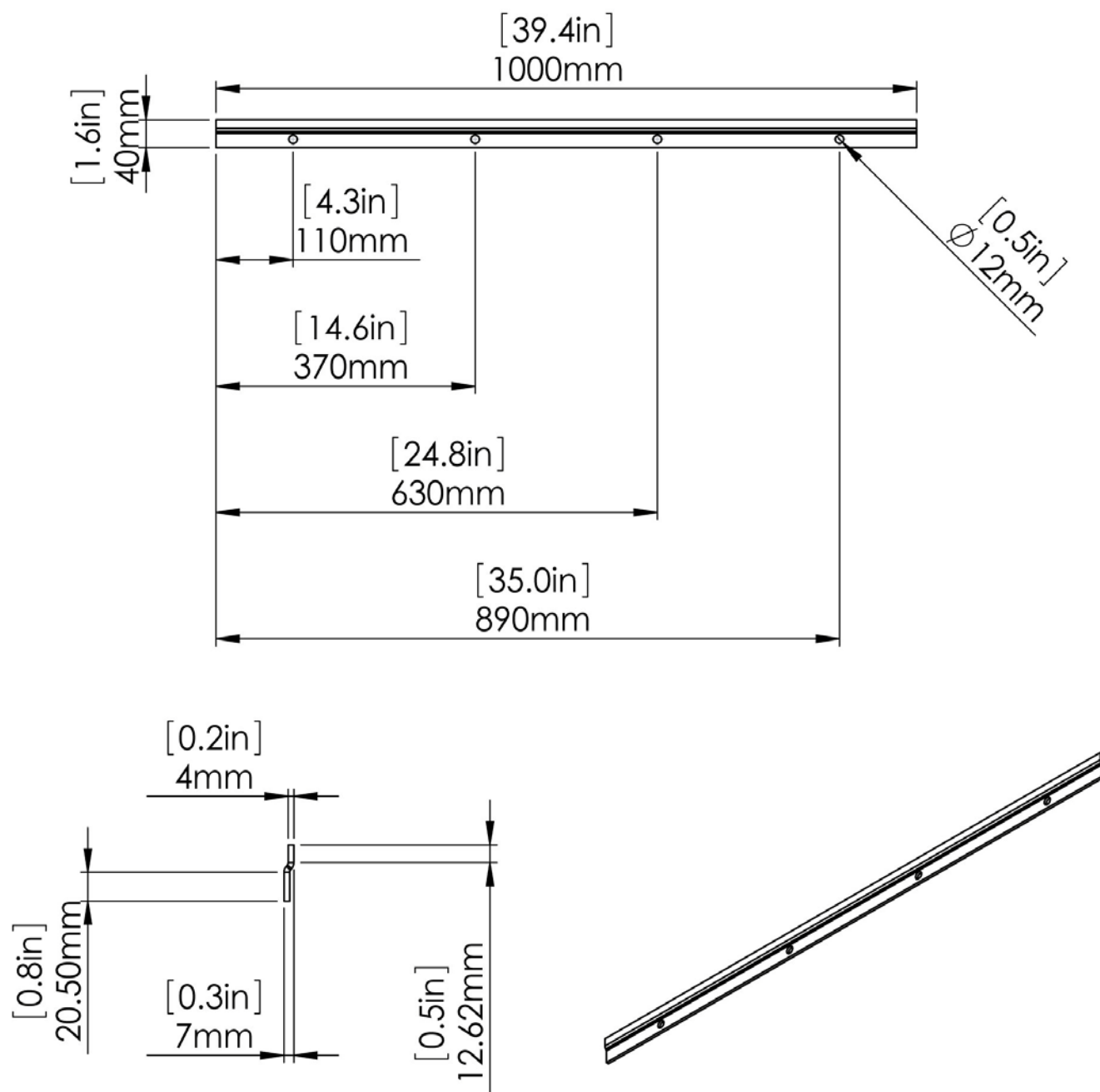
right side view



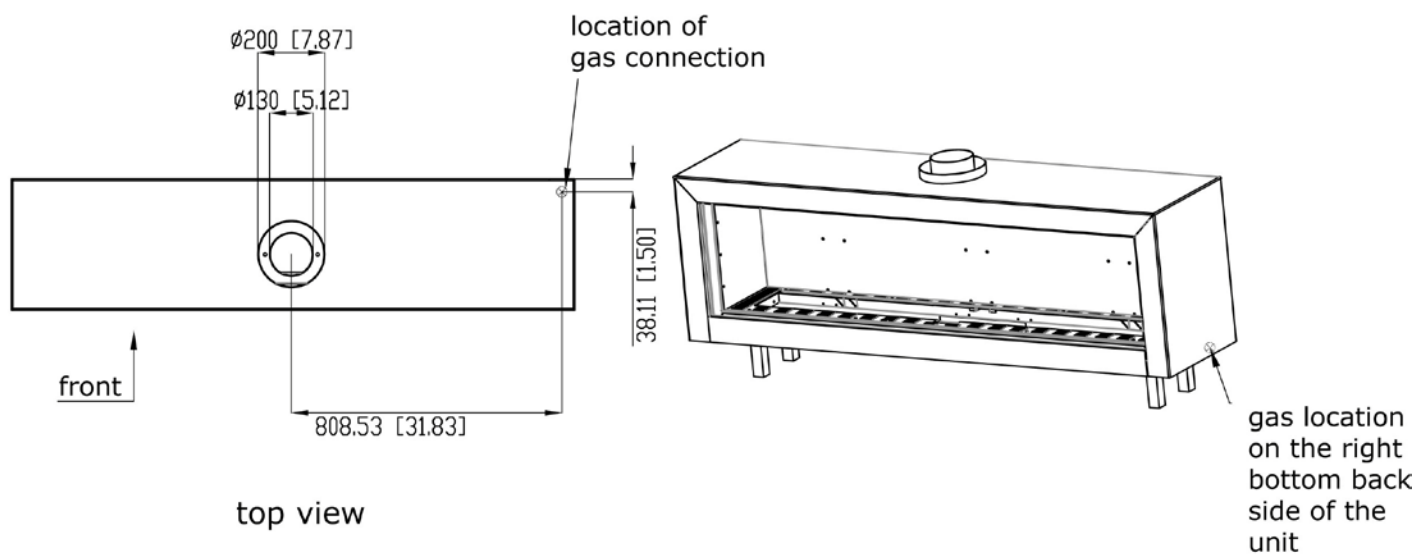
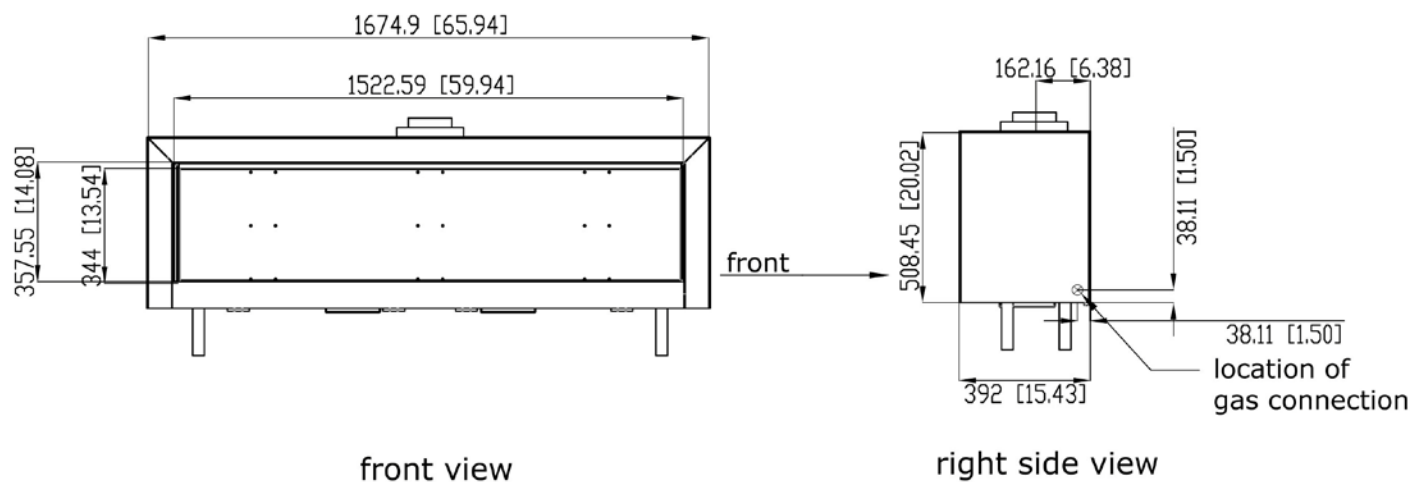
top view



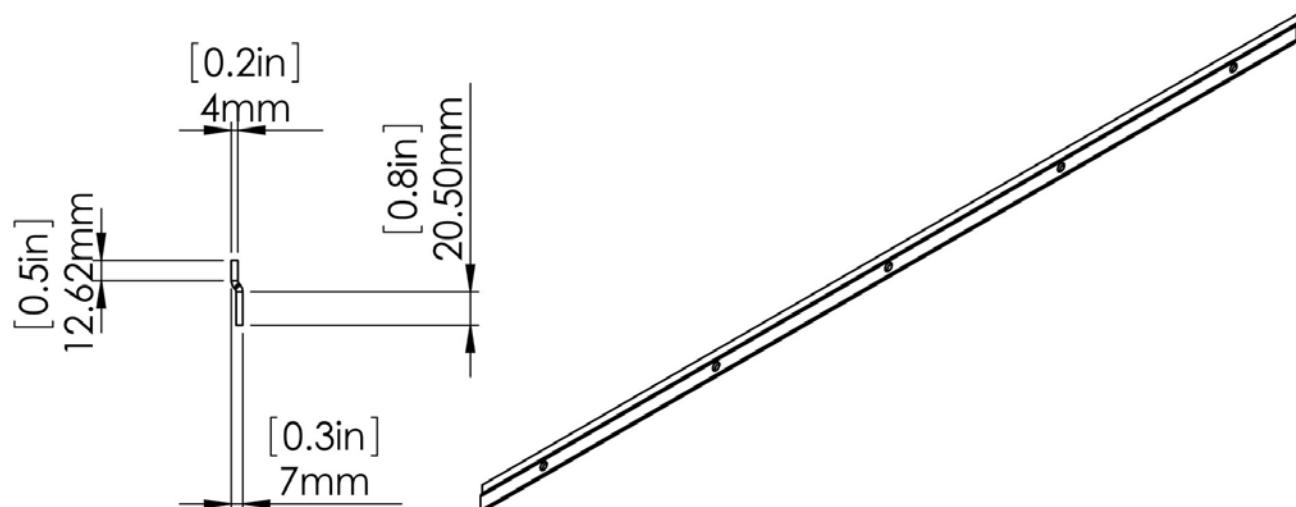
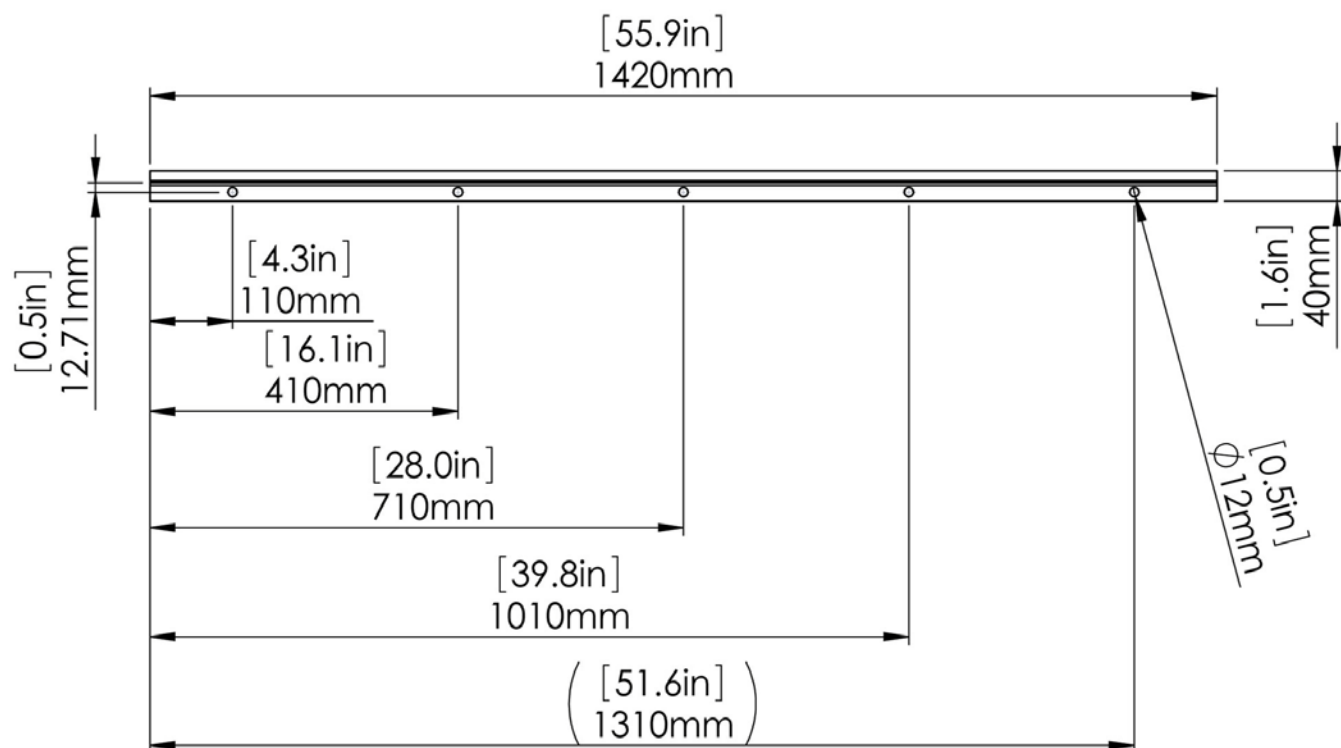
Stand Alone 110 bracket



Stand Alone 150



Stand Alone 150 bracket





Cool Wall Technology

Uniquely Engineered and Developed by Ortal

ORTAL helps maintain a cool wall for the design and finishes around your firebox.

ORTAL engineers have designed a technique to reduce the heat buildup from the firebox by allowing the heat to vent out in a safe way. Being one of the first in the industry to design and perfect this application, ORTAL's cool wall technology keeps the walls above your fireplace at a temperature low enough to avoid any damage that would otherwise arise from high temperatures. This opens up your design possibilities by making it safe to install TVs, artwork, and special finishes that would normally be prohibited.

	Competitors	ORTAL
Wall temperature (0-6" above the firebox)	280° - 380°	160° - 210°
Wall temperature (6"-12" above firebox)	240° - 320°	160° - ↓
Recommended minimum clearance between bottom edge of TV or other similar device and top of firebox opening is 12"		
Wall temperature (12" above the firebox)	180° - 300°	90°

To save some money, an architect followed his client's directive to change his specification from an ORTAL fireplace to a cheaper option. The client still wanted the design to include a TV above the fireplace, but the architect received the following instruction from this other fireplace manufacturer:

"20 inches above [the firebox], the temperatures [on the wall] can reach as high as 300 degrees F."

Without Cool Wall Technology, surrounding wall temperatures can range from 180 - 380 . At these high temperatures, the following conditions may occur:

1. Distortion of the wall surface
2. Paint on the finished wall will peel or change color
3. Tiles will fall off the wall and the glue will no longer hold above 240 .
4. Wood paneling will pucker, bend and/or splinter
5. Marble may begin to crack.
6. Electrical components will not be compliant

Basic information for max temp allowed for different materials used around the firebox opening

Material	Temperature where it becomes impacted by heat	Damage
Marble	280° (Estimate, there is a lot of variety. Ask your supplier.)	Marble will crack
Tile/Glue	240° (From a sampling of MSDS of a variety of products)	Tiles may fall off the wall as glue will no longer hold them
Paint	170° (From a sampling of MSDS of a variety of products)	Paint will peel or change colors
Wood	Depends on dryness/moisture content	Warps, bows, dries, cracks, burn/fire hazard

Q. How do most manufactures choose to address this concern of hot walls?

1. Avoiding it.

- a. Some think that if they ignore it, the customer will agree that it is not important.
 - i. ORTAL recognizes that modern design demands sophistication, efficiency and vision. Often fireplaces are part of the great room, where the family comes together to socializes, play games, watch TV and relax in front of the fire. The family gathers to do all of this in one room. Similarly a hotel or restaurant/bar may want to have the TV on during the day showing news and sports with the fireplace on in the evening for the guests to relax. This can all be accomplished in one luxurious setting.
- b. Avoiding it means the heat continues to build up within the walls. This is not a solution.
 - i. ORTAL's technology reduces the heat and gives dealers, architects, builders, designers and owners options.
- c. Avoiding it means that installers may likely waste time sending their installations crew back and forth from the job site to fix a problem that cannot actually be fixed because it is inherent to the product. The client complains about the walls being hot, but hot walls are apparent by design.
 - i. When the fireplace installation is compliant, an ORTAL fireplace is surrounded by cool walls the first time every time. The client isn't complaining and additional trips to address hot walls are not requested or required.



2. Adding a fan.

- a. Adding a fan can help distribute and move the heat from the walls. However, fireplaces are meant to provide a relaxing ambiance. 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.
 - i. ORTAL does NOT require the use of a fan to keep the walls cool.

ORTAL's Cold Wall Solutions

ORTAL's system allows for the wall to breathe releasing the excess heat from the chase to maintain a lower heat temperature from a high point of 210° to 90° and becoming lower and colder as you move up the finished wall of the fireplace.

Advantages of an ORTAL fireplace:

- Placing TV and other similar devices above the firebox without worry of the TV screen cracking or electrical components burning out.
- Hang artwork without fear of heat impact.
- Use finish materials such as tiles, Venetian plaster paint and regular paint (not high temp) without worry
- Use wood as a decorative finish material (see ORTAL's clearance requirements).
- **A safe wall temperature under 160° at 6" and above the firebox.**
- Save on installation costs. Once you install the fireplace correctly the first time, there is no need to return for an overheating problem.
- ORTAL provides a mounting detail for installation of the TV above the firebox.
- A fan is NOT required to remove heat from walls.

ORTAL provides you with options and solutions that allow you to maintain control and creativity for your fireplace design.

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 fast and free of charge.



Television and Fireplace Installation

If you wish to install a flat screen TV or similar electronic device or equipment above your Ortal USA fireplace, here are some things you should consider.

Most TV manufacturers have specified in their instructions that the TV should not be installed on, near or above a heat source. Ultimately, the TV location decision rests solely with the householder. Ortal USA will not be held liable for any adverse affects on a TV or other equipment located near to Ortal USA fireplaces.

The following drawings are suggestions that may be used as a guide for those consumers who do decide to locate their TVs above Ortal USA fireplaces. These drawings show ways to reduce the amount of heat impact to the TV when placed above Ortal USA fireplaces.

The material that the wall and mantle are made from will also affect the operating temperature of the TV so it is the customers' responsibility to satisfy themselves that their TV mounting and mantel design will not exceed the listed maximum operating temperature of their electronic goods.

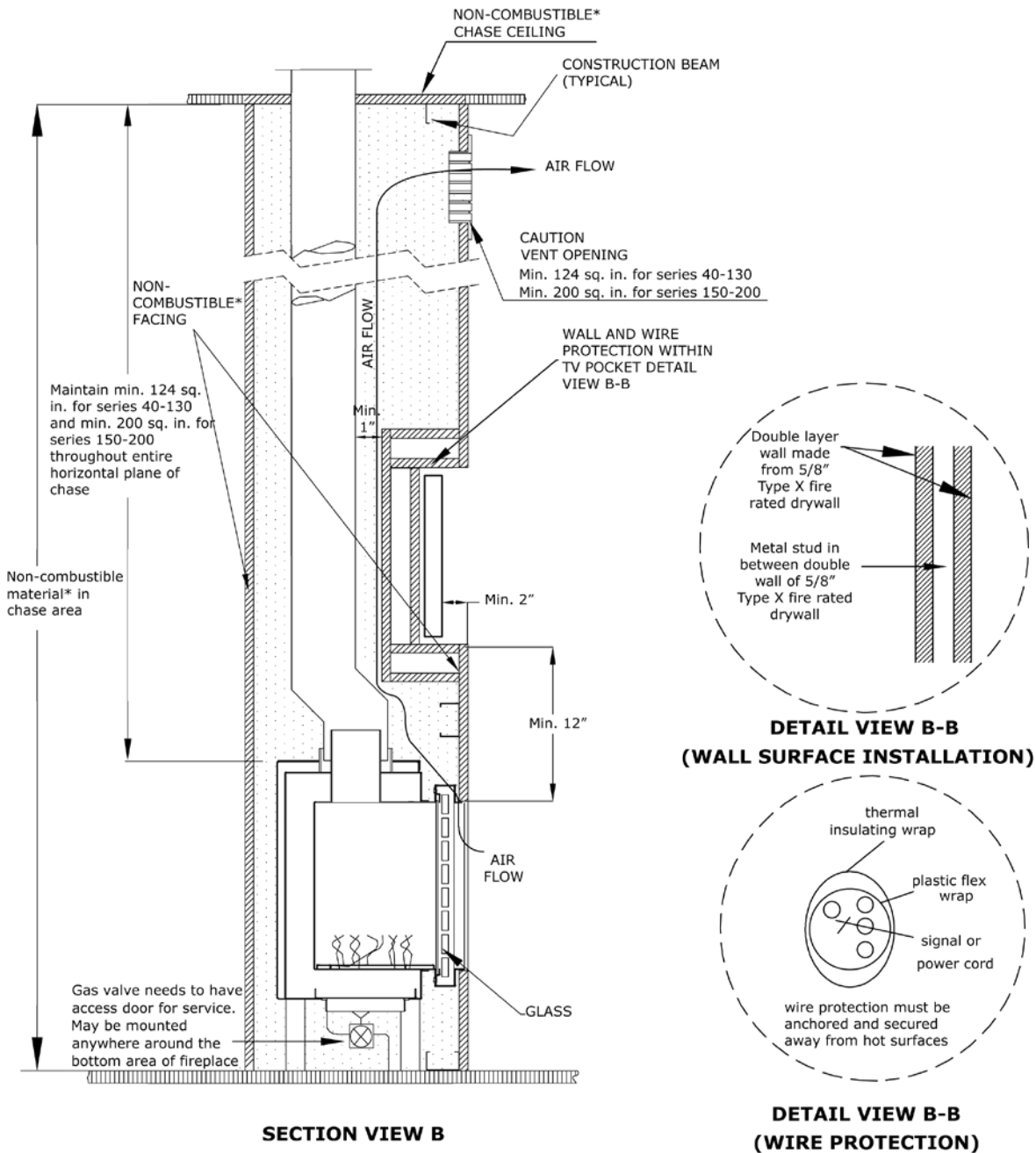
The homeowner should also be careful to consider the placement of the equipment's power and signal lines. If these lines are in or near the heat cavity, be sure the lines are protected from heat as those products and materials may require.

