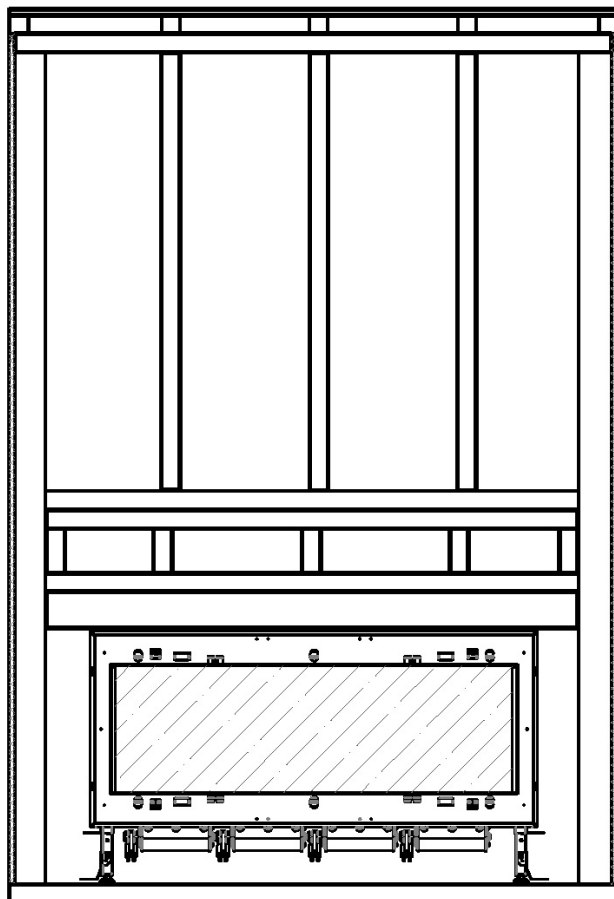




## Installation and Operation Manual Built-In Models



**Manufacturer Update**  
**Serial Number 21818 and Forward**

**⚠ WARNING:**  
**FIRE OR EXPLOSION HAZARD**  
Failure to follow safety warnings exactly  
could result in serious injury, death, or  
property damage

- **DO NOT** store or use gasoline or other flammable vapors and liquids in the vicinity of this or any other appliance.
- **What to do if you smell gas:**
  - **DO NOT** try to light any appliance.
  - **DO NOT** touch any electrical switch. **DO NOT** use any phone in your building.
  - Leave the building immediately.
  - Immediately call 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.
- Installation and service must be performed by a qualified installer, service agency, or the gas supplier.

### Built-In Models:

Front Facing  
Corner (RS/LS)  
Tunnel  
Three Side  
Space Creator  
Curve  
Island

**! DANGER**



**HOT GLASS WILL  
CAUSE BURNS.**

**DO NOT TOUCH GLASS  
UNTIL COOLED**

**NEVER ALLOW CHILDREN  
TO TOUCH GLASS.**

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



## General

### Safety Information and Warnings



#### **IMPORTANT NOTE: LOCAL CODE**

Local codes and regulations that are more stringent than the requirements in this manual take precedence over Ortal requirements.



#### **WARNING: HANDLING SPACE CREATOR FIREPLACES**

The Space Creator fireplace must be handled with care due to its special and sensitive shape. Do not remove the securing brackets before installation. After removing the securing brackets, the appliance must be treated with care to maintain its leveled shape. Do not shake, throw, stand, or put weight on it.



#### **WARNING: REVIEW ALL WARNINGS**

Be sure to review all safety warnings and installation guidelines contained in this manual. Consider installation location, vent configuration, clearances, structural requirements, framing and finish materials, and local codes. ALL warnings and instructions apply to all products manufactured and distributed by Ortal.



#### **WARNING: DO NOT OPERATE FIREPLACE IF:**

The glass is NOT properly secured in place; Connection points are not sealed (for fireplaces with glass-to-glass connections); Glass is cracked; You smell gas; Any part of the fireplace has been under water; You have any doubt about safe operation of the fireplace; Or if any part has been under water, do not use the fireplace. Immediately call a qualified, professional service technician to inspect the fireplace and to replace any parts of the control system and any gas controls which have been under water.



#### **WARNING: ELECTRICAL GROUNDING**

All electrical connections must be properly installed, insulated, and secured to avoid potential **ELECTRICAL SHOCK** and **FIRE HAZARD** and malfunction of the system. Consult local building code requirements. In the absence of local codes, refer to the National Electric Code, ANSI/NFPA 70, or the Canadian Electric Code, CSA C22.1.