Please see diagrams for suggested TV installation on the following pages.

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CLEAR FRONT FLAT FIREPLACE T.V. inset (SECTION & DETAILS) CLEARANCES



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CAUTION: Air flow area, must be free from any obstruction in order to allow heat from the cavity to be released.

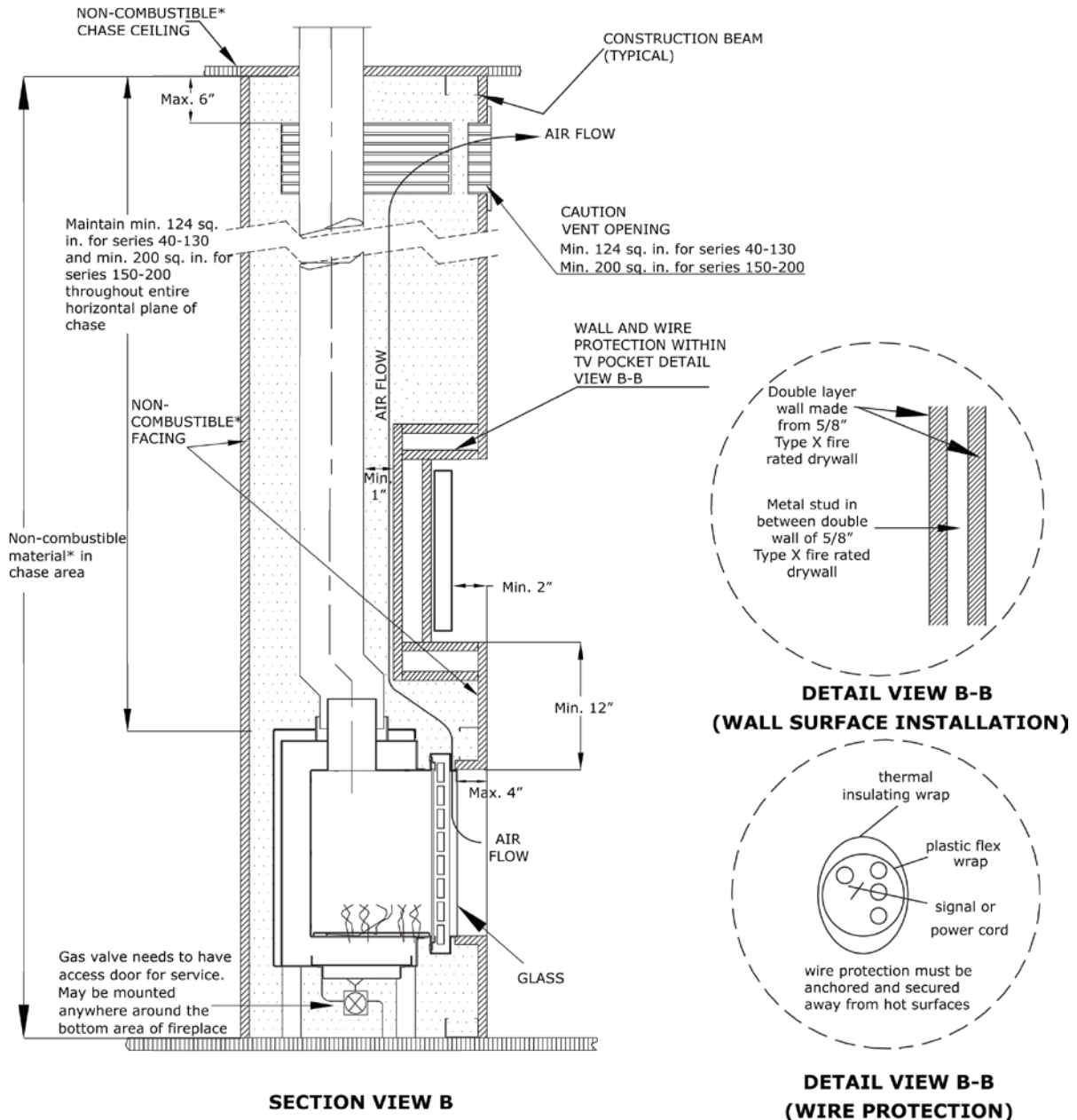
Non-combustible* Combustible Allowed Free from obstruction

Drawing not to scale

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CLEAR FRONT OFFSET FIREPLACE T.V. inset (SECTION & DETAILS) CLEARANCES



*Non-combustible materials: Materials applicable for the installation of ORTAL fireplaces within the specified clearance dimensions are described as non-combustible materials. However, exception is made only for fire rated 5/8" type X gypsum wallboard UL authorized or equal, a combustible material may be used and is recommended by the manufacturer.
CAUTION: Air flow area, must be free from any obstruction in order to allow heat from the cavity to be released.

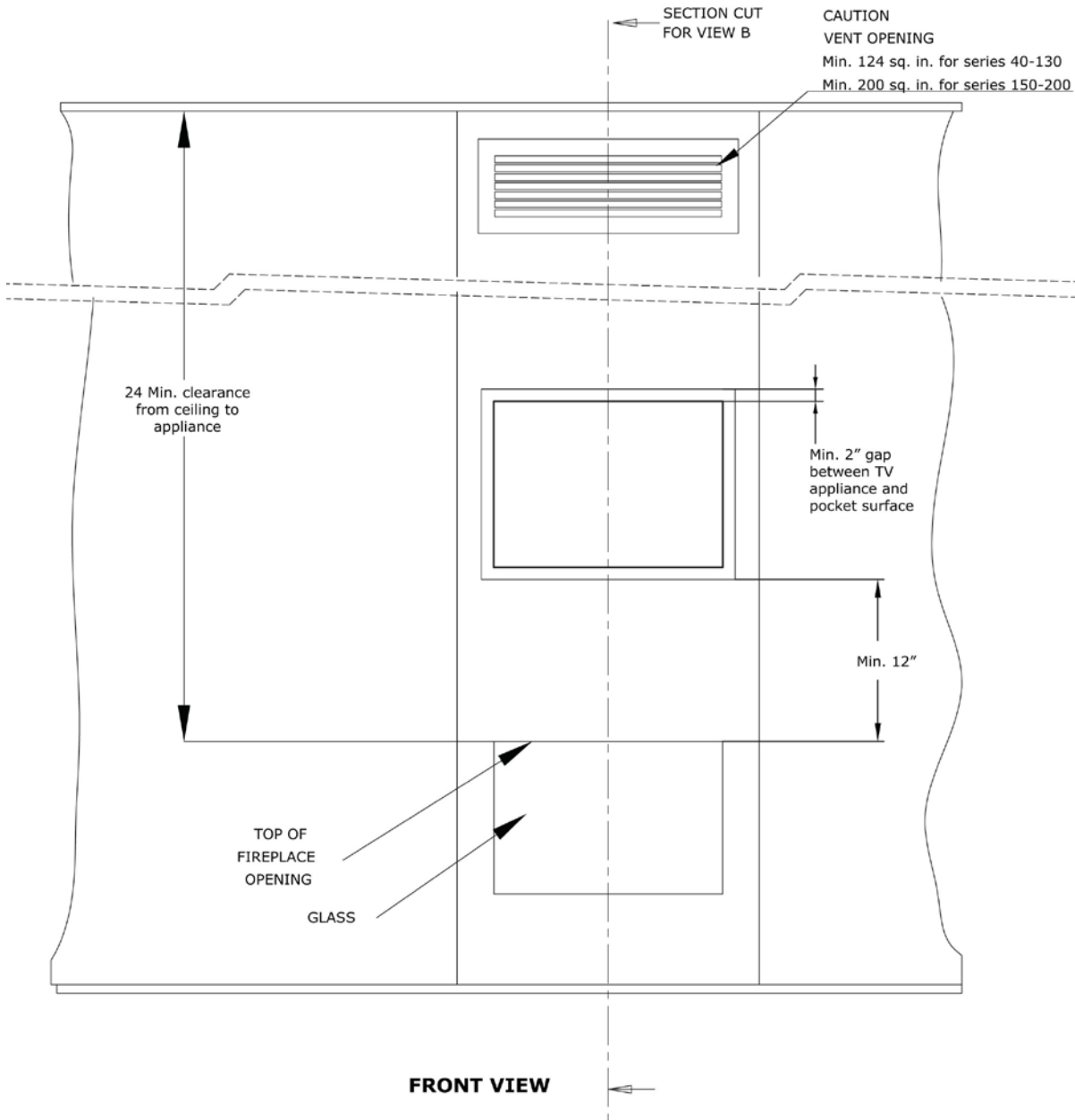
Non-combustible*
 Combustible Allowed
 Free from obstruction

Drawing not to scale

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CLEAR FRONT FLAT FIREPLACE **T.V. inset (FRONT) CLEARANCES**



*Non-combustible materials: Materials applicable for the installation of ORTAL fireplaces within the specified clearance dimensions are described as non-combustible materials. However, exception is made only for fire rated 5/8" type X gypsum wallboard UL authorized or equal, a combustible material may be used and is recommended by the manufacturer.
CAUTION: Air flow area, must be free from any obstruction in order to allow heat from the cavity to be released.

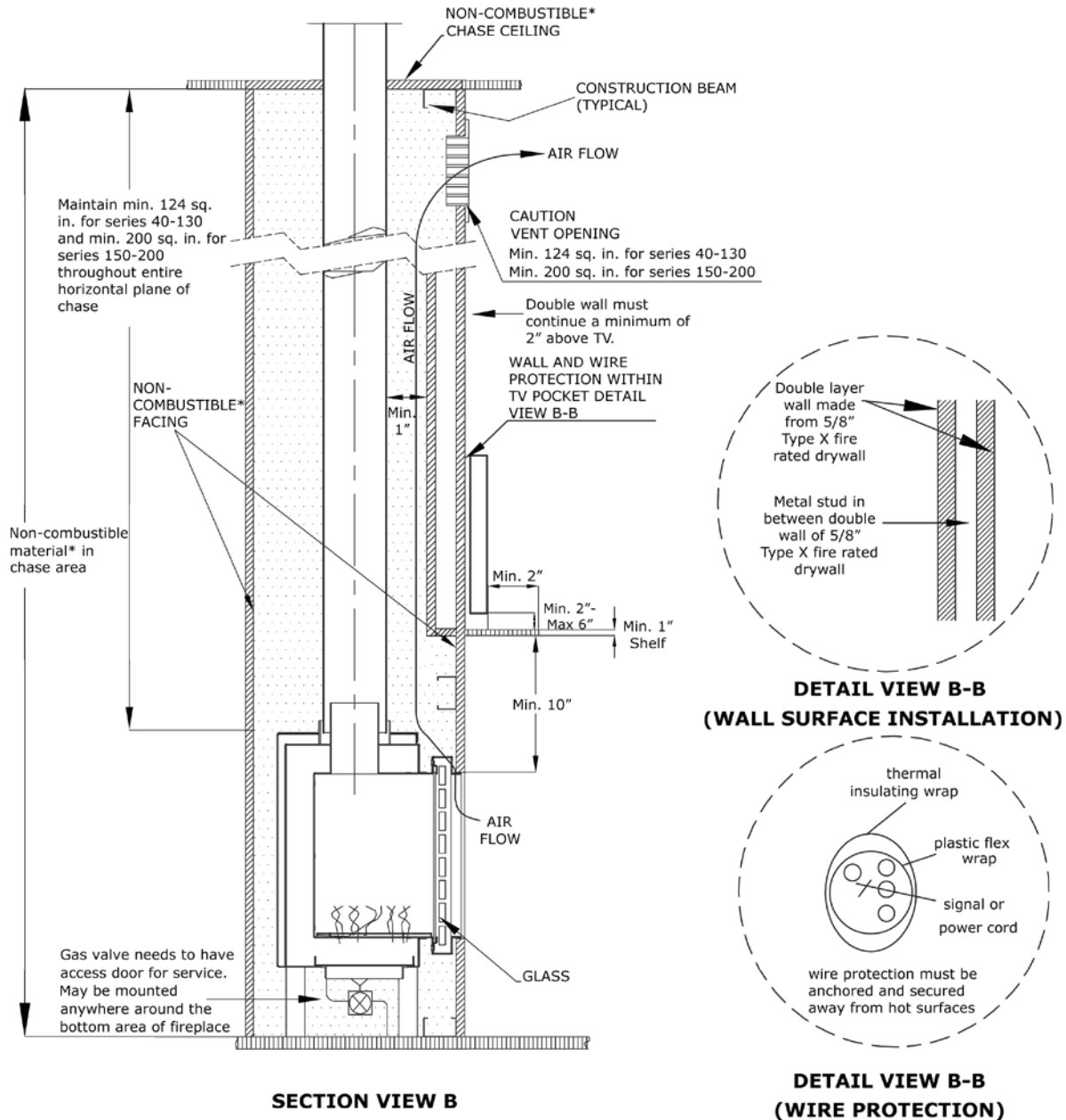
Non-combustible*
 Combustible Allowed
 Free from obstruction

Drawing not to scale

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CLEAR FRONT FLAT FIREPLACE T.V. with shelf (SECTION & DETAILS) CLEARANCES



*Non-combustible materials: Materials applicable for the installation of ORTAL fireplaces within the specified clearance dimensions are described as non-combustible materials. However, exception is made only for fire rated 5/8" type X gypsum wallboard UL authorized or equal, a combustible material may be used and is recommended by the manufacturer.
CAUTION: Air flow area, must be free from any obstruction in order to allow heat from the cavity to be released.

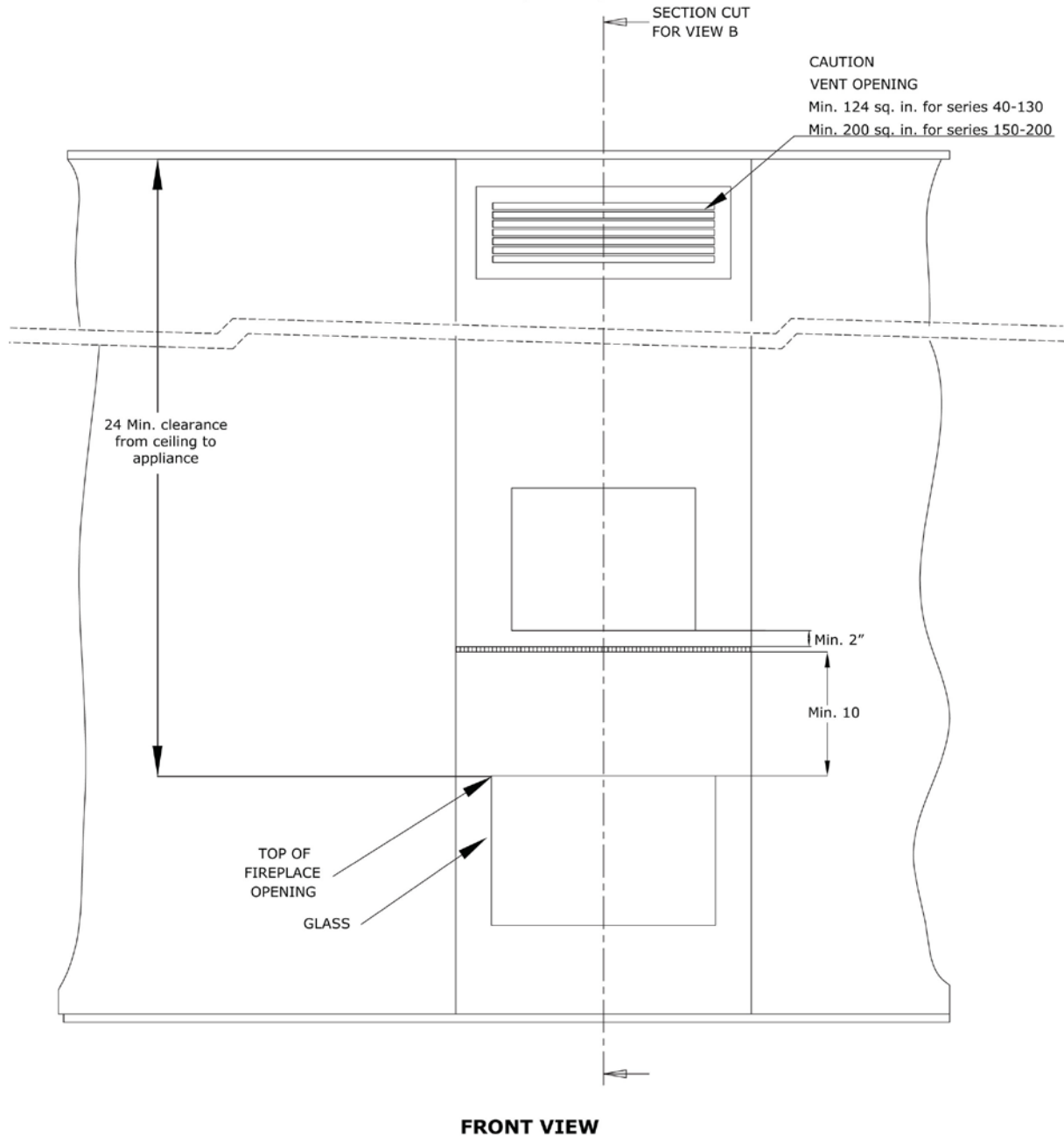
Non-combustible*
 Combustible Allowed
 Free from obstruction

Drawing not to scale

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CLEAR FRONT FLAT FIREPLACE **T.V. with shelf (FRONT) CLEARANCES**



*Non-combustible materials: Materials applicable for the installation of ORTAL fireplaces within the specified clearance dimensions are described as non-combustible materials. However, exception is made only for fire rated 5/8" type X gypsum wallboard UL authorized or equal, a combustible material may be used and is recommended by the manufacturer.
CAUTION: Air flow area, must be free from any obstruction in order to allow heat from the cavity to be released.

Non-combustible*
 Combustible Allowed
 Free from obstruction

Drawing not to scale



Ortal USA Fireplaces with Double Glass (DG)

Maintaining cool air flow between the glass panels and through the chase cavity.

In order to maintain air flow between the glass panels and to allow cool “outside” air (room air from outside the firebox) to enter into the chase cavity, an opening must be provided in the exterior finish surface underneath the firebox. Please refer to the attached sketch and the criteria below.

Please make sure this detail is included prior to closing the wall surface below the fireplace.

Air Opening Q & A:

Q. How much of an opening needs to be provided?

A. If the unit is in series 40-130, including Space Creator 75 and 120, the total opening surface area must be a minimum of 124 sq in. If the unit is in series 150-200, the total opening surface area must be a minimum of 200 sq in. There may be more than one opening, but the total area needs to achieve this amount. It is recommended to have more than one opening location for better air flow.

Q. If your fireplace is standing on a raised platform above the floor, where should the opening be placed?

A. The opening(s) can be above or below the platform, but must be below the bottom surface of the firebox (not including the legs). Sketch #1 shows the opening between the platform and the underside of the firebox. Sketch #2 shows the opening between the platform and the sub-floor in which case there must be an opening in the platform allowing air passage through the platform surface into the void below the firebox.

Q. Why are these openings required?

A. Ortal’s standard units bring outside air through the firebox top frame into the chase. The exterior double glass panel closes the access for air flow through this channel. Therefore, air flow needs to be maintained from the bottom of the firebox frame.

Q. Should this application be provided for standard units without double glass?

A. It is not required as air flow is maintained from passage around the glass panel to the firebox frame. However, it cannot hurt and is a benefit to have additional air circulation in the chase if this air access point is added below the firebox, as well.

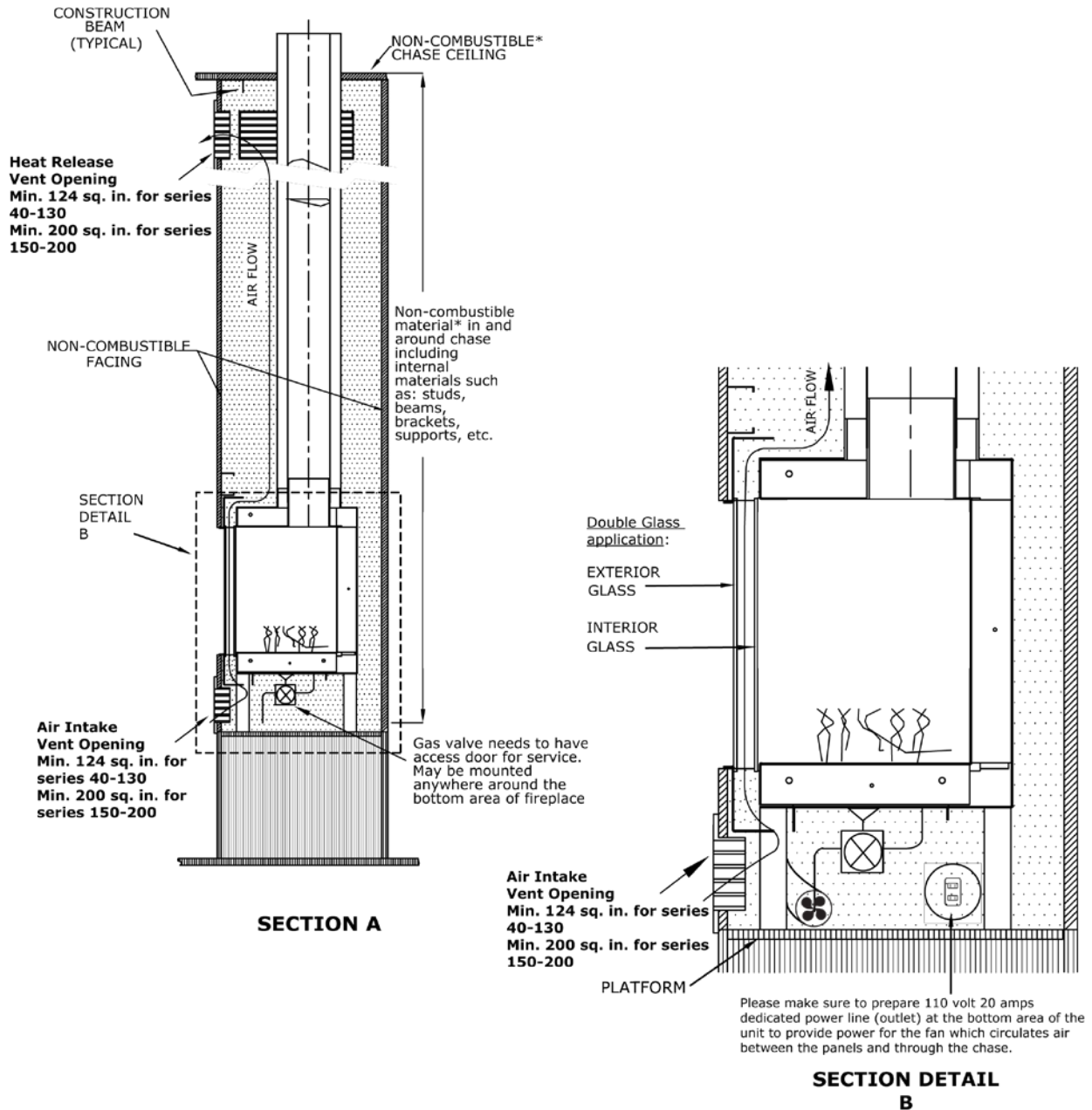
NOTE:

Power requirement: Please make sure to prepare 110 volt 20 amps dedicated power line (outlet) at the bottom area of the unit to provide power for the fan which circulates air between the panels and through the chase.