#### **WARNING: MATERIAL USAGE**

All materials and objects used to carry out the installation must be certified/approved or specified by Ortal and are suitable for use. Do NOT install the system with different materials or objects than those approved for installation by Ortal.



#### **WARNING: INSTALLATION AND SERVICE**

Installation and repairs on the fireplace and vent system must be done by an authorized Ortal qualified installer service agency or gas supplier. If these components are not installed by an authorized Ortal dealer/installer, the warranty of all components will be void and Ortal will not be responsible for any damage caused by improper installation. The fireplace 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. Control compartments, burners and circulating air passageways of the fireplace must be kept clean. Any alteration to the product can cause soot or carbon to form and may result in damage. This damage and any other damage that results from not following the instructions outlined in this manual is not the responsibility of Ortal.



#### **WARNING: HEAT BARRIER**

A barrier designed to reduce the risk of burns from hot viewing glass is provided with this fireplace and shall be installed. The fireplace MUST not be used without the heat barrier in place. If the barrier becomes damaged, the barrier shall be replaced with the manufacturer's barrier for this fireplace. **Any safety screen, guard, or barrier removed for servicing the fireplace must be replaced before operating.**



#### **WARNING: FIREPLACE TEMPERATURE**

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



#### **WARNING: GLASS HANDLING**

Only an Ortal certified installer is authorized to remove the glass using an 8-inch glass-handling suction cup.



#### **WARNING: INSTALLATION AND OPERATION**

The fireplace and accompanying components 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. The fireplace must be installed in accordance with the 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. **Exceeding the restrictions imposed in these instructions may result in a fire or explosion, causing property damage, personal injury, or loss of life. Ortal will not be responsible for any damage caused by improper installation. Do not store or use gasoline or other flammable vapors and liquids near this fireplace.**



#### **WARNING: GAS FIREPLACE**

This fireplace is for use only with the type of gas indicated on the rating plate. These fireplaces are not convertible for use with other gases unless a certified kit is used, and the conversion is performed by an authorized and qualified technician. Applicable standards are Vented Gas Fireplace Heaters ANSI Z21.88 / CSA 2.33a and Gas-fired Fireplaces for Use at High Altitudes CAN/CGA 2.17-M91



#### **WARNING: CALIFORNIA PROP 65**

These products and the fuels used to operate these products (liquid propane or natural gas), and the products of combustion of such fuels, can expose you to chemicals including benzene, carbon monoxide, and ceramic fibers, which are known to the state of California to cause cancer and/or reproductive harm. For more information, visit [www.p65warnings.ca.gov](http://www.p65warnings.ca.gov).

# Table of Contents

“→” Denotes new or changed information from most recent version manual.

<b>General</b>	<b>2</b>
<b>Safety Information and Warnings</b>	<b>2</b>
<b>Product Information</b>	<b>4</b>
Certification	4
→ Models	5
Rating Label	6
<b>Installation</b>	<b>7</b>
<b>Prior to Installation</b>	<b>7</b>
Locate the Fireplace	7
<b>Fireplace Installation</b>	<b>7</b>
First Trip to Site: Planning	7
Second Trip to Site: Installation	7
Third Trip to Site: Startup	8
<b>Post-Installation</b>	<b>9</b>
Initial Burning Period	9
Final Inspection Procedure	9
Final Checks and User Instruction	9
<b>Building Around the Fireplace</b>	<b>10</b>
<b>Building Checklist</b>	<b>10</b>
<b>Framing</b>	<b>11</b>
Framing Detail	11
→ Framing Dimensions	12
5/8" Type X Drywall Requirements	17
Chase Floor/Platform	17
Hearth Extension	17
→ General Clearances	18
Heat Release	23
Air Intake	25
Mounting a TV/Artwork	27
Access Panel	29
Chase Area Minimum	29
Recessed Partial Ledge	30
Structural Weight Support	31
<b>Step-by-Step Chase Construction</b>	<b>32</b>
<b>Finishing</b>	<b>33</b>
Flush Installation	33
Recessed Installation	34
<b>Venting</b>	<b>35</b>
<b>General Vent Requirements</b>	<b>35</b>
<b>Vent Configurations</b>	<b>36</b>
<b>Vent Restrictors</b>	<b>39</b>
Restrictor Sizing Guidelines	39
<b>Vent Clearances</b>	<b>42</b>
<b>Termination</b>	<b>43</b>
Horizontal Termination Clearance Diagram	43
Vertical Termination Clearance Diagram	45
<b>Chimney Shroud</b>	<b>46</b>
<b>Vent Installation</b>	<b>46</b>
<b>Vent Maintenance</b>	<b>47</b>
<b>Co-Axial to Co-Linear Conversion</b>	<b>47</b>
Vent Configuration	48
<b>Gas</b>	<b>49</b>
<b>Gas Pressures</b>	<b>49</b>
<b>High Altitude Requirements</b>	<b>49</b>
<b>Routing the Gas Line</b>	<b>50</b>
<b>Gas Conversion</b>	<b>50</b>

<b>Gas and Electrical Components</b>	<b>51</b>
<b>Electrical</b>	<b>53</b>
<b>Electrical Requirements</b>	<b>53</b>
Power Outage	53
Pairing the Remote and Receiver	53
<b>Wiring Diagrams</b>	<b>54</b>
Home Automation Wiring Diagram	58
<b>Interior Design Media</b>	<b>58</b>
<b>Media Placement Guidelines</b>	<b>59</b>
Glass Media Placement	59
Stone Media Placement	59
Log Media Placement	60
<b>Operation</b>	<b>61</b>
<b>10-Button Remote Control Handset</b>	<b>61</b>
Operating Instructions	61
<b>Puck Handset</b>	<b>62</b>
Operating Instructions	63
<b>Wall Switch</b>	<b>64</b>
Operating Instructions	64
<b>MyFire App</b>	<b>65</b>
Operating Instructions	65
MyFire Wi-Fi Box	65
<b>Fireplace Maintenance</b>	<b>66</b>
<b>General Maintenance</b>	<b>66</b>

## Product Information

### Certification

Built-In Model fireplaces have been tested and approved by CSA Group for safety and efficiency for use with Natural Gas (NG) and Propane (LP) only, and **NOT** for use with solid fuels. CSA Group is approved by the American National Standards Institute (ANSI) as an Accredited Standards Developer.

#### Certification Listings:

For US: ANSI Z21.88 (2019): Vented Gas Fireplace Heaters

For Canada: CSA 2.33 (2019): Vented Gas Fireplace Heaters



#### Products:

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

CLASS 2901 04: DOMESTIC HEATERS (GAS) Vented Fireplace

The fireplaces are permitted for indoor use only. "Indoor" is defined as a conditioned space. The fireplaces are not approved for outdoor or partial outdoor installation.

**Exception:** Tunnel models with the Ortol "Indoor-Outdoor Kit" are approved for partial (indoor-outdoor) outdoor installation.

The fireplaces must be installed while maintaining required clearances. Installation is recommended in living spaces such as bedrooms, living rooms, great rooms, etc. The fireplaces are not approved for closet installation. The fireplace must be installed according to Ortol requirements in addition to any local codes that may apply, such as USA: ANSI Z223.1/NFPA 54, Canada: CSA B149.

#### **IMPORTANT – PLEASE READ:**

- It is the responsibility of the fireplace dealer and installer to ensure that this fireplace is installed and framed in compliance with these instructions and all applicable codes.
- Before starting, take careful note of **ALL** the **WARNINGS** in this manual.
- Consult the authority having jurisdiction to determine the need for a permit prior to starting the installation.

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

## → Models

This manual provides instructions for the following models. Please refer to the Ortal website for Product Dimensions.