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DOUBLE GLASS - CHASE CAVITY AIR INTAKE **SKETCH 1**



*Non-combustible materials: Materials applicable for the installation of ORTAL fireplaces within the specified clearance dimensions are described as non-combustible materials. However, exception is made only for fire rated 5/8" type X gypsum wallboard UL authorized or equal, a combustible material may be used and is recommended by the manufacturer.

CAUTION: Air flow area, must be free from any obstruction in order to allow heat from the cavity to be released.

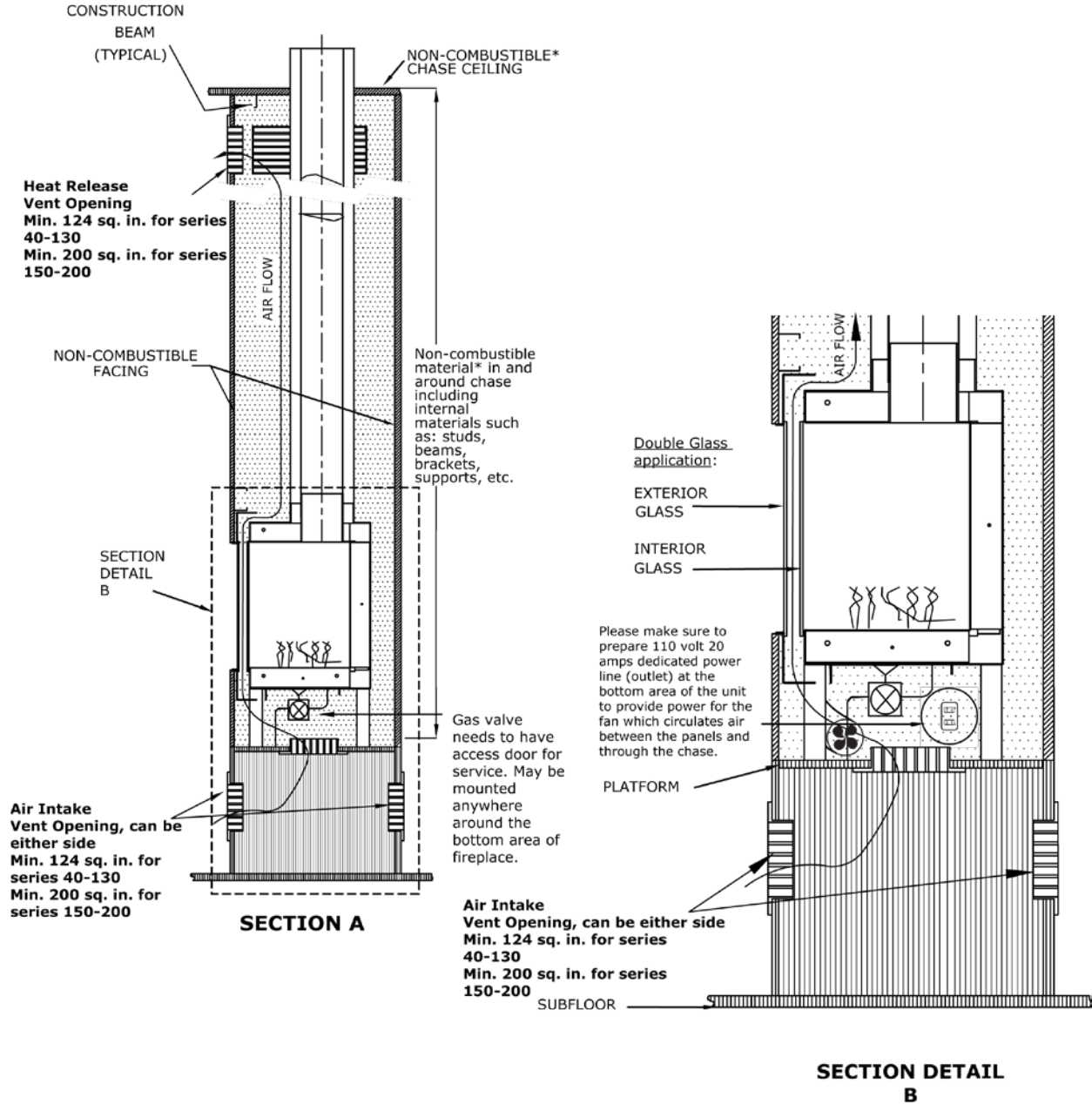
Non-combustible*
 Combustible Allowed
 Free from obstruction

Drawing not to scale

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DOUBLE GLASS - CHASE CAVITY AIR INTAKE **SKETCH 2**



*Non-combustible materials: Materials applicable for the installation of ORTAL fireplaces within the specified clearance dimensions are described as non-combustible materials. However, exception is made only for fire rated 5/8" type X gypsum wallboard UL authorized or equal, a combustible material may be used and is recommended by the manufacturer.
CAUTION: Air flow area, must be free from any obstruction in order to allow heat from the cavity to be released.

Non-combustible*
 Combustible Allowed
 Free from obstruction

Drawing not to scale

Sample detail for wall support

The drawing below is a recommended approach to this type of installation.

Our fireplace must not carry any structural weight and the framing must be supported by another surface, not the firebox.

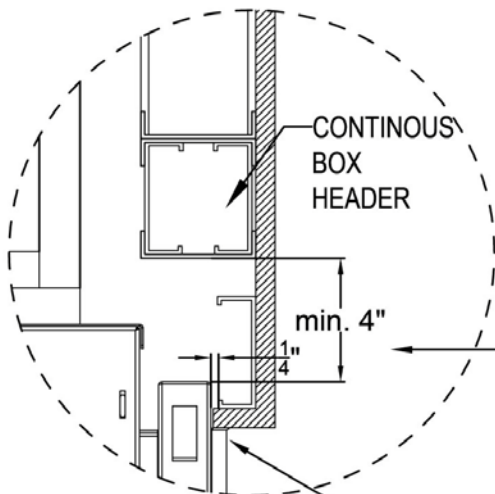
Please consult with your structural engineer and refer to your local building code for proper wall support.

SAMPLE CROSS BRACING
MTL. STUD BRACING TYP
@ 32" O.C. ATTACHED TO
STRUCTURE

TYP 16" O.C.

SAMPLE HEADER BEAM
CONTINUOUS BOX
HEADER

DETAIL A



MINIMUM CLEARANCE
FROM TOP OF FRONT
FACING FIREPLACE
FRAME

DETAIL A

Surrounding material to lay against the unit
is not allowed to transfer weight to the unit
or to be connected in any way to the unit.

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CONNECTION POINT FOR 3/4" ALL THREAD ROD TO HEADER

CONTINUOUS BOX HEADER SIDE VIEWS



CONNECTION POINT FOR 3/4" ALL THREAD ROD TO HEADER



CONTINUOUS BOX HEADER SIDE VIEW

CONNECTION POINT FOR 3/4" ALL THREAD ROD TO HEADER

CONNECTED FROM BACK WALL

3/4" ALL THREAD ROD USED FOR ADJUSTABLE BRACING. RECOMMENDED FOR EASY USE IN RAISING THE STRUCTURE HIGHER OR LOWER. MUST BE PLACED ON BOTH SIDES OF THE FIREPLACE UNIT



CONNECTION POINT FOR 3/4" ALL THREAD ROD TO HEADER



GAS & ELECTRICAL INFORMATION

ORTAL fireplaces are closed direct vent systems that can operate with natural gas (NG) or propane (LPG).

General Electrical Information

All ORTAL fireplaces require one dedicated minimum 110 Volt, 20 Amp, 60 Hz, 2 gang outlet to be installed in the access panel area adjacent to the gas valve.

Once installed, the appliance must be electrically grounded in accordance with local codes. If no local codes exist, follow the National Electrical Code for the US, ANSI/NFPA 70, or the Canadian Electrical Code, CSA C22.1.

Safety Warning: Ensure that all electricity is turned off/disconnected before working on electrical lines.

Routing of Gas Line

Correctly size and route the gas supply line from the supply regulator to the area where the appliance is to be installed as per requirements outlined in the latest edition of the National Fuel Gas Code, NFPA 54 (USA) or CAN/CSA-B1491 (Canada).

Never use galvanized or plastic pipe, unless specified specifically for use with gas. Refer to the table below for proper sizing of the supply gas line. Gas lines must be routed, constructed and made of materials that are in strict accordance with local codes and regulations. A qualified individual such as a plumber or gas fitter should be hired to correctly size and route the gas supply line to the appliance.

Installing a gas supply line from the fuel supply to the appliance involves numerous considerations of materials, protection, sizing, locations, controls, pressure sediment, and other criteria. Sizing and/or installing of gas piping should only be performed by a qualified individual.

Schedule 40 Black Iron Pipe		
Schedule 40 Pipe Length (feet)	Inside Diameter (Inches)	
	Natural Gas	Propane Gas
0-10	1/2	3/8
10-40	1/2	1/2
40-100	1/2	1/2
100-150	3/4	1/2
150-200	3/4	1/2

WARNING

Main gas valve must be installed to allow complete disconnect of the appliance from the gas supply piping system for servicing purposes.

Control Connections

Follow the instructions in note 2 of page 103.

Gas Pressures and Heat Input

		Inlet Pressures		Manifold Pressures		Heat Input	
Burner 30 Models	Gas	Max.	Min.	Max.	Min.	Max.	Min.
Clear 40 Clear 40 RS/LS/TS Clear 40 Tunnel Stand Alone 40 TS Clear 4070H Clear 4070H RS/LS/TS Clear 4070HTunnel Clear 4090 H Clear 4090 H/RS/LS/TS Clear 4090 H Tunnel Small Square Classic Corner Modern Corner	Natural Gas (NG)	7.0" WC	7.0" WC	3.2" WC	0.9" WC	23,700 BTU/hr	10,400 BTU/hr
		1.74 kPa	1.74 kPa	1.60 kPa	0.22 kPa	6.9 kW	3.0 kW
	Propane (LPG)	11.0" WC	11.0" WC	10.9" WC	4.4" WC	21,000 BTU/hr	12,800 BTU/hr
		2.73 kPa	2.73 kPa	2.71 kPa	1.29 kPa	3.7 kW	6.2 kW

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		Inlet Pressures		Manifold Pressures		Heat Input	
Burner 45 Models	Gas	Max.	Min.	Max.	Min.	Max.	Min.
Clear 60x80 Clear 60x80 Tunnel Clear 75 Clear 75 RS/LS/ TS Clear 7565 Clear 7565 Tunnel Clear 7565 Oval Clear 7565 Oval Tunnel Space Creator 75 Stand Alone 75 Stand Alone 75 TS Stand Alone 70 TS Hood Stand Alone Classic 70 Clear 6080 Clear 60x80 Tunnel Clear 80/RS/LS/TS Clear 80 Tunnel Clear 8070H/ RS/LS/TS Clear 75H/RS/LS/TS Island 75	Natural	7.0"	7.0"	4.7"	1.6"	29,100	16,147
		WC	WC	WC	WC	BTU/hr	BTU/hr
	Gas (NG)	1.74	1.74	1.17	0.40	8.5	4.7
		kPa	kPa	kPa	kPa	kW	kW
	Propane (LPG)	11.0"	11.0"	10.7"	4.5"	22,118	13,811
		WC	WC	WC	WC	BTU/hr	BTU/hr
	Propane (LPG)	2.73	2.73	2.71	1.12	6.5	4.0
		kPa	kPa	kPa	kPa	kW	kW

Clear 100x90	Natural	7.0"	7.0"	5"	2.1"	37,167	22,800
		WC	WC	WC	WC	BTU/hr	BTU/hr
	Gas (NG)	1.74	1.74	1.24	0.52	10.8	6.68
		kPa	kPa	kPa	kPa	kW	kW
	Propane (LPG)	11.0"	11.0" WC	10.8" WC	7.3" WC	28,541	22,900
		WC				BTU/hr	BTU/hr
	Propane (LPG)	2.73	2.73	2.69	1.81	8.36	6.72
		kPa	kPa	kPa	kPa	kW	kW

		Inlet Pressures		Manifold Pressures		Heat Input	
Burner 100 Models	Gas	Max.	Min.	Max.	Min.	Max.	Min.
Clear 110 Clear 110 RS/LS/TS Clear 110 Tunnel Stand Alone 110 Clear 110 H Clear 110 H Tunnel	Natural Gas (NG)	7.0" WC	7.0" WC	5" WC	2.1" WC	37,167 BTU/hr	22,800 BTU/hr
Clear 130 Clear 130 RS/LS/TS 130 Top Clear 130 Tunnel Island 130 Space Creator 120 Space Creator 120 Mini Space Creator 120 Midi		1.74 kPa	1.74 kPa	1.24 kPa	0.52 kPa	10.8 kW	6.68 kW
	Propane (LPG)	11.0" WC	11.0" WC	10.8" WC	7.3" WC	28,541 BTU/hr	22,900 BTU/hr
		2.73 kPa	2.73 kPa	2.69 kPa	1.81 kPa	8.36 kW	6.72 kW

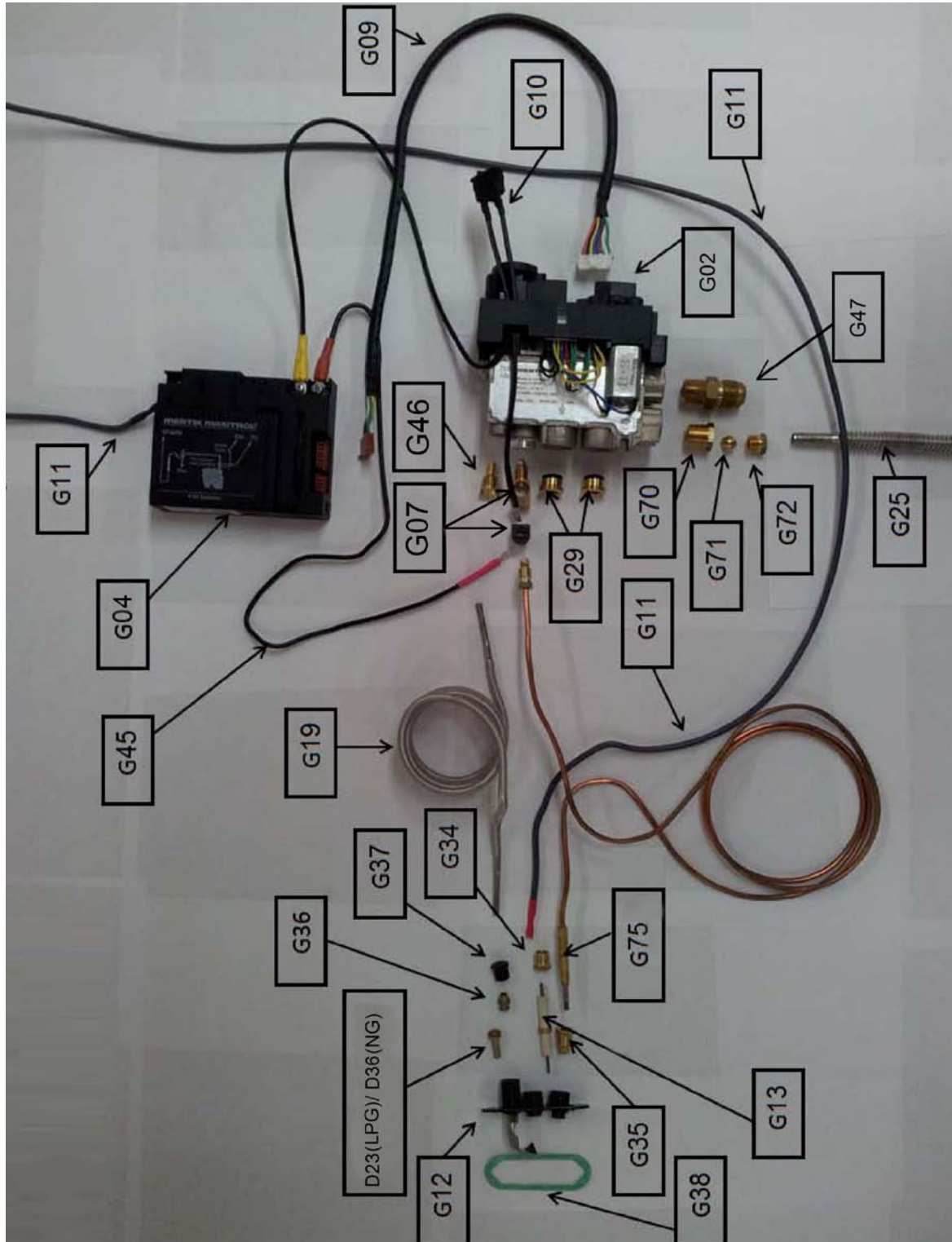
		Inlet Pressures		Manifold Pressures		Heat Input	
Burner 135 Models	Gas	Max.	Min.	Max.	Min.	Max.	Min.
Clear 150/H/ RS/LS/TS Clear 150 Tunnel Space Creator 150 Stand Alone 150 Clear 170 Clear 170 RS/LS/TS Clear 170 Tunnel	Natural Gas (NG)	7.0" WC	7.0" WC	3.5" WC	0.9" WC	43,715 BTU/hr	23,300 BTU/hr
		1.74 kPa	1.74 kPa	0.87 kPa	0.22 kPa	12.81 kW	6.83 kW
	Propane (LPG)	11.0" WC	11.0" WC	10.7" WC	5.8" WC	36,850 BTU/hr	27,100 BTU/hr
		2.73 kPa	2.73 kPa	2.66 kPa	1.44 kPa	10.8 kW	7.95 kW

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		Inlet Pressures		Manifold Pressures		Heat Input	
Burner 160 Models	Gas	Max.	Min.	Max.	Min.	Max.	Min.
Clear 200/H/RS/LS/TS Clear 200 Tunnel Space Creator 200 Clear20070H/RS/LS/ TS Clear 250 Clear 250 RS/LS/TS Clear 250 Tunnel	Natural Gas (NG)	7.0" WC	7.0" WC	4.5" WC	0.88" WC	51,277 BTU/hr	24,222 BTU/hr
		1.74 kPa	1.74 kPa	1.12 kPa	0.22 kPa	15.03 kW	7.09 kW
	Propane (LPG)	11.0" WC	11.0" WC	10.6" WC	6.5" WC	36,900 BTU/hr	26,400 BTU/hr
		2.73 kPa	2.73 kPa	2.64 kPa	1.62 kPa	10.8 kW	7.95 kW

Gas Control Assemblies



CAT. NR. ORTAL	DESCRIPTION	MFR'S TYPE NO.	MANUFACTURER OF CONTROL
D23	PROPANE PILOT ORIFICE	0977150	SIT LA PRECISA
D36	NATURAL GAS PILOT ORIFICE	0977091	SIT LA PRECISA
G02	MERTIK GAS VALVE	GV60M1-C5B3KL-0001	MERTIK MAXITROL
G04	MERTIK RECEIVER	G6R-R4AN	MERTIK MAXITROL
G07	THERMOCOUPLE BLOCK	G60-ZUS09	MERTIK MAXITROL
G09	8-WIRE CABLE 500MM	G6R-C5	MERTIK MAXITROL
G10	SWITH W.CABLES 180/500MM	G60-ZSKSF/500.	MERTIK MAXITROL
G11	SPARK WIRE	G60-ZKIS6-1500	MERTIK MAXITROL
G12	PILOT	145019	SIT LA PRECISA
G13	SPARK PLUG	0892142	SIT LA PRECISA
G75	THERMOCOUPLE	11040200021	SIT LA PRECISA
G19	PILOT GAS TUBE	4MM25-1500	DORMONT
G25	BURNER GAS TUBE	8MMNW-S0317-1500	DORMONT
G29	Pilot gas tube compression ring at valve site	G30-ZSR	MERTIK MAXITROL
G34	SPARK PLUG CONNECTOR	0974037	SIT LA PRECISA
G35	TC CONNECTOR	0974036	SIT LA PRECISA
G36	OLIVE D.4	0957019	SIT LA PRECISA
G37	NUT FOR OLIVE D.4	0958046	SIT LA PRECISA
G38	GASKET PILOT BURN	0948058	SIT LA PRECISA
G45	CABLE	G60-ZKIRF/500	MERTIK MAXITROL
G46	Pilot gas tube fitting at valve site		
G47	Fitting for main line inlet to gas valve GV60	MG-12	MERTIK MAXITROL
G70	G30-ZAH08	G30-ZAH08	MERTIK MAXITROL
G71	G30-ZRH08A	G30-ZRH08A	MERTIK MAXITROL
G72	G30-ZGH08A	G30-ZGH08A	MERTIK MAXITROL



Gas Control Components

All gas controls are certified

TYPE OF CONTROL	MANUFACTURER OF CONTROL	MFR'S TYPE NO.	SIZE OF CONTROL	
			NATURAL GAS	PROPANE GAS
COMBINATION CONTROLS	Mertik Maxitrol	GV60	3/8" x 3/8"	3/8" x 3/8"
PILOT BURNER	SIT	0145019	X	X
RECEIVER	Mertik Maxitrol	G6R-R3(4)N	X	X
PIEZO IGNITOR	SIT	0892142	X	X
INJECTOR PILOT LPG	SIT	0977150	X	X
INJECTOR PILOT NG	SIT	0977091	X	X
THERMOCOUPLE	SIT	0200021(11)	X	X
REMOTE HANDSET	Mertik Maxitrol	G6R-H3T(7)(16)	X	X

Gas Conversion

In order to change a fireplace from one gas source to the other, request a gas conversion kit. This can only be performed by technicians with a specific authorization to change these components. Actual change must be done by the authorized technician. Not all installers are authorized to provide gas conversion services.

Gas conversion steps:

1. Change the burner orifice
2. Change the pilot orifice
3. Adjust the venturi

Adjust the BTU in the valve. See Mertik Maxitrol note 2 on page 103 for direction.

Burner

All fireplaces can be equipped with burners/ semi burners/double burners. They can all be used with NG or LPG.

A standard burner is easily converted to a semi burner. The procedure is the same as replacing a standard burner with another burner. No special materials or tools are required.

Burner Inspection

Burner comes complete with all the necessary parts assembled, including: venturi, nozzle, pilot, thermocouple and spark plug. Parts are pre-set for the specific gas type (natural/propane) and no field adjustments are necessary.

During installation the burner and its accessories must be inspected for cleanliness and completeness. Do NOT disassemble the components.

Burner Maintenance

Remove the media and vacuum all debris from firebox, burner and grill area at least once a year (quarterly for commercial installations).