Series	Models	Burner	Listing	Gas Types	Direct Venting
40	40H70 F/RS/LS/TS/TN	30 Single	US: ANSI Z21.88-2019 Canada: CSA 2.33-2019	Natural Gas or Propane	Standard: Type: Passive Vent Vent Size: 4"x8" co-axial
					Optional: Type: Power Vent Vent Size: 3"x5" co-axial
60 70 75	60x80 F/TN Island 70 75 F/RS/LS/TS/TN Space Creator 75 75x65 F/TN	45 Single	US: ANSI Z21.88-2019 Canada: CSA 2.33-2019	Natural Gas or Propane	Standard: Type: Passive Vent Vent Size: 4"x8" co-axial
					Optional: Type: Power Vent Vent Size: 3"x5" co-axial (does not apply to Island)
					Optional: Island 70 only Type: Enervex Power Vent Vent Size: 4"x6" co-axial
75H (31H)	31H (aka 75x65H) F/TN	45 Single	US: ANSI Z21.88-2019 Canada: CSA 2.33-2019	Natural Gas or Propane	Standard: Type: Passive Vent Vent Size: 5"x8" co-axial
					Optional: Type: Power Vent Vent Size: 3"x5" co-axial
					Optional: Island 70 only Type: Enervex Power Vent Vent Size: 5"x8" co-axial
Curve	Stand Alone 75x65 Curve (aka Curve 270) Stand Alone 75x65 Curve TN (aka Curve 360)	45 Double	U US: ANSI Z21.88-2019 Canada: CSA 2.33-2019	Natural Gas or Propane	Standard: Type: Passive Vent Vent Size: 5"x8" co-axial
					Optional: Type: Enervex Power Vent Vent Size: 5"x8" co-axial
110 120 130	110 F/RS/LS/TS/TN 110H F/RS/LS/TS/TN 110HH TN Space Creator 120 130 F/RS/LS/TS/TN 130H F/RS/LS/TS/TN Island 130	100 Single	US: ANSI Z21.88-2019 Canada: CSA 2.33-2019	Natural Gas or Propane	Standard: Type: Passive Vent Vent Size: 5"x8" co-axial
					Optional: Type: Power Vent Vent Size: 3"x5" co-axial (does not apply to Island)
					Optional: Island 130 only Type: Enervex Power Vent Vent Size: 5"x8" co-axial
150 170	150 F/RS/LS/TS/TN 150H F/RS/LS/TS/TN 150HH TN Space Creator 150 170 F/RS/LS/TS/TN 170H F/RS/LS/TS/TN	135 Single	US: ANSI Z21.88-2019 Canada: CSA 2.33-2019	Natural Gas or Propane	Standard: Type: Passive Vent Vent Size: 5"x8" co-axial
					Optional: Type: Power Vent Vent Size: 3"x5" co-axial
200	200 F/RS/LS/TS/TN 200H F/RS/LS/TS/TN 200HH TN Space Creator 200	160 Single	US: ANSI Z21.88-2019 Canada: CSA 2.33-2019	Natural Gas or Propane	Standard: Type: Passive Vent Vent Size: 5"x8" co-axial
					Optional: Type: Power Vent Vent Size: 3"x5" co-axial
250	250 F/RS/LS/TS/TN 250H F/RS/LS/TS/TN 250HH TN	180 Single	US: ANSI Z21.88-2019 Canada: CSA 2.33-2019	Natural Gas or Propane	Standard: Type: Passive Vent Vent Size: 5"x8" co-axial
					Optional: Type: Power Vent Vent Size: 3"x5" co-axial

## Rating Label

The following figure shows a sample certification label for various product series. The fireplace rating label is found on a separate metal plate that is included with the fireplace.

**DEALERS/INSTALLERS:** You **MUST** leave the fireplace's rating label with the fireplace in an area easily accessible by the owner (typically near the access panel, if available). You must instruct the owner before handing over the fireplace where this label can be found.

**OWNERS:** Make sure the installer leaves your fireplace's rating label in an area that is easily accessible for you. This information is required for servicing and receiving replacement parts.

		  	
Manufacturer/Fabricant Ortal Ltd. 14 Haharash St. Hod Hasharon, 4524087 Israel Tel: 011-972-9-7402828 Fax: 011-972-9-7402687		For use only with vent, glass and interior design media certified and approved for use with the appliance. Not for use with solid fuel. For use with barriers certified for this appliance only.	
<input type="checkbox"/> ORTAL <input type="checkbox"/> LYRIC		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. Pour une utilisation avec des barrières certifiées pour cet appareil uniquement.	
Serial No.: <input type="text"/>		Approved By: Homologué Par: CSA No.: 2358468	
Tested to: CSA/ANSI Z21.86-2019 • CSA 2.33-2019 for Vented Gas Fireplace Heater Examiné à: CSA/ANSI Z21.86-2019 • CSA 2.33-2019 pour Poêles-foyers ventilés			
Altitude rating: Estimation d'altitude:		Electrical Rating: Estimation Électrique:	
0-2000 ft. / 0-610 m.		120 volt / 60 Hz / less than 5A	
<b>Model Series / Modèle Séries: 110-130 With 100 Burner</b>			
<input type="checkbox"/> Clear 110/RS/LS/TS/Tunnel <input type="checkbox"/> Clear 130/RS/LS/TS/Tunnel <input type="checkbox"/> Clear - 110 Base <input type="checkbox"/> Clear 110H RS/LS/TS/Tunnel <input type="checkbox"/> Clear 130H RS/LS/TS/Tunnel <input type="checkbox"/> Clear - 110TS Base <input type="checkbox"/> Clear 110HH RS/LS/TS/Tunnel <input type="checkbox"/> Clear 130HH RS/LS/TS/Tunnel <input type="checkbox"/> Island 130 <input type="checkbox"/> Stand Alone 110 /TS <input type="checkbox"/> Space Creator 120 / Mini / Midi <input type="checkbox"/> Space Creator 120H			
Fuel Type/Type de combustible:		<input type="checkbox"/> NG/GN <input type="checkbox"/> PROPANE	
		Single Orifice    Double Orifice    Single Orifice    Double Orifice	
Max Input / Débit max. (BTU/HR):		37,167    42,185    35,316    42,185	
Min Input / Débit min. (BTU/HR):		22,798    28,878    25,113    28,878	
Orifice Size / Taille de l'orifice:		1200    650F+650R    380    180R+180F	
Gas Inlet Pressure (W.C.) inches: Pression d'entrée de gaz (CE) pouces:		7.0    7.0    11.0    7.0	
Gas manifold Pressure (W.C.) inches: Pression d'alimentation (CE) pouces:		5.6    5.0    10.0    5.0	
Clearances to Combustibles (with included standoffs): Espace par rapport aux matériaux inflammables (avec entretoises inclus):		Sides: Côtés:	Back: Arrière:
		0"	0"
		In front of Glass Devant le panneau vitré: 16"	
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.			
SKU: M209-B100DS-22			