When operating the flame from the burner should be visually checked. It should appear blue and yellow and candle-like in appearance.

Single Orifice Burner Table

Burner Size/Orifices	NG	LPG	No. holes	Models
30	650	220	1 hole for NG, 7 holes for LPG	Series 40
45	650	220		Series 75
100	1200	260		Series 110 & 130
135	1400	380		Series 150 & 170
160	1400	380		Series 200
Pilot Orifice	36	23/26		
Venturi	Close- leave a space for 1-2 mm	Full opening		

Double Orifice/Semi Burner Table

Burner	Models	Injector NG	Injector LPG
Double orifice semi burner not available	Series 40	0	0
45	Series 75	380X2	160X2
100	Series 110 & 130	650X2	180X2
135	Series 150 & 170	Front 800 Rear 650	220X2
160	Series 200	Front 800 Rear 650	220X2

Pilot Maintenance

The pilot flame must be visually checked. Always be present when the fireplace is in operation.

The pilot flame has two distinct flames, one engulfing the thermocouple, and the other reaching the main burner. Both flames must be present.

The area around the injector should be inspected, and any lint or foreign material must be removed with a brush or vacuum.



Thermocouple Maintenance

The thermocouple completeness and operation must be checked.

Installer must confirm that the thermocouple is in place and not cracked or damaged.

INSTALL VENT SYSTEM

Refer to the guidelines below and see note 1 of page 103.

Fireplace Restrictors & Vent Arrangement

The following drawing and tables show the options allowed for both vertical and horizontal positioning of the vents and the required restrictor.

With this information it is possible to find the allowable horizontal or vertical path of the vent.

- Where the symbol “x” appears the path is not allowed.
- When the symbol is “0” there is no restriction
- When there is a number, the number represents the width required for the size of restrictor that has to be assembled. All these dimensions are shown in inches.

When using the restrictor tables:

- Each table has two sections:
 - Top: Metric scale, V/H shown in meters and restrictor in mm.
 - Bottom: V/H shown in feet and restrictor size in inches.
- Any venting pathway that does not appear in this table will require approval from the manufacturer.
- The tables apply to both Natural Gas and Propane.
- The tables represent the manufacturer’s guideline. Environment gas type (NG vs. LPG and the source of the gas) and other factors may affect the best restrictor choice.
 - If flame appears to be not typical, please contact ORTAL USA for alternate restrictor size recommendations.

Vertical Elbows

The example that follow reference the table for the burner 30/ Series 40 models on page 63 for scenarios A, B, C and D on page 62.

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

Example: Total height of duct work = 6 feet (V)
Length between the center of the two 45-degree elbow = (B) = 3ft.
The (H) calculation is (H) = (B) so the restrictor plate size is 1.97" per the table.

- B. If there are two 90-degree elbows in the vent system, an additional 6 feet must be added to the (H) calculation for the restrictor plate size.

Example: Total height of duct work = 18 feet (V)
Length between the center of two 90-degree elbows = (B) = 21 feet.
The (H) calculation to be used in the restrictor table is (H) = (B) + 6 feet, therefore (H) length is 27 feet.
Per the table the restrictor plate is 0. No restrictor is required.

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

Example: Total height of duct work = 15 feet (V)
Length between the center of 90-degree elbow and wall termination cap = (B) = 11ft.
The (H) calculation is (H) = (B) = 11, therefore restrictor plate size is 1.18" per the table.

"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.

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

Example: Total height of duct work = 24 feet (V)
The (H) calculation is = 0. Therefore, restrictor plate size is 1.97".

NOTE:

1. Only two 90-degree elbows are allowed per installation. More than two 90-degree elbows require manufacturer's approval.
2. Each 90 degree bend can be calculated as 2 x 45 degree bends.
 - For example, a given installation can have:
 - 2 x 45 degree bends and one 90, or
 - 4 x 45 degree bends and no 90

Schematic Drawing

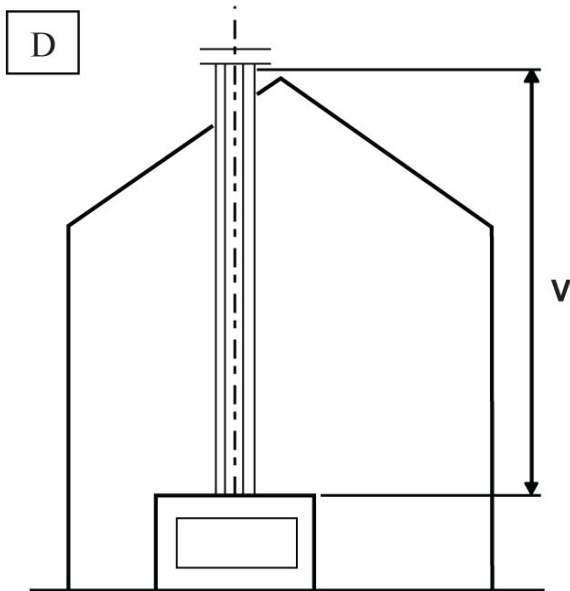
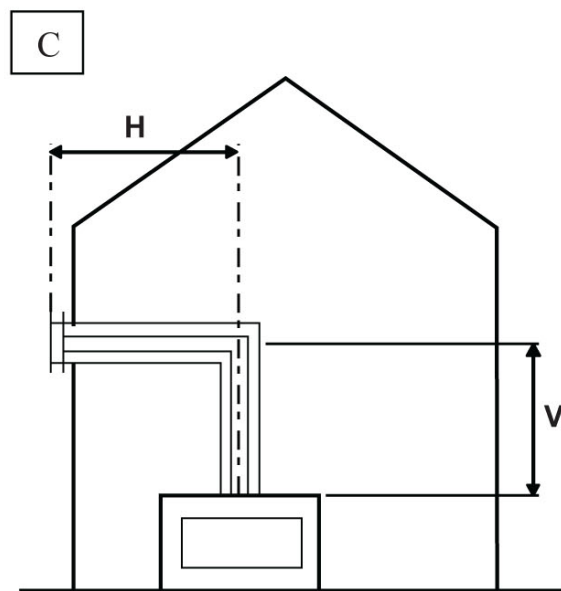
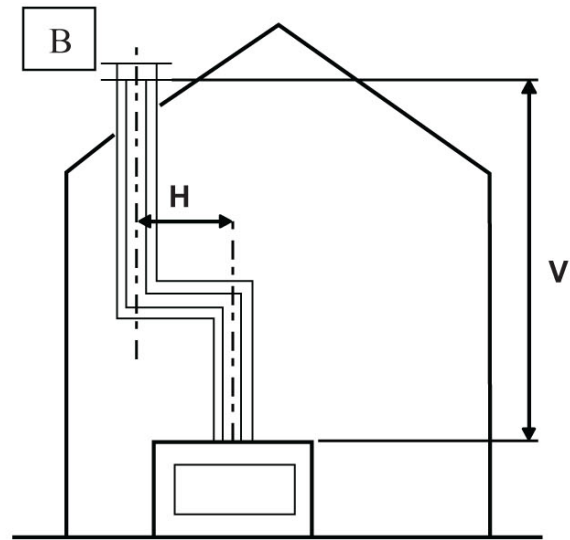
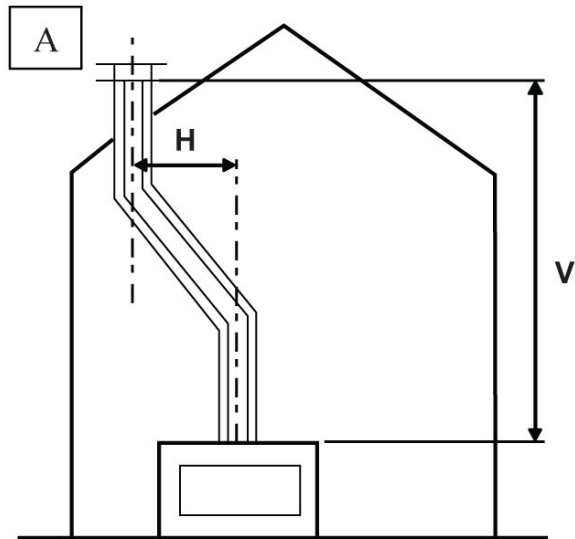




Table for Restrictor selection, Burner 30 Direct Vent 4x6"

Key: Symbol (x) is not allowed. (#) = restrictor width. R=0 means no restrictor is needed.

If the length (vertical or horizontal) is not in the table please consult with ORTAL before proceeding. Space Creator models do not require restrictors. For special venting systems please contact ORTAL USA for more information.

Burner 30 - Series 40

Metric scale, V (vertical) and H (horizontal) shown in meters and restrictor width size in mm

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

Burner 30 - Series 40

Imperial scale, V (vertical) and H (horizontal) shown in feet and restrictor width size in inches.

V	0	3	6	9	12	15	18	21	24	27	30	33	H
27	1.97	1.57	1.57	1.18	1.18	0	0	0	0	x	x	x	
24	1.97	1.57	1.57	1.18	1.18	1.18	0	0	0	0	x	x	
21	1.97	1.97	1.57	1.57	1.18	1.18	1.18	0	0	0	0	x	
18	1.97	1.97	1.57	1.57	1.18	1.18	1.18	1.18	0	0	0	0	
15	1.97	1.97	1.57	1.57	1.18	1.18	1.18	1.18	1.18	0	0	0	
12	1.97	1.97	1.57	1.57	1.57	1.18	1.18	1.18	1.18	0	0	0	
9	1.97	1.97	1.97	1.57	1.57	1.18	1.18	1.18	1.18	0	0	0	
6	1.97	1.97	1.97	1.57	1.57	1.18	1.18	1.18	1.18	0	0	0	
3	1.97	1.97	1.97	1.57	1.57	1.18	1.18	1.18	0	0	x	x	
1.5	x	x	x	x	x	x	x	x	x	x	x	x	

Use only the correct size vent, 4" inner and 6" outer diameter. The approved vent system components, by DuraVent, are labelled for identification. Do NOT use any other manufacturer's vent components with these appliances. Please follow DuraVent 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.

Note, Series 40-170:

- Minimum 3' vertical run required before any 90 degree bends.
- 45 degree offset is allowed for maximum 3'. This must be followed by 3' vertical run before offset, 90 degree bend or termination.



Table for Restrictor selection, Burner 45 Direct Vent 4x6"

Key: Symbol (x) is not allowed. (#) = restrictor width. R=0 means no restrictor is needed.

If the length (vertical or horizontal) is not in the table please consult with ORTAL before proceeding. Space Creator models do not require restrictors. For special venting systems please contact ORTAL USA for more information.

Burner 45 - Series 70

Metric scale, V (vertical) and H (horizontal) shown in meters and restrictor width size in mm

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

Burner 45 - Series 70

Imperial scale, V (vertical) and H (horizontal) shown in feet and restrictor width size in inches.

V	0	3	6	9	12	15	18	21	24	27	30	33	H
27	1.97	1.57	1.57	1.18	1.18	0	0	0	0	x	x	x	
24	1.97	1.57	1.57	1.18	1.18	1.18	0	0	0	0	x	x	
21	1.97	1.97	1.57	1.57	1.18	1.18	1.18	0	0	0	0	x	
18	1.97	1.97	1.57	1.57	1.18	1.18	1.18	1.18	0	0	0	0	
15	1.97	1.97	1.57	1.57	1.18	1.18	1.18	1.18	1.18	0	0	0	
12	1.97	1.97	1.57	1.57	1.57	1.18	1.18	1.18	1.18	0	0	0	
9	1.97	1.97	1.97	1.57	1.57	1.18	1.18	1.18	1.18	0	0	0	
6	1.97	1.97	1.97	1.57	1.57	1.18	1.18	1.18	1.18	0	0	0	
3	1.97	1.97	1.97	1.57	1.57	1.18	1.18	1.18	0	0	x	x	
1.5	x	x	x	x	x	x	x	x	x	x	x	x	

Use only the correct size vent, 4" inner and 6" outer diameter. The approved vent system components, by DuraVent, are labelled for identification. Do NOT use any other manufacturer's vent components with these appliances.

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.

Note, Series 40-170:

- Minimum 3' vertical run required before any 90 degree bends.
- 45 degree offset is allowed for maximum 3'. This must be followed by 3' vertical run before offset, 90 degree bend or termination.



Table for Restrictor selection, Burner 100 Direct Vent 5x8"

Key: Symbol (x) is not allowed. (#) = restrictor width. R=0 means no restrictor is needed.

If the length (vertical or horizontal) is not in the table please consult with ORTAL before proceeding. Space Creator models do not require restrictors. For special venting systems please contact ORTAL USA for more information.

Burner 100 - Series 110/120/130

Metric scale, V (vertical) and H (horizontal) shown in meters and restrictor width size in mm

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

Burner 100 - Series 110/120/130

Imperial scale, V (vertical) and H (horizontal) shown in feet and restrictor width size in inches.

V	0	3	6	9	12	15	18	21	24	27	30	33	H
27	1.97	1.57	1.57	1.18	1.18	0	0	x	x	x	x	x	
24	1.97	1.57	1.57	1.18	1.18	0	0	0	x	x	x	x	
21	1.97	1.97	1.57	1.57	1.18	1.18	0	0	0	x	x	x	
18	1.97	1.97	1.97	1.57	1.57	1.18	1.18	0	0	0	x	x	
15	1.97	1.97	1.97	1.57	1.57	1.18	1.18	1.18	0	0	0	x	
12	1.97	1.97	1.97	1.57	1.57	1.18	1.18	1.18	0	0	0	x	
9	1.97	1.97	1.97	1.57	1.57	1.57	1.18	1.18	0	0	0	x	
6	1.97	1.97	1.97	1.57	1.57	1.18	1.18	1.18	0	0	x	x	
3	1.97	1.97	1.97	1.57	1.18	0	0	0	0	x	x	x	
1.5	x	x	x	x	x	x	x	x	x	x	x	x	

Use only the correct size vent, 5" inner and 8" outer diameter. The approved vent system components, by DuraVent, are labelled for identification. Do NOT use any other manufacturer's vent components with these appliances. Please follow DuraVent 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.

Note, Series 40-170:

- Minimum 3' vertical run required before any 90 degree bends.
- 45 degree offset is allowed for maximum 3'. This must be followed by 3' vertical run before offset, 90 degree bend or termination.



Table for Restrictor selection, Burner 135 Direct Vent 5x8"

Key: Symbol (x) is not allowed. (#) = restrictor width. R=0 means no restrictor is needed.

If the length (vertical or horizontal) is not in the table please consult with ORTAL before proceeding. Space Creator models do not require restrictors. For special venting systems please contact ORTAL USA for more information.

Burner 135 - Series 150/170

Metric scale, V (vertical) and H (horizontal) shown in meters and restrictor width size in mm

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

Burner 135 - Series 150/170

Imperial scale, V (vertical) and H (horizontal) shown in feet and restrictor width size in inches.

V	0	3	6	9	12	15	18	21	24	27	30	33	H
27	1.97	1.57	1.57	1.18	1.18	1.18	0	0	x	x	x	x	
24	1.97	1.57	1.57	1.18	1.18	1.18	0	0	0	x	x	x	
21	1.97	1.57	1.57	1.18	1.18	1.18	1.18	0	0	0	x	x	
18	1.97	1.57	1.57	1.57	1.18	1.18	1.18	0	0	0	0	x	
15	2.76	1.97	1.57	1.57	1.57	1.18	1.18	0	0	0	0	0	
12	2.76	1.97	1.57	1.57	1.18	1.18	1.18	0	0	0	0	0	
9	2.76	1.97	1.57	1.57	1.18	1.18	1.18	0	0	0	0	0	
6	2.76	1.97	1.97	1.57	1.18	1.18	1.18	0	0	0	0	x	
3	1.97	1.97	1.97	1.57	1.18	1.18	1.18	0	0	x	x	x	
1.5	x	x	x	x	x	x	x	x	x	x	x	x	

Use only the correct size vent, 5" inner and 8" outer diameter. The approved vent system components, by DuraVent, are labelled for identification. Do NOT use any other manufacturer's vent components with these appliances. Please follow DuraVent 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.

Note, Series 40-170:

- Minimum 3' vertical run required before any 90 degree bends.
- 45 degree offset is allowed for maximum 3'. This must be followed by 3' vertical run before offset, 90 degree bend or termination.



Table for Restrictor selection, Burner 160 Direct Vent 5x8"

Key: Symbol (x) is not allowed. (#) = restrictor width. R=0 means no restrictor is needed.

If the length (vertical or horizontal) is not in the table please consult with ORTAL before proceeding. Space Creator models do not require restrictors. For special venting systems please contact ORTAL USA for more information.

Burner 160 - Series 200

Metric scale, V (vertical) and H (horizontal) shown in meters and restrictor width size in mm

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

Burner 160 - Series 200

Imperial scale, V (vertical) and H (horizontal) shown in feet and restrictor width size in inches.

V	0	3	6	9	12	15	18	21	24	27	30	33	H
27	1.97	1.57	1.57	1.18	1.18	0	0	0	x	x	x	x	
24	1.97	1.57	1.57	1.18	1.18	0	0	0	x	x	x	x	
21	1.97	1.97	1.57	1.18	1.18	0	0	0	x	x	x	x	
18	1.97	1.97	1.57	1.18	1.18	0	0	0	x	x	x	x	
15	1.97	1.97	1.57	1.18	1.18	0	0	0	x	x	x	x	
12	1.97	1.97	1.57	1.18	1.18	0	0	0	x	x	x	x	
9	1.97	1.97	1.57	1.18	1.18	0	0	0	x	x	x	x	
6	1.97	1.57	1.57	1.18	0	0	0	x	x	x	x	x	
3	x	x	x	x	x	x	x	x	x	x	x	x	
1.5	x	x	x	x	x	x	x	x	x	x	x	x	

Use only the correct size vent, 5" inner and 8" outer diameter. The approved vent system components, by DuraVent, are labelled for identification. Do NOT use any other manufacturer's vent components with these appliances. Please follow DuraVent 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.

Note, Series 200:

- Minimum vertical run
 - NG: Minimum 5' vertical run required before any 90 degree bends.
 - LPG: Minimum 6' vertical run required before any 90 degree bends.
- 45 degree offset is allowed for maximum 3'. This must be followed by 4 or 6' (see previous note) vertical run before offset, 90 degree bend or termination.



Vent Installation

When installing the vent pathway, be sure that the vent pipe is supported by the structural surrounding and not the firebox.

Secure the vent connection to the fireplace and every connection between pipe sections and joints with a minimum of 3 self tapping screws at each connection point. Each elbow should be strapped to reduce movement or possible disconnection.

Vent Clearances

Vertical:

- Maintain 1" clearance to combustibles on entire circumference.

Horizontal:

- Maintain 1" clearance to combustibles on bottom
- Maintain 3" clearance to combustibles on top
- Maintain ¼" rise per foot

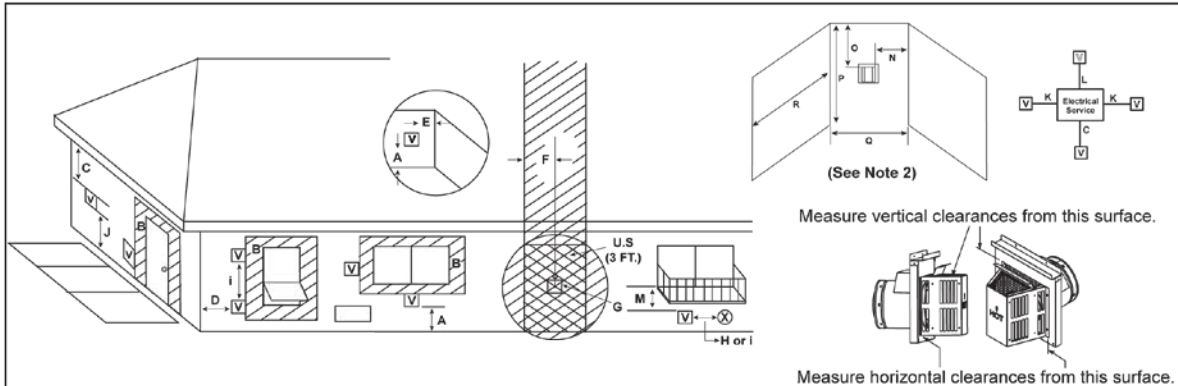
Vent Maintenance

Regular inspection of the venting system is recommended every 6 months.

Inspection performed by a qualified service technician is recommended as follows:

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

Vent Termination – Horizontal



V = VENT TERMINAL **X** = AIR SUPPLY INLET **///** = AREA WHERE TERMINAL IS NOT PERMITTED

- A = 12 inches.....clearances above grade, veranda, porch, deck or balcony
(See Note 1)
- B = 12 inches.....clearances to window or door that may be opened, or to permanently closed window. (Glass)
- C = 24 inches.....vertical clearance to unventilated soffit or to ventilated soffit located above the terminal
42 inches.....for vinyl clad soffits and below electrical service
- D = 9 inches.....clearance to outside corner
- E = 6 inches.....clearance to inside corner
- F = 3 ft. (Canada).....not to be installed above a gas meter/regulator assembly within 3 feet (90 cm) horizontally from the center-line of the regulator
- G = 3 ft.....clearance to gas service regulator vent outlet
- H = 9 inches (U.S.A.)
12 inches (Canada).....clearance to non-mechanical air supply inlet to building or the combustion air inlet to any other appliance
(See Note 2)
- i = 3 ft. (U.S.A.)
6 ft. (Canada).....clearance to a mechanical (powered) air supply inlet
(See Note 2)

- J** = 7 ft.....clearance above paved sidewalk or a paved driveway located on **public** property
(See Note 1)
- K = 6 inches.....clearance from sides of electrical service
(See Note 5)
- L = 12 inches.....clearance above electrical service
(See Note 5)

Covered Alcove Applications

- M*** = 18 inches.....clearance under veranda, porch, deck, balcony or overhang
42 inches.....vinyl
- N = 6 inches.....non-vinyl sidewalls
12 inches.....vinyl sidewalls
- O = 18 inches.....non-vinyl soffit and overhang
42 inches.....vinyl soffit and overhang
- P = 8 ft.

	Q _{MIN}	R _{MAX}
1 cap	3 feet	2 x Q _{ACTUAL}
2 caps	6 feet	1 x Q _{ACTUAL}
3 caps	9 feet	2/3 x Q _{ACTUAL}
4 caps	12 feet	1/2 x Q _{ACTUAL}

Q_{MIN} = # termination caps x 3 R_{MAX} = (2 / # termination caps) x Q_{ACTUAL}

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

*** only permitted if veranda, porch, deck or balcony is fully open on a minimum of 2 sides beneath the floor, or meets Note 2.

Note 1: On private property where termination is less than 7 feet above a sidewalk, driveway, deck, porch, veranda or balcony, use of a listed cap shield is suggested. (See vents components page)

Note 2: Termination in a covered alcove space (spaces open only on one side and with an overhang) are permitted with the dimensions specified for vinyl or non vinyl siding and soffits. 1. There must be 3 feet minimum between termination caps. 2. All mechanical air intakes within 10 feet of a termination cap must be a minimum of 3 feet below the termination cap. 3. All gravity air intakes within 3 feet of a termination cap must be a minimum of 1 foot below the termination cap.