Sample Rating Label

# Installation

## Prior to Installation

### Locate the Fireplace

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

- Fireplace clearance requirements (review “General Clearances” sections starting on page 18).
- Heat release and air intake requirements (review “Heat Release” section on page 23 and “Air Intake” section on page 25).
- Adequate space for servicing.
- Access panel recommendations (review “Access Panel” section on page 29).
- Minimum vertical vent rise, allowed horizontal lengths, and elbow usage (review “Venting” section starting on page 35).
- Framing and finishing requirements (review “Framing” starting on page 11 and “Finishing” section starting on page 33).
  - Front wall installation and finishes to be completed after fireplace and vent installation (review “Step-By-Step Chase Construction” section).
- Floor or Platform requirements (review “Chase Floor/Platform” section on page 17).

## Fireplace Installation

Use the following guidelines to ensure a smooth installation. The installation sequence is divided into three phases: Planning, Installation, and Startup.

### First Trip to Site: Planning

Consult with the contractor and go over all requirements:

- Chase framing requirements.
- $\frac{5}{8}$ " Type X Drywall (or equivalent) requirements.
- Heat release requirements.
- Air Intake requirements (if applicable).
- Access panel size and location.
- Gas and electric specs and location.
- Vent configuration.
- Finishing details.



**NOTE:** Provide the contractor with a printed copy of the “Building Checklist” and review requirements with them.

### Second Trip to Site: Installation

- Confirm the following items are properly located and built to specification:
  - Framing (with  $\frac{5}{8}$ " Type X Drywall)
  - Platform
  - Gas and electric
  - Access panel (if applicable)
  - Heat release
  - Air intake (if applicable)
- Clear a path free of any possible obstruction to carry in the fireplace.
- Uncrate the fireplace and set in place.
- Secure the fireplace by attaching the seismic brackets to the framing. See “Securing the Fireplace” section on the next page.
- Remove plastic sleeve covering pilot tube and electrical wires.
- Remove all zip ties.
- Optional: Remove gas and electrical components from metal shipping plate if desired.
- Move the components to the access panel location. Be mindful of the routing for future service needs.
- Verify the light grounding cable is connected to the firebox.
- Install the vent components. See “Vent Installation” section on the next page.
- Review the front wall requirements (see “Step-By-Step Chase Construction” section on page 32) and finishing details with the contractor.
- Protect the fireplace and components from damage.



#### **WARNING: HANDLING SPACE CREATOR FIREPLACES**

The Space Creator fireplace must be handled with care due to its special and sensitive shape. Do not remove the securing brackets before installation. After removing the securing brackets, the appliance must be treated with care to maintain its leveled shape. Do not shake, throw, stand, or put weight on it.



#### **WARNING: LIP INSTALLATION IN H FIREPLACES**

To ensure the glass is removable after installation, Magnetic Screw (Part #M03) under the fireplace lip **must** be secured tightly to the firebox and screwed in as far as possible prior to installation of framing and finish material. If the magnet is not completely screwed down into the firebox, the lip will sit ajar to the firebox, preventing glass removal.

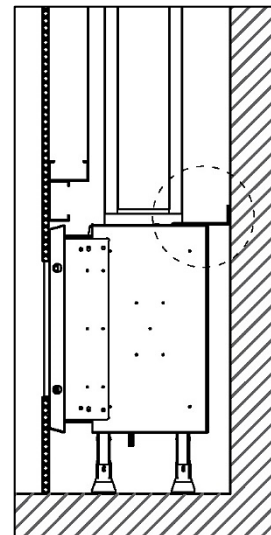
## Securing the Fireplace

During shipping, two L-shaped seismic brackets are attached from the fireplace to the crating for stabilization. These brackets must be re-used during installation to secure the fireplace to the back (or side) framing. It is crucial to the finishing that the fireplace is stable, level, and plumb. For added stability (though not required), re-use the leg shipping brackets to secure the legs of the fireplace to floor/platform.

## Vent Installation

Venting must be installed according to the requirements detailed in the "Venting" section of this manual in conjunction with the vent system manufacturer's installation instructions. Venting must be supported by the structural surrounding and not by the fireplace. Each offset (elbow) must be strapped to reduce movement or possible disconnection.

The first section of venting must be secured to the fireplace starter collar with a minimum of 3 sheet metal screws no longer than 1/2". DO NOT use silicone to seal the sections. If sealing is required by the vent manufacturer or local code, use Mil-Pac sealant.



Seismic Bracket

## Third Trip to Site: Startup

- Perform a visual inspection to confirm that all work was completed correctly and per specification.
- Confirm that gas and electric are properly connected and live and operating the specs specified within this manual.
- Remove the safety barrier and glass and clean the inside of the fireplace.
- Install the Interior Design Media (if desired) on the burner as specified in "Interior Design Media" section starting on page 58.
- Confirm the fireplace is operating properly.
- Check remote-control setup.
- Remove protective layer from glass.
- Clean glass.
- Reinstall the glass and safety barrier.
- Review operation of the fireplace and remote control with the owner.
- Set up return visit to clean glass after the Initial Burning Period (see "Post-Installation" section on the next page).

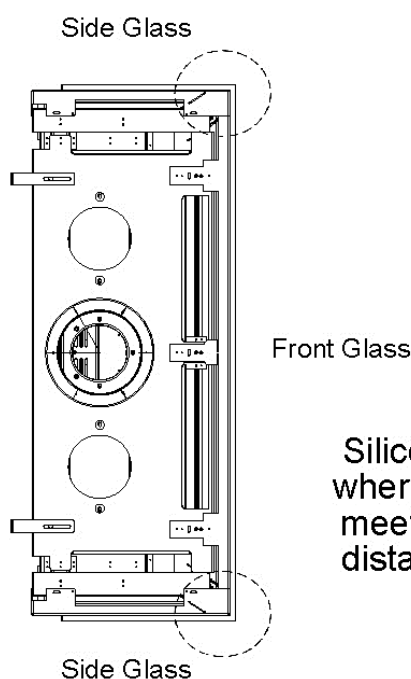
## Working with Glass Panels

Inner glass panel is 5mm ceramic glass. For fireplaces with a double glass heat barrier, exterior glass panel is 3/16" tempered glass.

Silicone comes pre-applied to any glass-to-glass connections (multi-sided models), on both sides of the glass. Keep the following guidelines in mind when handling silicone and glass panels:

The purpose of the silicone is to create a gasket, not to "glue" the glass panels together. When placing glass panels, ensure that the glass is fully in place and that the silicone is filling the space between the glass panels. Place the front (or center) panel in place first and then slide the side panel into place so that the silicone edge touches the glass edge.

- Re-apply silicone only if the original silicone is damaged (Rutland 500" Clear Silicone is recommended).
- If new silicone is applied, cure time is 24 hours before operation of the fireplace.
- Do not use silicone to seal the glass after it is in place.
- Always use appropriate materials and cleaning agents to clean glass. Ammonia free glass cleaners and/or ceramic glass cleaners are recommended.



Silicone is applied where glass panels meet, to close any distance between.

Glass Seal Assembly Diagram

## Post-Installation

Complete the following post-installation steps upon 4<sup>th</sup> trip to site.

### Initial Burning Period

There is a 12-hour minimum burning period following installation of the fireplace. This 12-hour period must include a minimum of 4 consecutive hours of continuous burning. During this time, the owner or installer may notice:

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

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

### Final Inspection Procedure

When the 12-hour burning period is complete, the installer must return and perform the final inspection, which includes:

- Cleaning the glass with a ceramic glass cleaner (otherwise the white residue will remain)
- Checking the interior media setup
- Checking for gas leaks
- Adjusting the restrictor (if necessary)
- Performing an overall check to make sure that all systems and components is working properly.

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

### Final Checks and User Instruction

Before releasing the fireplace to the customer for use without installer supervision, the installer must ensure that the fireplace is burning correctly. In addition, the installer must review and explain the following to the owner:

- Safety warnings
- Fireplace operation
- Warranty requirements
- Maintenance requirements
- Glass and firebox components are hot during and after operation.
- If any questions or concerns arise, owner must contact the local Ortal dealer/installer for support.