Note 3: Local codes or regulations may require different clearances.

Note 4: Termination caps may be hot. Consider their proximity to doors or other traffic areas.

Note 5: Location of the vent termination must not interfere with access to the electrical service.

In the U.S and Canada: Vent system termination is **NOT** permitted in screened porches.

Vent system termination is permitted in porch areas with two or more sides open. You must follow all side walls, overhang and ground clearances as stated in the instructions.

For vertical terminations:

1. Keep minimum of 2 feet between vent terminations.
2. Maintain a minimum of 2 feet clearance between edge of vertical termination and perpendicular wall.
3. If terminating near window, keep minimum of 2 feet clearance between window and vent termination.

CAUTION: IF EXTERIOR WALLS ARE FINISHED WITH VINYL SIDING, IT IS SUGGESTED THAT A VINYL PROTECTOR KIT BE INSTALLED.

Vent Termination – Vertical

⚠ WARNING

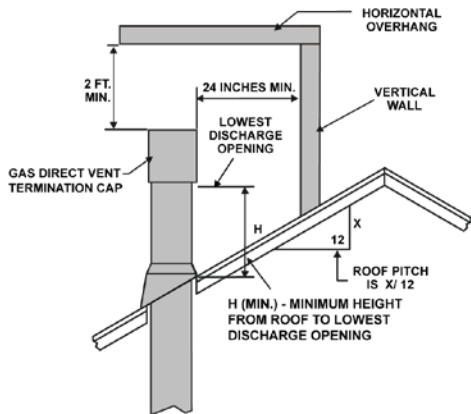


Fire Risk.
Maintain vent clearance to combustibles as specified.

- **DO NOT** pack air space with insulation or other materials.

Failure to keep insulation or other materials away from vent pipe may cause overheating and fire.

Minimum Height From Roof To Lowest Discharge Opening

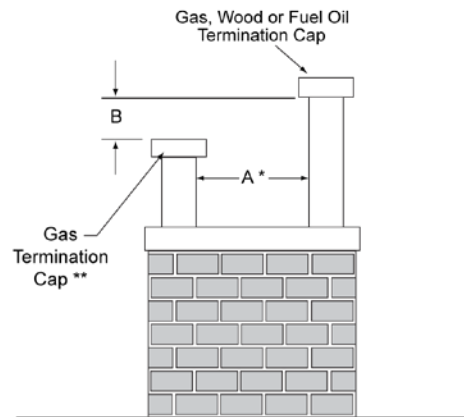


Roof Pitch	H (Min.) Ft.
Flat to 6/12.....	1.0*
Over 6/12 to 7/12.....	1.25*
Over 7/12 to 8/12.....	1.5*
Over 8/12 to 9/12.....	2.0*
Over 9/12 to 10/12.....	2.5*
Over 10/12 to 11/12.....	3.25
Over 11/12 to 12/12.....	4.0
Over 12/12 to 14/12.....	5.0
Over 14/12 to 16/12.....	6.0
Over 16/12 to 18/12.....	7.0
Over 18/12 to 20/12.....	7.5
Over 20/12 to 21/12.....	8.0

* 3 foot minimum in snow regions

Staggered Termination Caps

A	B
6 in. (minimum) up to 24 in.	18 in. minimum
24 in. and over	0 in. minimum



* If using decorative cap cover(s), this distance may need to be increased. Refer to the installation instructions supplied with the decorative cap cover.

** In a staggered installation with both gas and wood or fuel oil terminations, the wood or fuel oil termination cap must be higher than the gas termination cap.

Notes:

1. Maintain a minimum of 2 feet clearance between edge of vertical termination and perpendicular wall.
2. If terminating near window, keep minimum of 2 feet clearance between window and vent termination.
3. All mechanical air intakes within 10 feet of a termination cap must be a minimum of 3 feet below the termination cap.
4. All gravity air intakes within 3 feet of a termination cap must be a minimum of 1 foot below the termination cap.



FIREPLACE INSTALLATION INSTRUCTIONS

Installation Checklist

1. Identify appliance installation location (based on the following):
2. Room location
3. Clearances to combustibles
4. Venting requirements
5. Mantle clearances
6. Framing and finishing requirements (surrounding framing and materials to be completed after fireplace installation)
7. Put unit in place
8. Install vent
9. Make gas connections
10. Make electrical control connections to receptacle supplied with unit
11. Install standard and optional features
 - a. Remove glass (see instructions for handling glass on page 79)
 - b. Place, lay-in interior design media (see page 84)
 - c. Re-install glass, including sealant where there are glass to glass connections
12. Test
 - a. Gas Pressure
 - b. Pilot
 - c. Burner
13. Complete framing and cover wall
 - a. Vent openings/louvers for air circulation
 - i. Above and below firebox
 - b. Access doors for service
 - i. Place spare label on interior side of access door
14. Perform Burning Period (see instructions on page 85)
15. Final check
16. Before releasing unit to customer for use without installer supervision, the installer must:
 - a. Ensure that the appliance is burning correctly
 - b. Review and explain unit operation to customer
 - c. Review and explain safety warnings to customer
 - d. Review and explain to customer that glass is hot during and after operation
 - e. Review and explain maintenance requirements to customer
 - f. Review and explain warranty requirements to customer

Locating Your Gas Fireplace

When selecting a location for your fireplace

- Ensure that the minimum clearances to combustible materials are met as outlined in the next section.
- Provide adequate clearances for servicing.
- Minimum vent vertical and allowed horizontal lengths and number of bends must be considered during the location selection for your fireplace.

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

Glass Panels

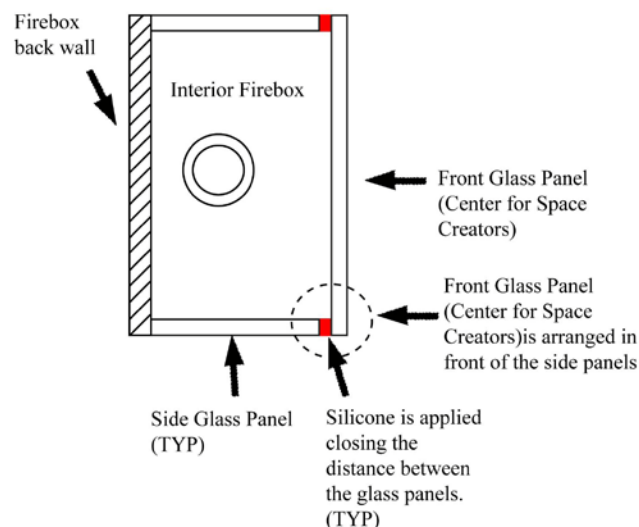
5mm ceramic glass front and side panels.

Contact Ortal USA for replacement parts if required.

Silicon

1. Silicon comes pre-applied to any glass to glass connections (LS, RS, TS and SC models), on both sides of the glass. If silicon is damaged, only then re-apply.
2. The purpose of the silicon is to create a seal. Be sure when placing glass panels that glass is fully in place and the silicon is closing the space between the glass panels. Place the front (or center) panel in place first and then slide the side panel into place such that the silicon edge closes with the glass edge.
3. See note 3 on page 103 for information on silicon and/or contact ORTAL USA if silicon is needed.
4. If new silicon is applied, cure time is 24 hours before operation of fireplace.

Glass Seal Assembly Diagram

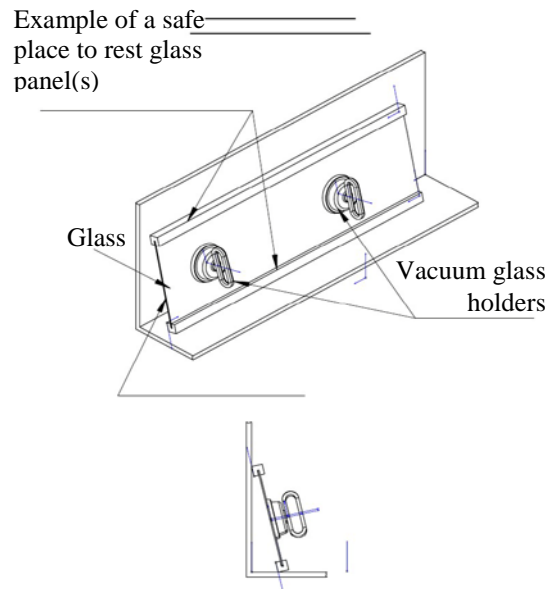


Handling the Glass

Handling Glass

1. Demonstration
2. Install / Re-Install
 - a. When installing, install glass base first and then top.
 - b. Must use vacuum holder and secure by using blanket.
 - c. When closing screw of the glass trim, close gently with finger force until it is closed. (No need to tighten)
 - d. When installing the glass back, make sure that bottom trim screws are a little bit loose, verify that the glass is lining on the bottom trim and not on the screw.
 - e. Always close bottom glass trim first (do not tighten yet) and then top. (Verify that the trim site is at the right place, levelled and not in an offset position).
 - f. When you tighten the screw with finger force, you must do it from side to side (not from the middle to the sides).
 - g. Use glass vacuum holder, 10mm key and make sure to secure glass when it is out of the fireplace.
 - h. Please see images on page 80
3. Remove
 - a. When removing glass, always release top glass trim and then bottom.
 - b. Use glass vacuum holder, 10mm key and make sure to secure glass when it is out of the fireplace
 - c. Please see Sketch A on this page for example of storing glass in a safe place.
4. Clean
 - a. Use appropriate material and cleaning agent to clean glass (i.e. soft cloth and CRL glass cleaner spray for ceramic glass)

Sketch A



ORTAL[®]

YOUR LIFE. YOUR FIRE.

Attaching the vacuum apparatus to the glass (important: ensure holding on tightly)



Loosening the lower crews (turns up) with the screwdriver supplied together with the appliance/



Fireplace Barrier

Definitions

- **Barrier:** A physical element that is intended to limit exposure to burn hazards from contact with the glass viewing area surface.
- **Glass Viewing Area Surface:** The outermost surface of exposed glass.
- **Threshold B:** Critical contact skin temperature limit for reversible epidermal injury, as defined in ASTM Guide for Heated System Surface Conditions that Produce Contact Burn Injuries, ASTM C1055.
- **Thermesthesiometer:** An instrument constructed in accordance with the National Bureau of Standards Technical Note 816 - Engineering and Construction Manual for an Instrument to Make Burn Hazard Measurements in Consumer Products, as defined in ASTM Practice for Determination of Skin Contact Temperature from Heated Surfaces Using a Mathematical Model and Thermesthesiometer, ASTM C1057.

The barrier is constructed to maintain a fixed relationship between essential barrier parts and the outside glass viewing area. Barrier must be installed properly prior to start up of firebox and the firebox cannot be in use without the barrier in place.

The glass fronts and surrounding surfaces can become extremely hot during and even long after operation. Touching the hot glass front can lead to serious burns.

To evaluate the outside glass viewing surface temperature:

Evaluation of temperature criteria shall be performed using the outside temperatures of the glass viewing area surface.

To evaluate the burn hazard potential of a barrier:

A thermesthesiometer is the device selected by the Z21 Vented Gas Warm Air Heater TAG to evaluate the burn hazard potential of protective barriers. Functional requirements for thermesthesiometers are specified in ASTM Practice for Determination of Skin Contact Temperature from Heated Surfaces Using a Mathematical Model and Thermesthesiometer, ASTM C1057

1. Thermesthesiometers that are built, calibrated, and used in accordance with ASTM C1057 are the appropriate tool to evaluate burn potential hazard of protective barriers.
2. Testing of three of the hottest fireplace inserts demonstrated that some available barriers can prevent irreversible burn injuries after 5 seconds of contact with the barrier.
 - a. Exponent recommends acquiring data for longer than 5 seconds to ensure that sufficient data are collected.
3. Testing revealed that the amount of force (i.e., 2.5 to 10 pounds of force, lpf) applied doesn't have a significant effect on thermesthesiometer measurements.
4. Exponent believes that the hottest location on each different thermal mass on a protective barrier should be tested.
5. The following techniques are appropriate for measuring glass temperature:
 - a. calibrated infrared thermometer,



- b. calibrated thermal imaging camera, and
- c. calibrated temperature probe or sensor.

The burn hazard potential for the optional barrier will be based on the skin contact temperature at the hottest exterior point of the barrier, either measured using a thermesthesiometer or calculated using Method A, each found in *ASTM Practice for Determination of Skin Contact Temperature from Heated Surfaces Using a Mathematical Model and Thermesthesiometer, ASTM C1057*.

An accessibility probe is used for measuring the burn hazard potential of the touchable surfaces of a protective barrier not made of glass.

The probe shall be applied: (1) with a force of 2.5 lb (11.1 N); and (2) in any possible configuration and to any depth that the size of an opening will permit. The probe shall be rotated or angled to any possible position before, during, or after insertion through the opening. If necessary, the configuration shall be changed after the probe has been inserted through the opening.

Any glass surface the accessibility probe can contact with the barrier in place shall be measured to verify the glass surface temperature does not exceed 172°F (78°C).^{*} Removal of the barrier may be required for measuring temperature.

The barrier prevents contact with the glass front. The barrier is designed in a manner that:

- Prevents the barrier surface or points of contact from reaching the Threshold A limits
- Is made of a material that prevents rapid heat transfer to human skin.

See Appendix C and D for instructions on installing Ortal fireplace screen barrier.



Interior Design Media

Ortal offers media which can be provided with the fireplace unit.

Other media can be purchased from other providers after market. If using aftermarket media, be sure to confirm that the materials are authorized and appropriate for use in a gas, direct vent fireplace.

Regardless of the media source/type, the following lay in guidelines must be followed:

Pilot: Maintain 2" radius clearance from pilot. The area around the pilot must be free from obstruction or the pilot will not ignite properly.

Burner/Grill: Cover up to 80% of the burner and grill's surface area, not more. It is OK to cover less, but not more.

Ceramic Glass Panel: Maintain minimum clearance of ¼" from media to glass panel. The media is not to touch the glass panel(s).

Size: If using aftermarket media (i.e. glass pebbles, small "woodchips"), make sure that pieces are ½" or more in diameter.

Long sticks (Branches, logs, other similar decoration): If ORTAL branches or others, when stacking them vertically (i.e. like a tee pee), be sure to avoid catching the top of the flame, the yellow area of the flame (usually the highest point) as that can create soot.

Glass: When using glass, maximum thickness layer is 1".

Layout: Choose placement of media that fits the desired aesthetic and design (i.e. height, spacing between pieces, overlap, etc.), but be sure to adhere to the above guidelines for proper fireplace operation. Do not lay in media in one pile. Make sure that materials are spread out to maintain proper appearance and function of the flame.

Sample media layouts:

Large White Ceramic Stones



Branches



Logs



Reflective Panels:

5mm black ceramic is a customization available for the interior panels of the firebox. Instructions not included with this manual. Contact ORTAL USA for current available products and installation requirements. Best practice is to order reflective panels pre-installed when unit is ordered.



Initial Burning Period

Following installation of an ORTAL fireplace, there is a 16 hour minimum burning period. The 16 hour burning 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 smell are due to the paint on the fireplace metal heating and “burning off.” This is normal. The cloudiness and odor will go away after the 16 hour period and the installer returns to service the fireplace and complete start-up.

When the 16 hour period is complete, the installer returns and checks/performs the following:

1. Clean the glass with a ceramic glass cleaner otherwise the white film will remain.
2. Check the interior media
3. Check for gas leaks
4. Adjust the restrictor if needed
5. Overall, make sure everything is working properly

When these activities are complete, initial start-up is concluded and the fireplace can be operated by the Owner.

As always, if there are any questions or concerns, contact your local ORTAL USA dealer/installer or ORTAL USA directly for support.

Warning:

- **DO NOT** install the interior design media until the appliance installation is complete, the gas line is connected and tested for leaks and the initial burner operation has been inspected and confirmed.
- **ONLY** install media which is 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. Turn off all electricity to the appliance before you install faceplate and media.
- This appliance is not designed to burn wood. Any attempt to do so could cause irreparable damage to appliance and prove hazardous to your safety.
- 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.

Insulation for Cold Climate

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 appliance rests if 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.



OPERATING INSTRUCTIONS

Controls (refer to note 2 on page 103)

1. Remote Control (standard)
2. Wall switch.
3. Wall switch integrated into Smart Home control system.

For your safety read carefully before lighting the fireplace.

WARNING

If you do not follow these instructions exactly, a fire or explosion may result causing property damage, personal injury or loss of life.

Do NOT operate the appliance if:

- The glass is NOT properly secured in place
- For appliances with doors, the door is open
- For appliance with glass to glass connections, the connection points are not sealed.
- Glass is cracked
- You smell gas
- Any part of the appliance has been under water
- If you have any doubt about the safe operation of the unit

Do not use the appliance if any part has 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 control which have been under water.

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

Mertik Electronic Control System Operating Instructions

The **Electronic** appliances are supplied with a GV60 Series Mertik Maxitrol valve, and are designed to operate on natural or propane gas. An electronic intermittent pilot ignition system provides safe, efficient operation. The unit is supplied with battery power to operate these units. External electrical power by way of transformer is available instead of the battery power supply if required. Manufacturer preferred method of operations is with battery power supply.

See note 2 on page 103 for operating instructions.



MAINTENANCE INSTRUCTIONS

General Maintenance Instructions

Ortal Factory Recommended Service, Service Instructions

These recommendations are for Standard Ortal Fireplace Products. Custom fireplace may have different recommended service periods and activities.

Q. How often should service be performed?

- A. Factory recommendation: minimum service once a year (annual service).
The following conditions should have more frequent service:
- Units installed in commercial/public spaces: Every 3 months(quarterly)
 - Units installed in climates near to the ocean, or similar circumstances more likely to build up corrosion: Every 6 months (semi-annual)

Read checklist first before proceeding with the service. Make sure you have all the materials you need:

Before You Begin

- Tools
 - Glass Holders
 - 10mm Ratchet Key
 - Manometer(checking gas pressure)
 - Razor blade
 - Paper towel or soft cloth for cleaning glass
 - Glass cleaner (i.e. CRL glass cleaner spray for ceramic glass)
 - Flathead 3/32" screwdriver
- Materials
 - Silicon, you should have more than you need
 - Batteries, 4xAA and 1 x 9.6v
- Thermocouple
 - For all commercial installations or any residential unit where the fireplace is being operated on average of 10 hours or more per day, the thermocouple should be replaced annually.
 - For all other installations, thermocouple should be replaced once every three years.



General Maintenance Warnings

WARNING

Turn off the gas BEFORE servicing the fireplace.
It is recommended that a qualified service technician perform a routine inspection at the beginning of each heating season.
Never operate the appliance without the glass properly secured in place.

WARNING

The glass must **ONLY** be removed by an authorized qualified installer. The authorized technician should **ONLY** remove the glass with the glass vacuum holders supplied by the manufacturer. Lower the glass to rest in a safe place to prevent damage to the glass edges.

Step 1. Place the support on the floor below the glass to be removed.

Step 2. Remove the glass using the vacuum holder, and immediately place it in the support.

Step 3. Place the second support on the upper edge of the glass. The glass can now be handled safely.

WARNING

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 all problems, call a qualified service technician.

Inspection of the appliance and 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.

WARNING

Do not use these appliances if any part has 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 control which have been under water.

WARNING

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 clean by brushing and/or vacuuming at least once a year by a service technician. Only service technicians can open the fireplace to clean inside 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.



Ortal Factory Recommended Service

Service Check list

Model Type: _____ Serial #: _____ Date: _____

Before, during and after, if there is any doubt, stop and call Ortal USA.

If there is any "No" answer close gas valve and correct.

If you cannot correct, discontinue operation, lockout unit and call Ortal USA.

1. Outside horizontal/vertical cap. Clean and unobstructed. () Yes () No
2. Check the louver/chase heat release. Clean and unobstructed. () Yes () No
3. Is there an access panel for valve and receiver maintenance? () Yes () No
 - a. Clean and unobstructed? () Yes () No
 - b. Allows access to components? () Yes () No
4. LPG Only
 - a. Is there adequate opening for releasing a potential gas leak at the lowest point of elevation in the chase? () Yes () No
5. Is glass complete and NOT broken? () Yes () No
6. Is area around the fireplace free of wall crack or signs of heat impact? () Yes () No
Make sure the shut off valve is in the on position and there is gas flow. () Yes () No
7. Verify that there is NO gas leak. () Yes () No
8. Turn on the fireplace for visual inspection (30 sec. - 1min)
 - a. Check if the system has spark. () Yes () No
 - b. Check if the pilot turns on. () Yes () No
 - c. Check if the burner turns on. () Yes () No
9. Let the glass cool down () Yes () No
10. Remove glass
 - a. Clean the glass. () Yes () No
 - b. Remove the media and clean/ vacuum the burner. () Yes () No
 - c. Return media per installation guidelines. () Yes () No
 - d. Make sure pilot, spark plug and thermocouple area is clear. () Yes () No
11. Check explosion valve
 - a. Pull explosion valve open. () Yes () No
 - b. Release explosion valve to close. Is the explosion valve closed? () Yes () No
 - c. Is the explosion valve unobstructed? () Yes () No
12. Turn unit on without the glass installed to verify the following.
 - a. There is spark () Yes () No
 - b. Pilot turns on () Yes () No
 - c. Burner turns on () Yes () No
 - d. Measure gas pressure. Inlet _____ W.C., Manifold _____ W.C.
 - e. Block the flame from the pilot to the thermocouple with a metal or similar divider and verify that the main burner turns off. () Yes () No
13. Reinstall the glass. () Yes () No
14. Check silicon on the glass. If broken, flip glass to the other edge. If the other edge is also broken, apply new silicon and cure for 24 hrs.
Tell Owner not to turn unit on for 24 hr., until: time _____ date _____ () Yes () No



Service Notes

Model Type: _____ Serial #: _____ Date: _____

Visual Notes:

Functional Notes:

Other Notes:



ORTAL USA PRODUCT SERVICE LOG

For Ortal Products

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:

ORTAL USA:
Ortal USA, Service
8421 Canoga Avenue
Canoga Park, CA 91304
Fax: 818 678 0541
E-mail: office@ortal-heat-usa.com



WARRANTY POLICY

For Ortal Ltd. and Ortal USA, Inc. Standard Products
Sold and Distributed in North America
(For custom models, warranties may vary)

THE WARRANTY

The Ortal Ltd. and Ortal USA, Inc. Limited Warranty warrants your Ortal USA 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 USA will, at its option, repair or replace the covered components. If repair or replacement is not commercially practical, Ortal USA will, at its option, refund the purchase price or wholesale price of the Ortal product, whichever is applicable. Ortal USA will also pay Ortal USA 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 USA'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 USA dealer/distributor, whichever occurs earlier. The warranty shall commence no later than 24 months following the date of product shipment from Ortal or Ortal USA, regardless of the installation or occupancy date.