## Building Around the Fireplace

### Building Checklist

The following building checklist is a quick reference for a typical Ortal Built-In Series fireplace installation. This list is not exhaustive and does not supplement thorough review of the installation manual.

- ☑ **Fireplace Location:** Ensure the location allows for min. 16" clearance from viewing area to combustibles and 12" to non-combustibles. Make sure a clear path is established to allow the fireplace to be safely transported to installation location.
- ☑ **Venting:** Confirm vent size (either 4"x6" or 5"x8" for natural vent and 3"x5" for power vent), vent clearance (1" on sides and bottom, 3" on top), vent configuration, and termination location.
- ☑ **Height from Floor:** Fireplace leg height is 9 <sup>13</sup>/<sub>16</sub>" (to bottom viewing area). Legs cannot be removed/altered. If the desired viewing area location on the wall is higher than 9 <sup>13</sup>/<sub>16</sub>", a platform can be built for the fireplace to stand on. Exception: Leg height for Space Creator 200 with Double Glass is 11 <sup>7</sup>/<sub>16</sub>".
- ☑ **Chase Floor/Platform:** Fireplace can stand on the chase floor or a platform. Floor or platform must be able to bear the weight of the fireplace. It can be constructed out of wood, concrete, metal, or any other solid materials (not required to be non-combustible).
- ☑ **Chase Construction:** No materials can be attached directly to the fireplace (exception: <sup>5</sup>/<sub>8</sub>" Type X Drywall). The area of the chase interior must meet minimum chase area requirements (depending on the model). All chases require a heat release, and double glass fireplaces require an air intake (details below).
- ☑ **Framing:** Adhere to minimum framing dimensions (or greater). Keep min. 2" clearance from back and sides (as applicable by model) of fireplace to any material. The first 18" above the top of the fireplace viewing area must always be non-combustible framing. Maintain min. <sup>1</sup>/<sub>4</sub>" clearance from front face of fireplace and front metal off-set to the framing. Maintain min. 4" space between air vents at top of fireplace to any material. For recessed fireplaces, do not exceed 12" max. front overhang depth limit. Side overhang depth is unlimited. No material is permitted to extend past the metal lip surrounding the fireplace viewing area to allow for glass removal.
- ☑ **<sup>5</sup>/<sub>8</sub>" Type X Drywall Requirements:** One layer of <sup>5</sup>/<sub>8</sub>" Type X Drywall (or equivalent) must be installed on the exterior of the chase framing.
- ☑ **TV/Artwork:** TV/Art must be min. 4" above top of fireplace viewing area for flush-mounted TVs, and 12" for TVs recessed into the wall above the fireplace.
- ☑ **Gas Supply Line and Power Location:** Locate gas line with manual shut off according to local code. Power provided by single gang 120V outlet in same area as gas line.
- ☑ **Access Panel:** Access panel highly recommended to access gas and electrical components for servicing. Depending on the model, access panel can be placed at side or back of the fireplace within 3' of the pilot. Access panel or some other form of clear access to the chase is required for power-vented fireplaces. Size recommendation: as large as possible depending on application. Min. recommended size 10"x10".
- ☑ **Heat Release:** *Crucial for Cool Wall Technology.* Must start within 6" (max.) from the chase's ceiling. Heat release must meet minimum size (depending on the model) of net free air space. Height of the heat release must not exceed <sup>1</sup>/<sub>3</sub> of the width.
- ☑ **Air Intake:** Only required for double glass heat barrier. Must be located at or below level of double glass fans. Air intake must meet the minimum size (depending on the model) of net free air space.
- ☑ **Finishing:** For finishes flush to the fireplace, no clearances are required. For finishes where the fireplace is recessed to the finish, maintain <sup>1</sup>/<sub>8</sub>" from the finish to the front face of the fireplace.

## Framing

Fireplace chase may be framed with either combustible (typically wood studs) or non-combustible framing (typically metal studs). **Any framing within 18 inches from the top of the fireplace glass (viewing area) must be non-combustible.** This does not apply to the framing to the back or side(s) of the fireplace; these may be combustible.

The fireplace is non-load bearing. The framing of the fireplace chase must be designed to carry the entire weight of the wall and finish material. Surrounding material must not transfer weight to the fireplace (exception:  $\frac{5}{8}$ " Type X drywall or equivalent), or be connected in any way to the fireplace.