EXCLUSIONS AND LIMITATIONS

This Limited Warranty applies only if the Product is installed in the United States or Canada 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 USA's website, www.ortal-heat-usa.com. These can also be requested in digital format direct from Ortal USA'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 USA 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 & 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 USA 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 USA will provide replacement parts, if available, for a period of 5 years from the last date of manufacture of the Product.

Ortal USA 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 USA 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 USA 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 USA be responsible for materials, components or construction, which are not manufactured or supplied by Ortal USA 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 USA warehouse.

LIMITATION ON LIABILITY

It is expressly agreed and understood that Ortal USA'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 USA 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 USA's negligence. Ortal USA 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 USA 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 USA 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 USA 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 USA installation technician. Refer to your dealer/distributor sales agreement for requirements. Contact Ortal USA at the address provided herein to obtain a listing of approved dealers/distributors and certified/ authorized installer companies. **Ortal USA shall in no event be responsible for any warranty work done by an installer that is not approved without first obtaining Ortal USA'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 USA dealer/distributor from which you purchased the product. If you cannot locate the dealer/distributor, then you must notify Ortal USA in writing. Submission of a completed warranty claim is the preferred method of warranty claim notification. Ortal USA must be notified of the claimed defect in writing within 90 days of the date of failure. Notices should be directed to the Ortal USA Warranty Department at 8421 Canoga Avenue, Canoga Park, CA 91304 or visit our website at www.ortal-heat-usa.com.

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Ortal USA
8421 Canoga Avenue,
Canoga Park, CA 91304



ORTAL USA PRODUCT WARRANTY REGISTRATION
For Ortal Ltd. and Ortal USA, Inc. Products

Product Name/ Model Type: _____

Description: _____

Product Number: _____ Serial Number: _____

Sales Information

Dealer Information

Name:
Address:
PO Box:
City, State:
Zip:

Distributor Information (if applicable)

Name:
Address:
PO Box:
City, State:
Zip:

Installation Information

Installer Company Information

Name:
Address:
PO Box:
City, State:
Zip:

Installation Technician Name:
NFI Gas Specialist ID #:
Date of Installation:
Installation Location:
Customer Company Name:
Customer Individual Name:
Address:
PO Box:
City, State:
Zip:

- Customer Signature:
Signature Date:
- Installation Technician Signature:
Signature Date:

Installation Comments:

**Return completed Registration Form
within 30 days of installation to:**

Ortal USA, Warranty Department
8421 Canoga Avenue
Canoga Park, CA 91304
Fax: 818-678-0541
E-mail: office@ortal-heat-usa.com



CONTACT INFORMATION

ORTAL Heating Solutions Ltd. (Israel)

ORTAL Heating Systems
Industrial Zone B
Neve Neeman, Hod-Hasharon
Israel
Tel: 011 972 9 7402828
Fax: 011 972 9 7402687
E-mail: info@ortal-heat.co.il
Website: www.ortal-heat.com

ORTAL USA, Inc.

8421 Canoga Avenue
Canoga Park, CA 91304
Tel: 818 238 7000
Fax: 818 678 0541
E-mail: office@ortal-heat-usa.com
Website: www.ortal-heat-usa.com

Installer

Company Name: _____
Technician Name: _____
Address: _____

Tel: _____
Fax: _____
E-mail: _____
Website: _____



SAMPLE PRODUCT CERTIFICATION LABELS

SERIES 40 BURNER 30cm in length

Do Not Remove This Label Ne pas retirer cette étiquette

For use only with vent, glass and interior design media certified and approved for use with the appliance. Not for use with solid fuel.
Utilisez uniquement avec des conduits, des panneaux vitrés et des accessoires décoratifs intérieurs homologués et approuvés pour une utilisation avec cet appareil. Pas pour l'usage avec le combustible solide.

Approved by/
Homologué par :



no. **2358468**



ORTAL
HEATING SOLUTIONS

S - Single Orifice Burner/Brûleur d'orifice singulier

Check one (check space to the right of the model name)/ Cochez un choix (cochez à droite du nom du modèle) :

Clear 40 / RS / LS / TS / Tunnel ☐

Stand Alone 40 TS ☐

Clear 4070 H / RS / LS / TS / Tunnel ☐

Clear 4090 H / RS / LS / TS / Tunnel ☐

Small Square ☐

Classic corner ☐

Modern corner ☐

Serial No./ N°de série: _____

Manufacturer/ Fabricant :
ORTAL Heating Systems Ltd.
Ind. Zone B Neve Neeman, Hod Hasharon
ISRAEL
Tel: 011 972 9 7402828
Fax: 011 972 9 7402687

Tested To/ Examiné À: ANSI Z21.88/ CSA 2.33-2014
Electrical rating/ Estimation Électrique: 110 volt /60 Hz/ less than 5A
Altitude rating/ Estimation d'altitude: 0-4500 ft. / 0-1370 m.

Fuel Type/ Type de combustible:

Max Input/ Débit max. (BTU/HR):

Min Input/ Débit min. (BTU/HR):

Orifice Size/ Taille de l'orifice:

Gas Inlet Pressure (W.C.) inches/ Pression d'entrée de gaz (CE) pouces:

Gas manifold Pressure (W.C.) inches/ Pression d'alimentation (CE) pouces:

<input type="checkbox"/> S	<input type="checkbox"/> S
NG	LPG
23,670	21,073
10,419	12,841
650	220
7.0	11.0
3.2	10.9

Clearances to Combustibles/Espacement par rapport aux matériaux inflammables:

Sides/ Côtés: 2"

Back/ Arrière: 2"

In front of Glass/Devant le panneau vitré: 40"

Also adhere to clearance diagrams and instructions included in the ORTAL manual.

Adhérer également aux schémas d'espacement et des instructions figurant dans le manuel ORTAL.

ORTAL®

YOUR LIFE. YOUR FIRE.

SERIES 75 BURNER 45cm in length

Do Not Remove This Label Ne pas retirer cette étiquette

For use only with vent, glass and interior design media certified and approved for use with the appliance. Not for use with solid fuel.
Utilisez uniquement avec des conduits, des panneaux vitrés et des accessoires décoratifs intérieurs homologués et approuvés pour une utilisation avec cet appareil. Pas pour l'usage avec le combustible solide.

Approved by/
Homologué par :



no. **2358468**



ORTAL
HEATING SOLUTIONS

S - Single Orifice Burner/Brûleur d'orifice singulier
D - Double Orifice Burner/Double brûleur d'Orifice

Check one (check space to the right of the model name)/ Cochez un choix (cochez à droite du nom du modèle) :

Clear 75 / RS / LS / TS

☐

Stand Alone 75 / TS

☐

Space Creator 75

☐

Clear 7565 / Tunnel

☐

Stand Alone 75x65 Curve / Tunnel

☐

Clear 6080/ Clear 60x80Tunnel

☐

Classic F 75/80

☐

4 Glass Island

☐

Clear 80 / RS / LS / TS

☐

Clear 8070H/RS/LS/TS

☐

Clear 75H / RS / LS / TS

☐

Serial No./ N° de série: _____

Manufacturer/ Fabricant :
ORTAL Heating Systems Ltd.
Ind. Zone B Neve Neeman, Hod Hasharon
ISRAEL
Tel: 011 972 9 7402828
Fax: 011 972 9 7402687

Tested To/ Examiné À: ANSI Z21.88/ CSA 2.33-2014
Electrical rating/ Estimation Électrique: 110 volt /60 Hz/ less than 5A
Altitude rating/ Estimation d'altitude: 0-4500 ft. / 0-1370 m.

Fuel Type/ Type de combustible:

Max Input/ Débit max. (BTU/HR):

Min Input/ Débit min.(BTU/HR):

Orifice Size/ Taille de l'orifice:

Gas Inlet Pressure (W.C.) inches/ Pression d'entrée de gaz (CE) pouces:

Gas manifold Pressure (W.C.) inches/ Pression d'alimentation (CE) pouces:

☐

NG

☐

LPG

☐

NG

☐

LPG

29,100

22,118

33,029

28,500

16,147

13,811

18,327

17,796

650

220

380+380

160+160

7.0

11.0

7.0

11.0

4.7

10.7

6.8

10.9

Clearances to Combustibles/Espacement par rapport aux matériaux inflammables:

Sides/ Côtés: 2"

Back/ Arrière: 2"

In front of Glass/Devant le panneau vitré: 40"

Also adhere to clearance diagrams and instructions included in the ORTAL manual.

Adhérer également aux schémas d'espacement et des instructions figurant dans le manuel ORTAL.

ORTAL®

YOUR LIFE. YOUR FIRE.

SERIES 110/130 BURNER 100cm in length

Do Not Remove This Label Ne pas retirer cette étiquette



For use only with vent, glass and interior design media certified and approved for use with the appliance. Not for use with solid fuel.
Utilisez uniquement avec des conduits, des panneaux vitrés et des accessoires décoratifs intérieurs homologués et approuvés pour une utilisation avec cet appareil. Pas pour l'usage avec le combustible solide.

Approved by/
Homologué par :



no. **2358468**

S - Single Orifice Burner/Brûleur d'orifice singulier
D - Double Orifice Burner/Double brûleur d'Orifice

Check one (check space to the right of the model name)/ Cochez un choix (cochez à droite du nom du modèle) :

Clear 110 / RS / LS / TS/ Tunnel	<input type="checkbox"/>	Island 130	<input type="checkbox"/>
Stand Alone 110	<input type="checkbox"/>	Clear 130 / RS / LS / TS/ Tunnel/ Top	<input type="checkbox"/>
Clear 100x90	<input type="checkbox"/>	Space Creator 120 /Mini / Medium	<input type="checkbox"/>
Clear 110 H / Tunnel	<input type="checkbox"/>		

Serial No./ N° de série: _____

Manufacturer/ Fabricant :
ORTAL Heating Systems Ltd.
Ind. Zone B Neve Neeman, Hod Hasharon
ISRAEL
Tel: 011 972 9 7402828
Fax: 011 972 9 7402687

Tested To/ Examiné À: ANSI Z21.88/ CSA 2.33-2014
Electrical rating/ Estimation Électrique: 110 volt /60 Hz/ less than 5A
Altitude rating/ Estimation d'altitude: 0-4500 ft. / 0-1370 m.

	S	S	D	D
	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
	NG	LPG	NG	LPG
Fuel Type/ Type de combustible:				
Max Input/ Débit max. (BTU/HR):	37,167	28,541	42,185	33,400
Min Input/ Débit min. (BTU/HR):	22,798	22,951	28,878	26,837
Orifice Size/ Taille de l'orifice:	1,200	260	650+650	180+180
Gas Inlet Pressure (W.C.) inches/ Pression d'entrée de gaz (CE) pouces:	7.0	11.0	7.0	11.0
Gas manifold Pressure (W.C.) inches/ Pression d'alimentation (CE) pouces:	5.0	10.8	5.6	10.8

Clearances to Combustibles/Espacement par rapport aux matériaux inflammables:

Sides/ Côtés: 2"

Back/ Arrière: 2"

In front of Glass/Devant le panneau vitré: 40"

Also adhere to clearance diagrams and instructions included in the ORTAL manual.
Adhérer également aux schémas d'espacement et des instructions figurant dans le manuel ORTAL.

ORTAL®

YOUR LIFE. YOUR FIRE.

SERIES 150/170 BURNER 135cm in length

Do Not Remove This Label Ne pas retirer cette étiquette



For use only with vent, glass and interior design media certified and approved for use with the appliance. Not for use with solid fuel.

Utilisez uniquement avec des conduits, des panneaux vitrés et des accessoires décoratifs intérieurs homologués et approuvés pour une utilisation avec cet appareil. Pas pour l'usage avec le combustible solide.

Approved by/
Homologué par :



no. **2358468**

S - Single Orifice Burner/Brûleur d'orifice singulier

D - Double Orifice Burner/Double brûleur d'Orifice

Check one (check space to the right of the model name)/ Cochez un choix (cochez à droite du nom du modèle) :

Clear 150 / H / RS / LS / TS / Tunnel ☐

Space Creator 150 ☐

Stand Alone 150 ☐

Clear 170 / RS / LS / TS / Tunnel ☐

Serial No./ N° de série: _____

Manufacturer/ Fabricant :
ORTAL Heating Systems Ltd.
Ind. Zone B Neve Neeman, Hod Hasharon
ISRAEL
Tel: 011 972 9 7402828
Fax: 011 972 9 7402687

Tested To/ Examiné À: ANSI Z21.88/ CSA 2.33-2014
Electrical rating/ Estimation Électrique: 110 volt /60 Hz/ less than 5A
Altitude rating/ Estimation d'altitude: 0-4500 ft. / 0-1370 m.

Fuel Type/ Type de combustible:

Max Input/ Débit max. (BTU/HR):

Min Input/ Débit min. (BTU/HR):

Orifice Size/ Taille de l'orifice:

Gas Inlet Pressure (W.C.) inches/ Pression d'entrée de gaz (CE) pouces:

Gas manifold Pressure (W.C.) inches/ Pression d'alimentation (CE) pouces:

S	S	D	D
<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
NG	LPG	NG	LPG
43,715	36,850	42,616	37,400
23,312	27,128	28,878	27,467
1,400	380	650+650	220+220
7.0	11.0	7.0	11.0
3.5	10.7	5.2	10.5

Clearances to Combustibles/Espacement par rapport aux matériaux inflammables:

Sides/ Côtés: 2"

Back/ Arrière: 2"

In front of Glass/Devant le panneau vitré: 40"

Also adhere to clearance diagrams and instructions included in the ORTAL manual.

Adhérer également aux schémas d'espacement et des instructions figurant dans le manuel ORTAL.

ORTAL®

YOUR LIFE. YOUR FIRE.

SERIES 200 BURNER 160cm in length

Do Not Remove This Label Ne pas retirer cette étiquette



For use only with vent, glass and interior design media certified and approved for use with the appliance. Not for use with solid fuel.
Utilisez uniquement avec des conduits, des panneaux vitrés et des accessoires décoratifs intérieurs homologués et approuvés pour une utilisation avec cet appareil. Pas pour l'usage avec le combustible solide.

Approved by/
Homologué par :



no. **2358468**

S - Single Orifice Burner/Brûleur d'orifice singulier
D - Double Orifice Burner/Double brûleur d'Orifice

Check one (check space to the right of the model name)/ Cochez un choix (cochez à droite du nom du modèle) :

- Clear 200 / H / RS / LS / TS / Tunnel ☐
- Space Creator 200 ☐
- Clear 250 / RS / LS / TS / Tunnel ☐
- Clear 20070H / RS / LS / TS ☐

Serial No./ N°de série: _____

Manufacturer/ Fabricant :
ORTAL Heating Systems Ltd.
Ind. Zone B Neve Neeman, Hod Hasharon
ISRAEL
Tel: 011 972 9 7402828
Fax: 011 972 9 7402687

Tested To/ Examiné À: ANSI Z21.88/ CSA 2.33-2014
Electrical rating/ Estimation Électrique: 110 volt /60 Hz/ less than 5A
Altitude rating/ Estimation d'altitude: 0-4500 ft. / 0-1370 m.

Fuel Type/ Type de combustible:

Max Input/ Débit max. (BTU/HR):

Min Input/ Débit min. (BTU/HR):

Orifice Size/ Taille de l'orifice:

Gas Inlet Pressure (W.C.) inches/ Pression d'entrée de gaz (CE) pouces:

Gas manifold Pressure (W.C.) inches/ Pression d'alimentation (CE) pouces:

S	S	D	D
<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
NG	LPG	NG	LPG
51,277	36,659	58,200	37,500
27,467	26,400	27,454	26,829
1,400	380	800+650	220+220
7.0	11.0	7.0	11.0
4.5	10.6	6.0	10.2

Clearances to Combustibles/Espacement par rapport aux matériaux inflammables:

Sides/ Côtés: 2"

Back/ Arrière: 2"

In front of Glass/Devant le panneau vitré: 40"

Also adhere to clearance diagrams and instructions included in the ORTAL manual.

Adhérer également aux schémas d'espacement et des instructions figurant dans le manuel ORTAL.



LIST OF APPENDICES

Appendix	Content	Product/ Manufacturer
A	Two burner units	ORTAL
B	Trouble Shooting guide	ORTAL
C	Screen Instructions for Front/Tunnel models	ORTAL
D	Screen Instructions for Multi-sided models	ORTAL

*Please note ORTAL does have its own power vent system which has its own manual and is not included in our fireplace installation & operation manual here. Best practice, designate use of ORTAL's power vent system at time of purchase. If necessary, firebox vent connection and gas components can be adapted for use with ORTAL's power vent. Contact ORTAL USA for additional information and manual.

Notes:

1. For information on the 4/6 and 5/8 direct vent pipe installation and specs, please visit the manufacturer's website: <http://www.duravent.com/>
2. For information on remote and electronic systems, please visit the manufacturer's website: <http://www.mertikmaxitrol.com/>
3. For information on the sealant used for the glass connections, please visit: <http://www.ortal-heat-usa.com/wp-content/uploads/2014/05/Rutland-Silicone-Sealant.pdf>

APPENDIX A

ORTAL Two Burner/Large Units

The following applies to all ORTAL fireplaces using a double burner set up including:

**4 Glass
Series 250*, Series 350, Series 400**

Models	Burner	BTU NG max input	BTU LPG max input	Double Glass Air Inlet	Heat Release
4 Glass 2 burner	2 x 45 cm	58200	44236	310 sq" free air	310 sq" free air
Series 250	2 x 100 cm	74334	57082	300 sq" free air	300 sq" free air
Series 350	2 x 135 cm	87430	73700	300 sq" free air	300 sq" free air
Series 400	2x 160 cm	102554	73318	300 sq" free air	300 sq" free air

Specification:

Restrictors and Venting Pathway: Restrictor type, if any, and venting pathway design must be confirm for each installation. Contact ORTAL USA for venting diagram review.

Chimneys:

The 4 glass 2 burner has 1 chimney vent, 5/8"

Series 250, 350 and 400 all have 2 chimney vents, 5/8"

Power vent: If using a power vent, please refer to the appropriate power vent manual for the given installation.

Note: make sure that chimneys are supported from the structural surrounding elements and NOT from the firebox.

Burners: Each of these fireplaces has 2 burners.

Valves: Each of these fireplaces has 2 valves.

Gas Connection: Main line will be connection to "T" joint provided by ORTAL.

The "T" joint will lead to each of the valves. The connection from the main line to the "T" is minimum ¾".

APPENDIX A

Glass Panels: front/long panel(s) for the 250, 350 and 400 series will have 2 or 3 sections of glass connected with silicon cold joint connection. When servicing these units and removing the glass, silicon must be cut to remove each panel individually and re-apply silicon if damaged when re-installing panels just like with corner glass connections.

Double Glass: Refer to ORTAL double glass detail for general guidelines. For these units, refer to the table above for specific required air inlet surface areas.

Fireplace Frame: Perform leveling inspection prior to completing installation. Firebox frame must be parallel and perpendicular (rectangular) in shape before installation is complete.

Service Access Doors: The two gas valves may or may not be near each other. In the case that they are not, be sure to provide an access panel for each one.

Shop Drawings: Drawings will be available on ORTAL USA's website. However, as these are large units, confirm shop drawings prior to ordering the fireplace and configuring surrounding installation materials.

Ignition: The units are designed for both burners to operate with one control device and to ignite together. In the event that only one burner ignites and the other does not, please turn off the fireplace and re-ignite. If problem persists, contact ORTAL USA.

*Note: Series 250 is also available with a single burner. Information on this page is for operation with two burners. See information for Series 200. Information for Series 200 is the same as Series 250 fireplace with one burner.

All installation guidelines, clearances and requirements apply to these fireplaces as stated in the primary manual unless otherwise and specifically noted hear. But sure to refer to the primary manual and this appendix for complete information regarding these Two Burner, large units.

APPENDIX A

4 Glass, 2 BURNERS 45cm in length each

Do Not Remove This Label
Ne pas retirer cette étiquette

For use only with vent, glass and interior design media certified and approved for use with the appliance. Not for use with solid fuel.
Utilisez uniquement avec des conduits, des panneaux vitrés et des accessoires décoratifs intérieurs homologués et approuvés pour une utilisation avec cet appareil. Pas pour l'usage avec le combustible solide.

Approved by/
Homologué par :



no. **2358468**



ORTAL
HEATING SOLUTIONS

S - Single Orifice Burner/Brûleur d'orifice singulier

D - Double Orifice Burner/Double brûleur d'Orifice

Check one (check space to the right of the model name)/ Cochez un choix (cochez à droite du nom du modèle) :

4 Glass 2 burner ☐
2 burners 45cm in length

Serial No./ N°de série: _____

Manufacturer/ Fabricant :
ORTAL Heating Systems Ltd.
Ind. Zone B Neve Neeman, Hod Hasharon
ISRAEL
Tel: 011 972 9 7402828
Fax: 011 972 9 7402687

Tested To/ Examiné À: ANSI Z21.88/ CSA 2.33-2014
Electrical rating/ Estimation Électrique: 110 volt /60 Hz/ less than 5A
Altitude rating/ Estimation d'altitude: 0-4500 ft. / 0-1370 m.

	S	S	D	D
	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Fuel Type/ Type de combustible:	NG	LPG	NG	LPG
Max Input/ Débit max. (BTU/HR):	58,200	44,236	66,058	57,700
Min Input/ Débit min. (BTU/HR):	32,294	27,622	36,658	37,524
Orifice Size/ Taille de l'orifice:	650	220	380+380	160+160
Gas Inlet Pressure (W.C.) inches/ Pression d'entrée de gaz (CE) pouces:	7.0	11.0	7.0	11.0
Gas manifold Pressure (W.C.) inches/ Pression d'alimentation (CE) pouces:	6.4	10.7	6.8	10.9

Clearances to Combustibles/Espacement par rapport aux matériaux inflammables:

Sides/ Côtés: 2"

Back/ Arrière: 2"

In front of Glass/Devant le panneau vitré: 40"

Also adhere to clearance diagrams and instructions included in the ORTAL manual.

Adhérer également aux schémas d'espacement et des instructions figurant dans le manuel ORTAL.

APPENDIX A

SERIES 250, 2 BURNERS 100cm in length each

Do Not Remove This Label
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Utilisez uniquement avec des conduits, des panneaux vitrés et des accessoires décoratifs intérieurs homologués et approuvés pour une utilisation avec cet appareil. Pas pour l'usage avec le combustible solide.

Approved by/
Homologué par :



no. **2358468**



ORTAL
HEATING SOLUTIONS

S - Single Orifice Burner/Brûleur d'orifice singulier
D - Double Orifice Burner/Double brûleur d'Orifice

Check one (check space to the right of the model name)/ Cochez un choix (cochez à droite du nom du modèle) :

Clear 250 / RS / LS / TS / Tunnel ☐
2 burner, 100 cm in length

Serial No./ N°de série: _____

Manufacturer/ Fabricant :
ORTAL Heating Systems Ltd.
Ind. Zone B Neve Neeman, Hod Hasharon
ISRAEL
Tel: 011 972 9 7402828
Fax: 011 972 9 7402687

Tested To/ Examiné À: ANSI Z21.88/ CSA 2.33-2014
Electrical rating/ Estimation Électrique: 110 volt /60 Hz/ less than 5A
Altitude rating/ Estimation d'altitude: 0-4500 ft. / 0-1370 m.

Fuel Type/ Type de combustible:	S	S	D	D
	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
	NG	LPG	NG	LPG
Max Input/ Débit max. (BTU/HR):	74,334	57,082	84,370	66,800
Min Input/ Débit min. (BTU/HR):	45,596	45,902	46,820	43,976
Orifice Size/ Taille de l'orifice:	1200	260	180+180	180+180
Gas Inlet Pressure (W.C.): inches/ Pression d'entrée de gaz (CE) pouces:	7.0	11.0	7.0	11.0
Gas manifold Pressure (W.C.) inches/ Pression d'alimentation (CE) pouces:	5.0	10.8	5.6	10.8

Clearances to Combustibles/Espacement par rapport aux matériaux inflammables:

Sides/ Côtés: 2"

Back/ Arrière: 2"

In front of Glass/Devant le panneau vitré: 40"

Also adhere to clearance diagrams and instructions included in the ORTAL manual.
Adhérer également aux schémas d'espacement et des instructions figurant dans le manuel ORTAL.

APPENDIX A

SERIES 350, 2 BURNERS 135cm in length each

Do Not Remove This Label
Ne pas retirer cette étiquette

For use only with vent, glass and interior design media certified and approved for use with the appliance. Not for use with solid fuel.
Utilisez uniquement avec des conduits, des panneaux vitrés et des accessoires décoratifs intérieurs homologués et approuvés pour une utilisation avec cet appareil. Pas pour l'usage avec le combustible solide.

Approved by/
Homologué par :



no. **2358468**



S - Single Orifice Burner/Brûleur d'orifice singulier

D - Double Orifice Burner/Double brûleur d'Orifice

Check one (check space to the right of the model name)/ Cochez un choix (cochez à droite du nom du modèle) :

Clear 350 / RS / LS / TS / Tunnel ☐
2 burners 135 cm in length

Serial No./ N°de série: _____

Manufacturer/ Fabricant :
ORTAL Heating Systems Ltd.
Ind. Zone B Neve Neeman, Hod Hasharon
ISRAEL
Tel: 011 972 9 7402828
Fax: 011 972 9 7402687

Tested To/ Examiné À: ANSI Z21.88/ CSA 2.33-2014
Electrical rating/ Estimation Électrique: 110 volt /60 Hz/ less than 5A
Altitude rating/ Estimation d'altitude: 0-4500 ft. / 0-1370 m.

	S	S	D	D
Fuel Type/ Type de combustible:	NG	LPG	NG	LPG
Max Input/ Débit max. (BTU/HR):	87,430	73,700	99,237	74,800
Min Input/ Débit min.(BTU/HR):	46,624	54,256	55,067	49,470
Orifice Size/ Taille de l'orifice:	1400	380	800+650	220+220
Gas Inlet Pressure (W.C.) inches/ Pression d'entrée de gaz (CE) pouces:	7.0	11.0	7.0	11.0
Gas manifold Pressure (W.C.) inches/ Pression d'alimentation (CE) pouces:	3.5	10.3	5.2	10.7

Clearances to Combustibles/Espacement par rapport aux matériaux inflammables:

Sides/ Côtés: 2"

Back/ Arrière: 2"

In front of Glass/Devant le panneau vitré: 40"

Also adhere to clearance diagrams and instructions included in the ORTAL manual.

Adhérer également aux schémas d'espacement et des instructions figurant dans le manuel ORTAL.

APPENDIX A

SERIES 400, 2 BURNERS 160cm in length each

Do Not Remove This Label
Ne pas retirer cette étiquette

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Utilisez uniquement avec des conduits, des panneaux vitrés et des accessoires décoratifs intérieurs homologués et approuvés pour une utilisation avec cet appareil. Pas pour l'usage avec le combustible solide.

Approved by/
Homologué par :



no. **2358468**



ORTAL
HEATING SOLUTIONS

S - Single Orifice Burner/Brûleur d'orifice singulier

D - Double Orifice Burner/Double brûleur d'Orifice

Check one (check space to the right of the model name)/ Cochez un choix (cochez à droite du nom du modèle) :

Clear 400 / RS / LS / TS/ Tunnel

☐

2 burner 160cm in length

Serial No./ N°de série: _____

Manufacturer/ Fabricant :
ORTAL Heating Systems Ltd.
Ind. Zone B Neve Neeman, Hod Hasharon
ISRAEL
Tel: 011 972 9 7402828
Fax: 011 972 9 7402687

Tested To/ Examiné À: ANSI Z21.88/ CSA 2.33-2014
Electrical rating/ Estimation Électrique: 110 volt /60 Hz/ less than 5A
Altitude rating/ Estimation d'altitude: 0-4500 ft. / 0-1370 m.

Fuel Type/ Type de combustible:

Max Input/ Débit max. (BTU/HR):

Min Input/ Débit min.(BTU/HR):

Orifice Size/ Taille de l'orifice:

Gas Inlet Pressure (W.C.) inches/ Pression d'entrée de gaz (CE) pouces:

Gas manifold Pressure (W.C.) inches/ Pression d'alimentation (CE) pouces:

S	S	D	D
<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
<u>NG</u>	<u>LPG</u>	<u>NG</u>	<u>LPG</u>
102,554	73,318	116,400	75,000
48,444	52,800	64,588	60,518
1400	380	800+650	220+220
7.0	11.0	7.0	11.0
4.5	10.6	6.0	10.2

Clearances to Combustibles/Espacement par rapport aux matériaux inflammables:

Sides/ Côtés: 2"

Back/ Arrière: 2"

In front of Glass/Devant le panneau vitré: 40"

Also adhere to clearance diagrams and instructions included in the ORTAL manual.

Adhérer également aux schémas d'espacement et des instructions figurant dans le manuel ORTAL.

APPENDIX B

ORTAL USA

Fireplace Trouble Shooting Guide

APPENDIX B

Table of Contents

i.	Before you begin trouble shooting.....	3
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Figure labeling standard for this manual is by page number and figure letter. For example, figure 3A would be page 3 figure A.

APPENDIX B

Before You Begin Trouble Shooting

Before you begin trouble shooting please go over the check list below.

1. Replace batteries to new ones.
2. Make sure the glass protective film is removed prior to operating the fireplace.
3. Confirm the switch on the valve is on. (see figure 3A)
4. Confirm the gas is on.
5. Purge the gas line of air up to the valve using purge port. (see figure 3B)
6. Confirm the pressure of inlet/ supply. Using purge port. (see figure 3B)
 - a. Inlet pressure for NG should be 7" W.C
 - b. Inlet pressure for LPG should be 11" W.C
7. Valve and receiver wires are properly connected and tight and interrupter block is tight (see figure 3C)
8. Confirm the manual pilot valve operator is in the on position (see figure 3A)

Figure 3A



Figure 3B

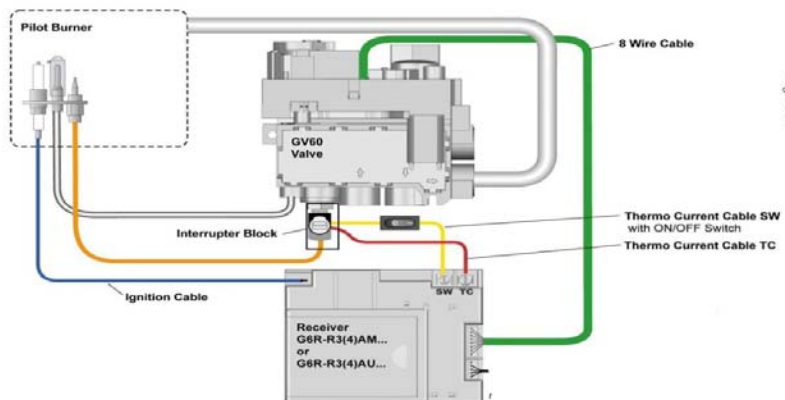
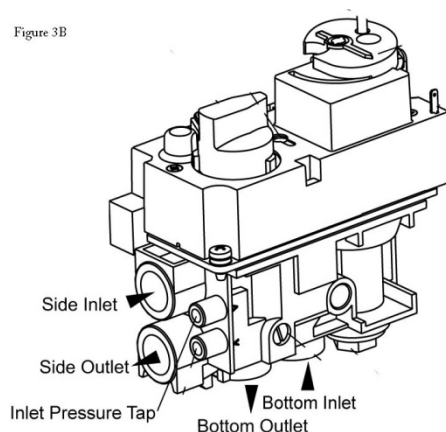


Figure 3C

APPENDIX B

Fireplace Normal Sequence of Operation

1. Turn the fireplace on by pressing the off and flame up button simultaneously. (button 1&2 of figure 4A)
2. System will check itself for any electrical trouble. This is accompanied by sequential beeps. (If there is a fault, weak batteries, the on/off switch is off, a single long beep will sound. See figure 3A for location of on/off switch)
3. Once the system check is ok it will initiate spark to the pilot and open gas to the pilot.
4. Once the pilot is on, the pilot will heat up the thermocouple.
5. When the thermocouple is heated to the specified temperature, it will allow the flow of the mill volt to the valve.
6. Once the mill volt is detected by the valve, the valve will turn the solenoid for the main burner on now the fireplace is fully on.



APPENDIX B

Pilot Problems Trouble Shooting

Make sure the glass protective film has been remove

a) Spark but no pilot

- (1) Review Before You Begin trouble shooting section. (Page 3)
- (2) Review Sequence of Operation section. (Page 4)
- (3) Make sure the inlet line is purge and no air is present.
- (4) Make sure the valve is mounted horizontally unless it is a hanging Stand Alone unit.
- (5) Turn unit on 5-10 times after to purge the pilot tube of any air.
- (6) Make sure all wire connections are tight. Also make sure interrupter block is screwed in tight but not too tight (tightening the interrupter block too much will break it).
Refer to Page 3 figure 3c.
- (7) Call ORTAL USA

b) No spark to the pilot

- (1) Review Before You Begin trouble shooting section.
- (2) Review Sequence of Operation section.
- (3) Locate the valve and receiver.
 - (a) Once the receiver is located pull from the holder.
 - (b) Disconnect the wire for the spark wire (see figure 3C)
 - (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 1/8"). While keeping an eye on the small wire turn unit on and see if there is a spark jumping from the wire to the body of the fireplace. If there is please proceed to step (4) if not call ORTAL USA.
- (4) Remove the glass refer to Appendix A for glass removal.
- (5) Remove grill and burner.
- (6) Remove pilot assembly from burner.
- (7) Reconnect the spark wire and disconnect the wire from the spark plug.
 - (a) Place the spark wire close to the metal body of the fireplace without touching (about 1/8"). If there is not spark or weak spark jumping from the wire replace the wire. If the spark is strong and jumping proceed to step (5).
- (8) Replace the spark plug. Call ORTAL USA if spark plug is need.

c) Pilot turns off after igniting but before burner turns on

- (1) Replace battery.

APPENDIX B

- (2) Review Sequence of Operation section.
- (3) Turn unit on and listen and look at the pilot section. Once the pilot is on is the spark continuing to ignite the pilot? If so proceed to Section IV thermocouple trouble shooting. If not proceed to step (4)
- (4) Remove the glass refer to appendix A.
- (5) Make sure the pilot assembly and pilot hood screw is tight and there is a gasket.
- (6) Call ORTAL USA.

d) Pilot turns off after igniting and after burner turns on

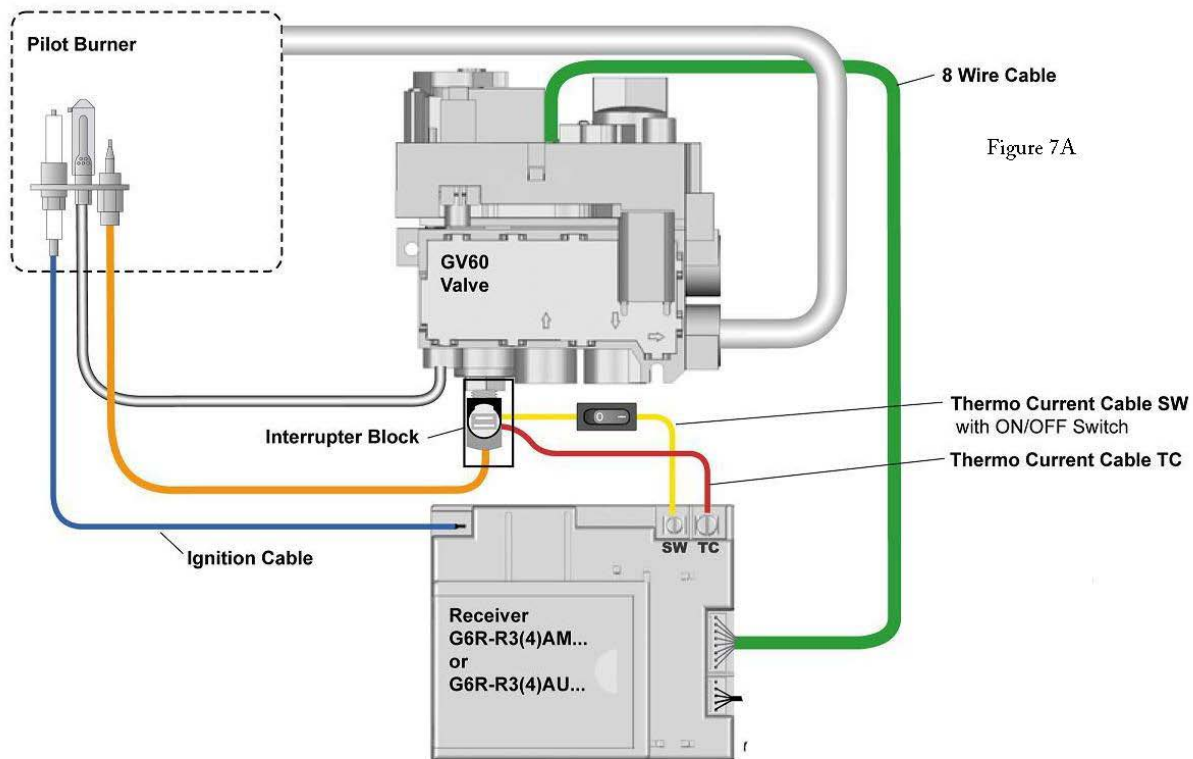
- (1) Review Sequence of Operation section.
- (2) Open glass; refer to appendix A for glass removal process.
- (3) Make sure the valve is mounted on horizontally. Except for hanging Stand Alone units.
- (4) Turn unit on and see if the pilot is still turning off after the burner turns on. If not go to step (4). If pilot turns off make sure the flame from the pilot is hitting the thermocouple.
- (5) Make sure the pilot assembly and pilot hood screw is tight and the pilot assembly gasket is present and in good condition.
- (6) Review restrictor table and make sure the right restrictor is in place.
- (7) Call ORTAL USA

APPENDIX B

Thermocouple

Thermocouple check list Refer to figure 7A

- 1) Place new batteries are in the receiver.
- 2) Check for any breakage to the thermocouple from pilot assembly to the valve.
- 3) Confirm the thermocouple is tight to the interrupter block and the thermo current cable is securely touching the end of the thermocouple.
- 4) Confirm the interrupter block is screwed in to the valve properly and finger tight.
- 5) Confirm thermo current cable TC is screwed in to the receiver properly and tight.
- 6) Confirm thermo current cable SW is screwed in to the receiver properly and tight.
- 7) Confirm the thermo current cable SW is securely place in the interrupter block.



APPENDIX B

Thermocouple Test

- 1) Only proceed to do this test after Thermocouple check list has been done.
- 2) Remove the glass. Refer to appendix A.
- 3) Turn gas off to the unit.
- 4) Turn unit on while the spark is sparking put a heat source to the thermocouple. Spark should stop once the thermocouple sense that there is heat. If the spark does not stop proceed to step (5)
- 5) Check that the thermocouple is screwed in properly in the interrupter block and the thermo current cable is screwed in tight at the receiver and the other end is touching the head of the thermocouple at the interrupter block.
- 6) If all the procedure above is preformed, thermocouple should be replaced. Complete part claim/replacement form and call ORTAL USA for replacement.

APPENDIX B

Main Burner

- a) Main burner not turning on and the pilot is on, valve on sequence is done.
 - i) Check the manual pilot valve operation is on the on position.
- b) Main burner turning off after a period of time.
 - i) When the main burner turns off, is the pilot still on? if not proceed to step (ii)
 - (1) Make use the remote thermostat is set to the desired temp or to the highest temp allowed in the remote so the system does not turn the burner off.
 - ii) How does the flame look before the fireplace turns off? Proceed to flame problem section
- c) Main burner is turning on and off.
 - i) The pilot flame is being intermittently deflected off the thermocouple. Make sure the pilot assembly screw is tight and the gasket is present and in good condition.
- d) Flame problem.
 - (1) Feint or blue flame.
 - (a) Too much CO in the fireplace.
 - (i) Review the vent run and place the right size of restrictor in the unit if it is the right restrictor, check the pipe for proper connection as there is CO back feeding or the vent run is not approved.
 - (ii) The termination is block
 - (b) Too much O2 in the fireplace
 - (i) Review the vent run and place the right size of restrictor in the unit if it is the right restrictor put in a bigger one
 - (2) Flame is jumping from burner.
 - (a) Too much draw in the fireplace
 - (i) Review the vent run and place the right size of restrictor in the unit if it is the right restrictor put in a bigger one.
 - (3) Part of the burner is not turning on.
 - (a) Too much CO in the fireplace
 - (i) Review the vent run and place the right size of restrictor in the unit if it is the right restrictor, check the pipe for proper connection as there is CO back feeding or the vent run is not approved.
 - (ii) There is too much media; 20% non coverage was not followed.
 - (iii) Burner ports are clogs.
 - (4) Small flame
 - (a) The unit manifold pressure is not right; please refer to the chart 10A below for the right pressure.

APPENDIX B

Ortal Fireplace Pressures

Burner size (cm)	Gas type	Inlet pressure (W.C.)	Manifold pressure (W.C.)
160	NG	7	4.5
Series 200	LP	11	10.6
130	NG	7	3.5
150&170 Series	LP	11	10.7
100	NG	7	5
110&130 Series	LP	11	10.8
45	NG	7	4.7
65&70 Series	LP	11	10.9
30	NG	7	4.2
Series 40	LP	11	8.1

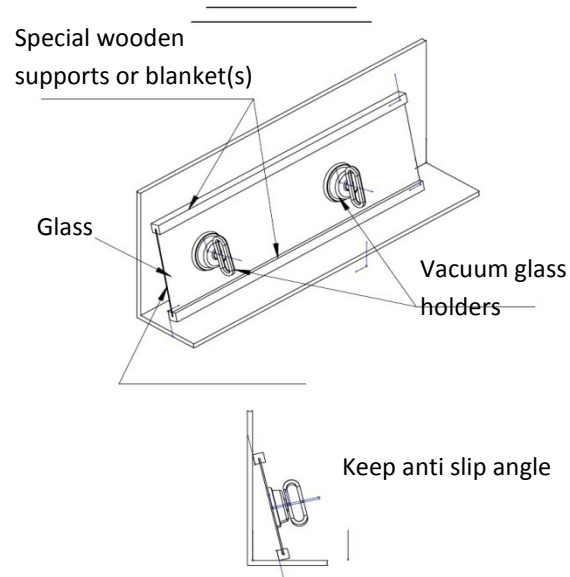
APPENDIX B

Appendix A

Handling Glass

1. Demonstration
2. Install / Re-Install
 - a. When installing, install glass base first and then top.
 - b. Must use vacuum holder and secure by using blanket.
 - c. When closing screw of the glass trim, close gently with finger force until it's closed. (No need to tighten)
 - d. When installing the glass back, make sure that bottom trim screws are a little bit loose, verify that the glass is lining on the bottom trim and not on the screw.
 - e. Always close bottom glass trim first (don't tighten yet) and then top. (Verify that the trim site is at the right place, levelled and not in an offset position).
 - f. When you tighten the screw with finger force, you must do it from side to side (not from the middle to the sides).
 - g. Use glass vacuum holder, 10mm key and make sure to secure glass when it is out of the fireplace.
 - h. **Please see figure 12A and 12B**
3. Remove
 - a. When removing glass, always release top glass trim and then bottom.
 - b. Use glass vacuum holder, 10mm key and make sure to secure glass when it is out of the fireplace
 - c. **Please see Sketch A**
4. Clean

Sketch A



Silicon

1. Demonstration
2. Application and Removal
3. Cure Time 24 hours and Operation Following Installation
4. Dry silicon method

APPENDIX B

Figure 12A



Figure 12B



APPENDIX B

Appendix B

Draft September 16, 2008

MERTIK MAXITROL[®]

GV60 Remote Electronic Ignition and Control System External Source Operation



OPERATING INSTRUCTIONS - FOR OEM USE ONLY

▲ WARNING

Fire or explosion hazard. Attempted disassembly or repair 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. Failure to follow them could result in a fire or explosion causing property damage, personal injury, or loss of life. The product must be installed and operated according to all local regulations.

BEFORE OPERATING verify that no gas is in the area around the appliance, including near the floor.

WHAT TO DO IF YOU SMELL GAS:

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

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, don't try to repair it, call a qualified service technician. Force or attempted repair may result in a fire or explosion.

Do not use this control or any gas appliance if any part has been under water or in contact with water. Immediately call a qualified service technician to replace the control system and any gas control system which has been under water or in contact with water.

APPLICATION

The GV60 will operate through an external source, such as a home automation system, by using the 5-wire pin connector on the receiver.

GENERAL NOTES

An Alex 2510-Z connector (not supplied) must be used to connect to the receiver. Signal relays (gold contacts) or opto-couplers are recommended.

Beginning in 2008, receivers produced with the part number G6R-R3 (or 4) A2... will have the capability of external source operation.

OPERATING INSTRUCTIONS

▲ 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.

SEQUENCE OF OPERATION

(see figure 1)

- To start Ignition, close contacts 1 and 3 simultaneously for 1 second.
- To set the valve to High Fire, close contact 1.
To set the valve to Pilot, close contact 3.
In each case, the contacts need to be closed for 12 seconds to turn the motor from one end-stop to the other end-stop.
- To set the valve to the Off position, close contacts 1, 2, and 3 simultaneously for 1 second.

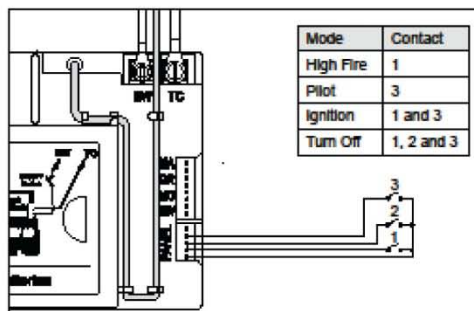


Figure 1: Wiring diagram and the operation sequence to achieve different settings

APPENDIX B

Draft September 16, 2008

GV60 - Operating Instructions

POSSIBLE MODES OF OPERATION

1. The external source provides "ON" and "OFF" operation only. The Timer/Thermostat Handset provides all other functions. The Standard handset has no timer/thermostat function.

NOTE:

Use with Timer/Thermostat Handset*

When the valve is turned "OFF" by an external source or handset, upon re-ignition it will go automatically into temperature control mode (CSA-versions) or manual mode (CE-versions).

Use with Standard Handset*

The valve will always default to manual mode upon re-ignition.

*See operating instructions for the different handsets.

2. A Standard Handset can be used where the external source has the capability to take over the temperature control.

NOTE:

Mertik Maxitrol offers an optional AC power adapter (G80 ZMAUS2 for North America and G80 ZMEU2 for Europe.

APPENDIX B

MERTIK MAXITROL[®]

GV60 Remote Electronic Ignition and Control System



TROUBLESHOOTING GUIDE – NO PILOT GAS

VERIFY THE FOLLOWING BEFORE PROCEEDING

- New batteries
- Kill switch in ON position
- Gas supply is ON
- Good connection between the gas valve and receiver unit

SERIES OF SHORT BEEPS

- Normal Ignition Sequence has begun.

ACOUSTIC WARNING SIGNALS

SIGNAL

- One long beep

POSSIBLE CAUSE

- Kill switch in OFF (O) position
- Wiring not complete or defective 8-wire cable
- Microswitch at valve does not work
- Code learning failed

SOLUTION

- Kill switch to ON (–) position
- Check wiring or replace 8-wire cable
- Reset the electronics code
- Replace gas valve

SIGNAL

- Three short beeps (while motor is turning)

POSSIBLE CAUSE

- Low batteries in receiver

SOLUTION

- Replace batteries

OBSERVED PROBLEMS

NOTE: To perform the following tests, set your multi-meter to the 200mV/DC scale.

NO PILOT GAS

POSSIBLE CAUSE

- DC Magnet fails to open

SOLUTION

- Begin ignition sequence. If you do not hear the sound of the DC magnet opening (a clunking sound) and the magnet has not opened:
- Replace the receiver unit
- Replace the 8-wire cable
- Replace the gas valve

POSSIBLE CAUSE

- Magnet unit opens, but no pilot gas

SOLUTION

- Begin ignition sequence. You should hear the sound of the DC magnet opening (a clunking sound) followed by the ignition sparking but magnet will not hold:
- Replace the magnet unit (CE only)
- The thermo current cable is wired incorrectly. Check wiring.

- (G60-ZUF..version only) Plastic insert w/cables could be incorrectly inserted into the interrupter block. Check plastic insert.
- The interrupter block may be damaged from over-tightening. Change the interrupter block.

PILOT DROPS OUT AS MOTOR TURNS AND OPENS MAIN GAS

At this moment the voltage generated from the receiver stops, and the thermocouple takes over.

SOLUTION

- If the thermocouple on the first trial does not generate enough voltage to hold open the magnet, ignition stops. (i.e. ODS Pilots) (Do not hit reset button or change batteries.) Try a second ignition that will increase pilot lighting sequence to 20 seconds.
- Check that the pilot burner is generating enough voltage (see figure 1). Measure the voltage between the larger screw (with red dot) on the receiver unit and any metal part of the gas valve. At the point the thermocouple takes over and the motor turns, and opens, the voltage reading should be more than 12 mV for Oxypilot and 20 mV for other pilot burners. This is the voltage being created by the pilot burner in an open circuit (It is independent of the resistance in the circuit) and only a short at the interrupter (see figure 2) could cause failure.

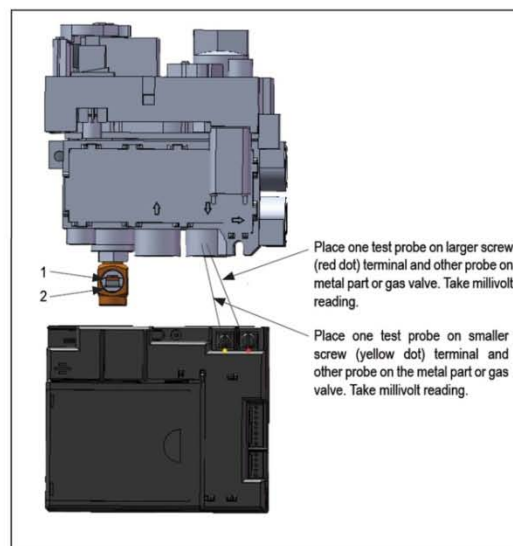


Figure 1

- Check the voltage the thermocouple is generating (see figure 3). Disconnect the thermocouple from the interrupter block and place one probe at the end of the thermocouple contact area and the other probe on the body- of the thermo

APPENDIX B

GV60 - Troubleshooting Guide – No pilot gas

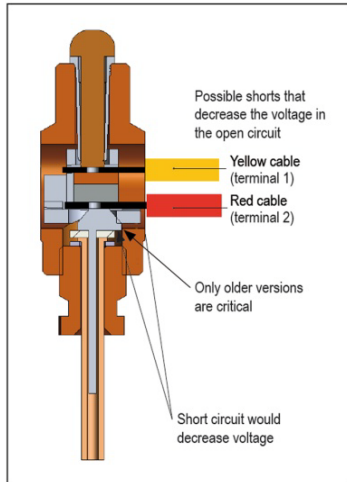


Figure 2

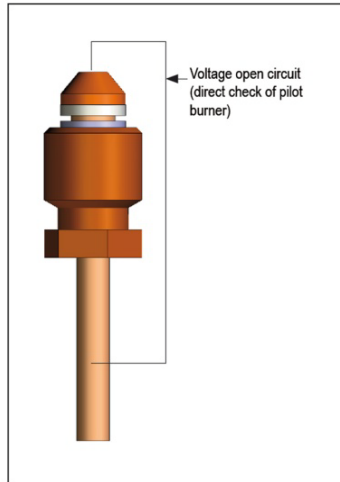


Figure 3

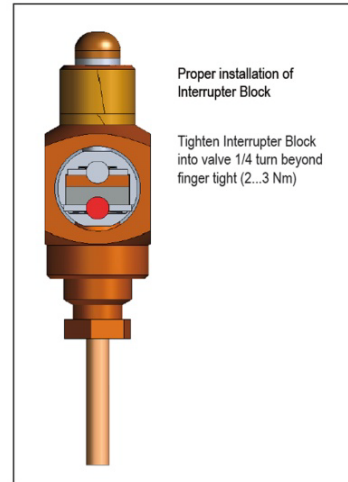


Figure 4

couple. Begin ignition sequence. At the point the thermocouple takes over and the motor on the gas valve turns and opens, take a voltage reading. With this reading you can determine if it is a pilot/thermocouple issue or a short at the interrupter block.

- If the voltage is correct, check for increased resistance in the circuit. Measure the voltage between the smaller screw (with yellow dot) on the receiver unit and any metal part of the gas valve. Begin the ignition procedure. At the point the thermocouple takes over and the motor on the gas valve turns and opens, take a voltage reading. The power supply to the magnet unit changes from the electronic voltage (not sensitive against high resistance) to the thermocouple voltage.
- Begin ignition sequence.
- More than 5.5 mV but the pilot drops out – the increased resistance is either at the kill switch, the interrupter block terminal 1, or in the safety magnet unit (see figure 4).
- Less than 5.5 mV – the increased resistance is in the interrupter block terminal 2 (see figure 2), the receiver unit, or the thermocouple.

IGNITION SEQUENCE STOPS BEFORE SPARKING STARTS (Acoustic Warning Signals)

SIGNAL

- Ignition sequence fails and beeping stops (2008 and earlier versions only).

POSSIBLE CAUSE

- Poor battery quality.

SOLUTION

- Check for low battery signal (3 beeps) by turning the motor with the handset or touchpad. Replace batteries.

SIGNAL

- One long beep (see page 1)

POSSIBLE CAUSE

- Kill switch in OFF (0) position
- Thermocouple wiring open
- Microswitch at valve does not close (e.g. knob of the motor valve is out of position because of damage.)

SOLUTION

- Check wiring and kill switch
- If kill switch does not work, replace gas valve

IGNITION SEQUENCE STOPS DURING SPARKING

POSSIBLE CAUSE

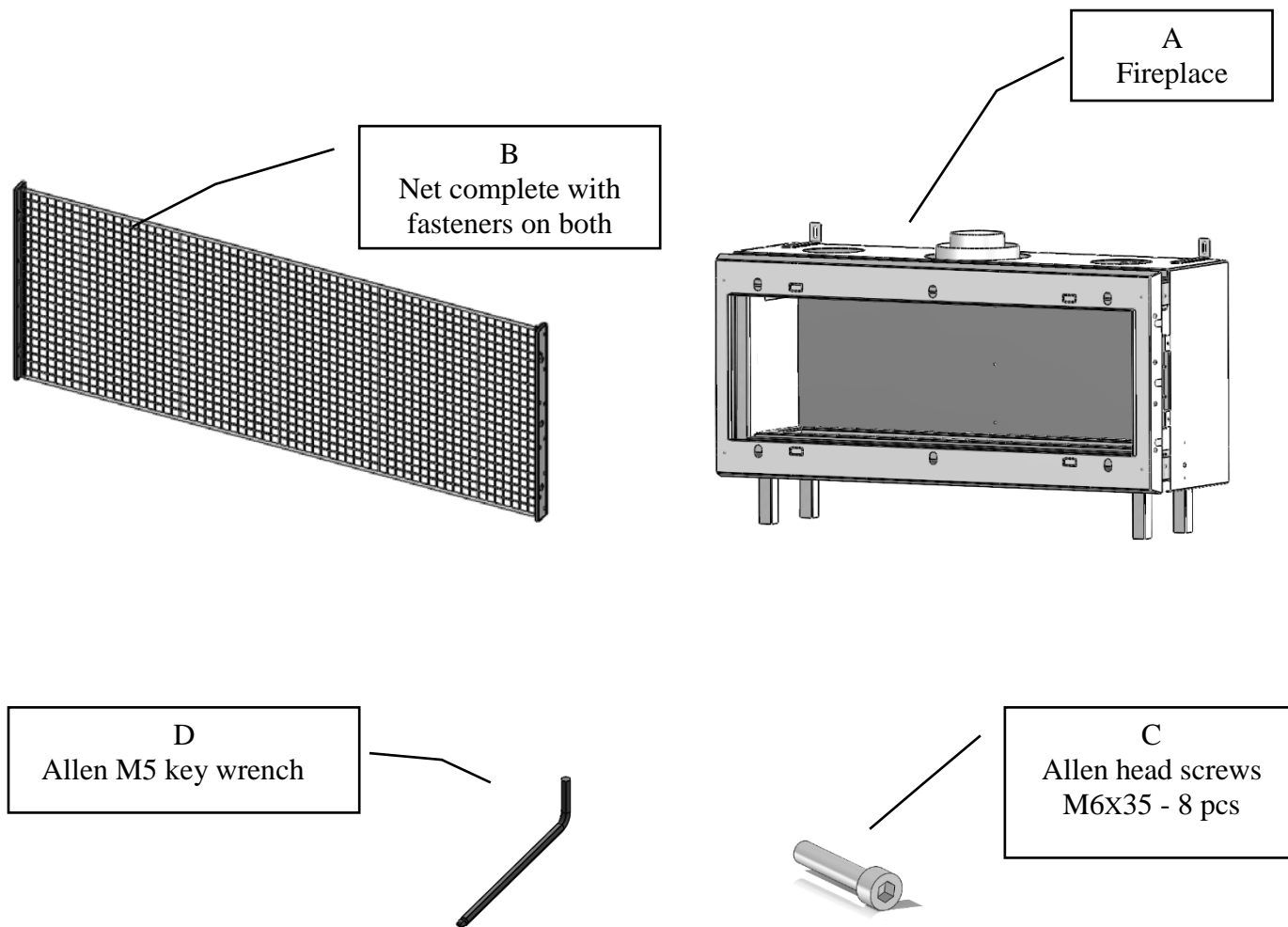
- Try turning the motor up or down using the handset. If this is not possible without a reset or disconnecting the batteries for a short time, the receiver unit has crashed. This is the only failure that can be caused by a poor ground connection. It may occur when using long ignition cables in combination with a pilot burner that is insulated from the main burner and connected with flexible piping. Also, it can occur occasionally in the lab when rubber hose is used, but very seldom in the field.

SOLUTION

- If possible, use a shorter ignition cable and run the ground wire from the pilot burner to the valve.

APPENDIX C

Front/Tunnel Unit Screen Parts Provided



APPENDIX C

Front/Tunnel Unit Screen Installation

WARNING

Be careful not to break or puncture the screen!

Step#1:

Begin with one side, make sure to have the side with holes facing you when installing. Fold the top of the screen bracket towards the middle (as seen in image at right, IMG 1). This gives you enough room to insert the bottom of the bracket into the gap in front of the face of the firebox. Once it is secure from below, unfold the top of the bracket outwards and to the side frame of the unit. Rotate into place and add the screws to hold it there, but do not tighten yet. Repeat for the other side. **Make sure to have the screen go into the channel of the frame! Be delicate in handling the screen so that it does not break.**

Step#2:

Secure the screen bracket to the side of the firebox with the 3/16" Allen bolts. **If using a drill or an impact, make sure that you only tighten one side with the tools and hand tighten the other side. Using an impact or a drill to tighten both sides may cause the screen to break!** If the screen is still loose after tightening the Allen bolts, adjust the tensioning screws on the side. (Red screws on IMG 1)

Step#3

Once the screen is set and secured within the firebox, reinstall the side and bottom trim covers (as seen in the images below, IMG 4 and IMG 5). The bottom trim should be installed before the side trims.

Once the screen is installed and tightens in the fireplace, reinstall the sides and bottom trim cover. The bottom trim should be installed first before the side.



APPENDIX C

Front/Tunnel Unit Screen Removal

WARNING

Be careful not to break or puncture the screen!

Step #1:

Remove the side trim from both sides of the fireplace (shown in the images below, IMG 1 and IMG 2) to expose the mounting hardware for the screen.



Step #2:

Remove the bottom trim cover.



Step #3:

Once all of the side trims and the bottom trim are put aside, remove the 3/16 allen bolt on both sides. Best to maintain pressure on the screen trim when removing bolts.



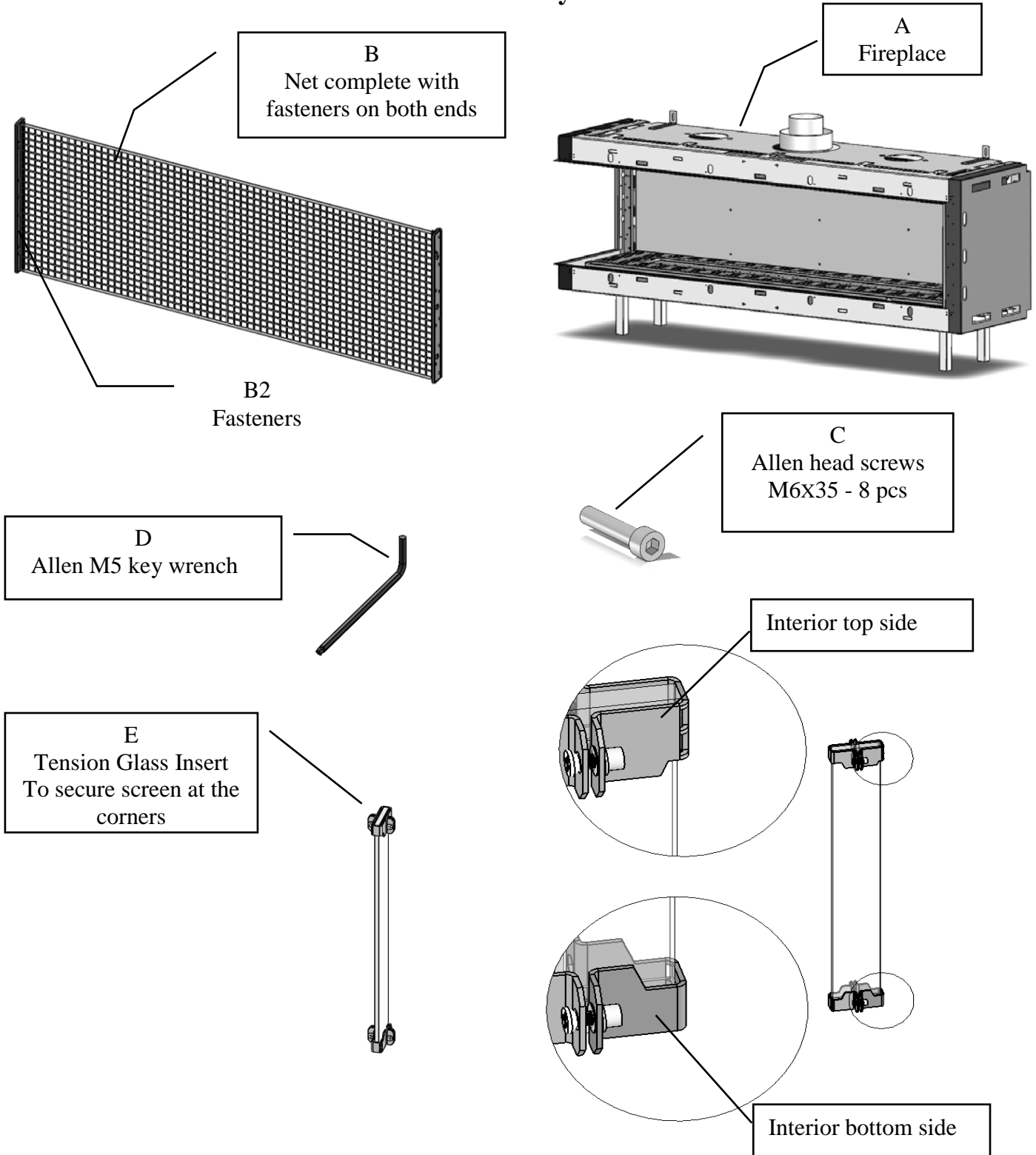
Step #4:

Once the bolts are removed, twist and fold the top of the screen bracket towards the middle. This gives you room to pull the screen bracket entirely out of the firebox.



APPENDIX D

Multi Sided Unit Screen System Parts Provided



APPENDIX D

Multi Sided Unit Screen System Instructions

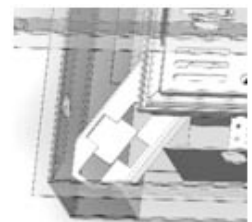
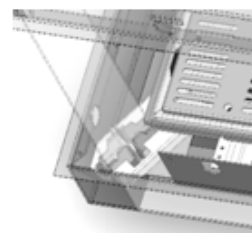
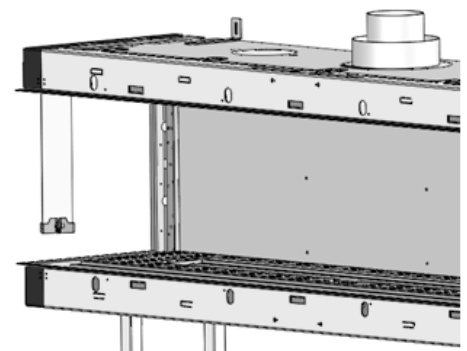
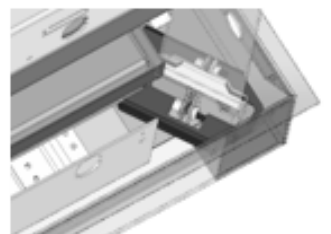
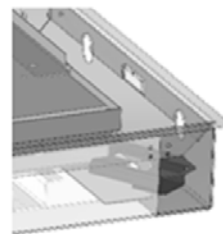
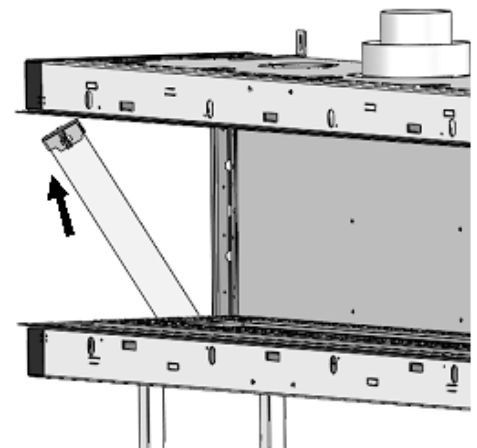
WARNING

Be careful not to break or puncture the screen!

1. Take tension glass insert (E) and place on the side of the firebox at an angle towards the back.



2. Insert the tension glass insert (E) into the top socket first, lift upwards and finish inserting it into the bottom socket.
3. Check the tension glass insert (E) is sitting properly on both bottom and top socket. Make sure it is secure and not in an odd position. It must be inserted properly into its socket to keep the tension for the screen.

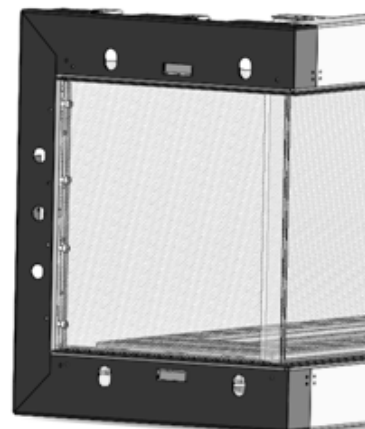


APPENDIX D

4. Install all glass trim covers once glass bracket(s) is in place (side and front).

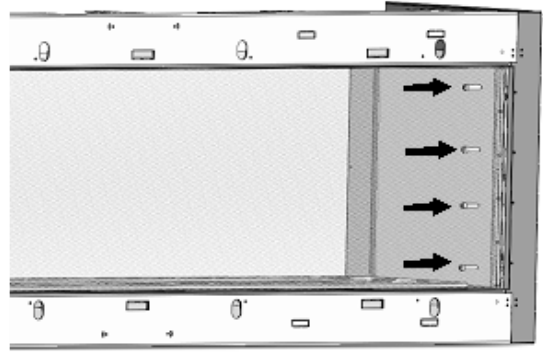


5. Once confirmed, you may begin to install the screen. Connect Screen (B) into the short side of the firebox bracket first. Keep it in place by connecting the screws (C) using only the Allen M5 key (D) provided. Do not tighten all the way, just hand tighten two –three turns.



APPENDIX D

6. Stretch the net on both ends by fastening the remaining screws (C). Make sure to test the tension by applying hand pressure. The screen should not become displaced from its position nor should it come in contact with the glass.



7. Don't forget to apply the screen trim covers once screen is properly installed.

NOTE:

- Only use the key wrench provided with the fireplace. Do not use any mechanical tools, and do not over tighten the screen.
- When tightening the screen make sure the tension glass insert does not deform in the process.
- The glass trim cover is wider than the screen trim cover, do not confuse the two.



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