**No material is permitted to extend past the metal lip surrounding the fireplace viewing area. This area must be unobstructed to allow the heat barrier and inside glass panel to be removable.**

## Framing Detail

The detail below shows general framing requirements for a fireplace built flush to the finish wall. It is not to drawn to scale and is intended for illustrative purposes only. For a complete list of clearance requirements, please see "General Clearances" on page 18.

Dimension labels below correspond with the diagrams in the "→ Framing Dimensions" section starting on the next page.

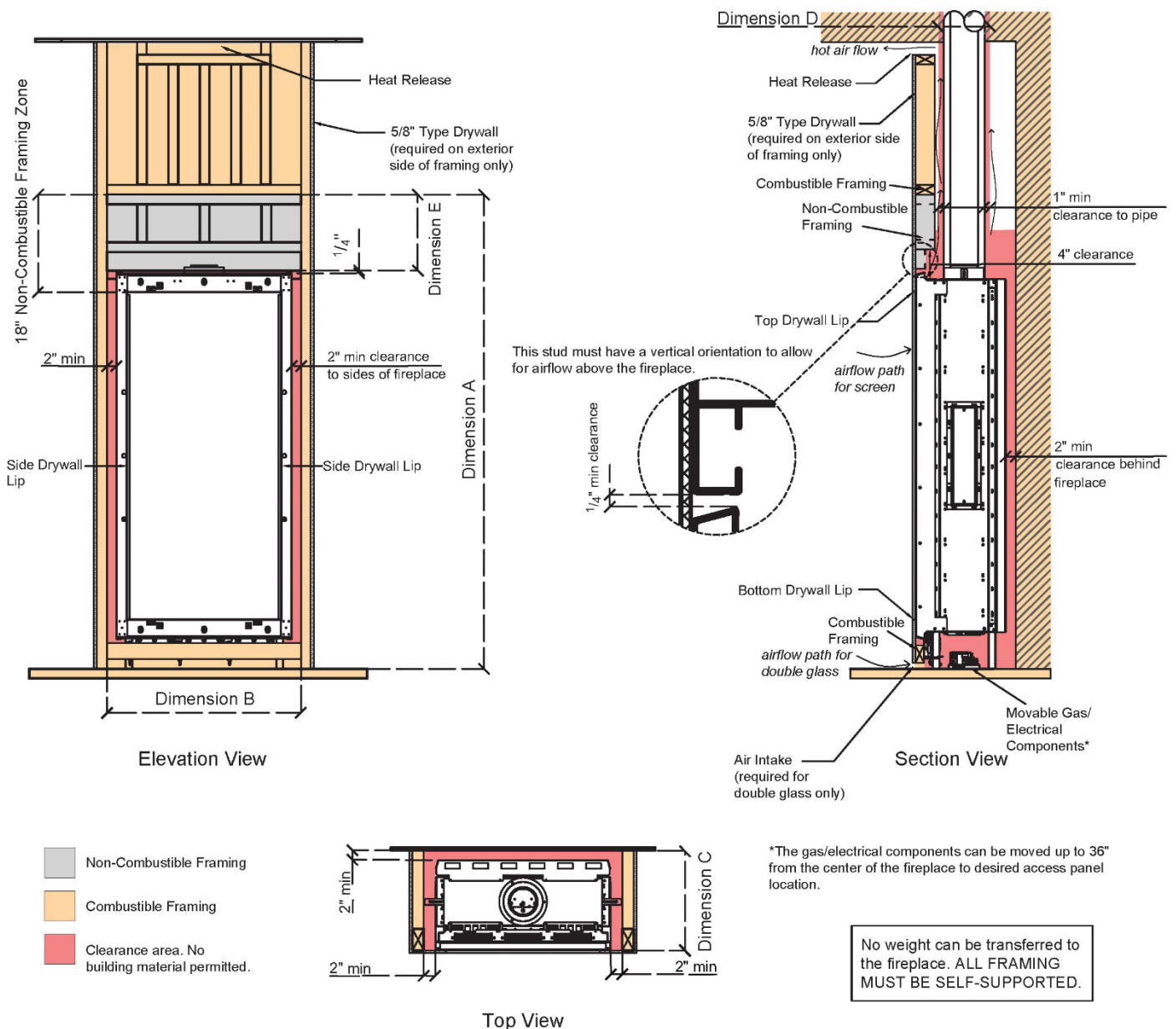
**Dimension A:** Rough Combustible Framing Opening Height

**Dimension B:** Rough Framing Opening Width

**Dimension C:** Framing Depth

**Dimension D:** Firestop Opening

**Dimension E:** Non-combustible Framing Zone (applicable only when also framing with combustible framing)

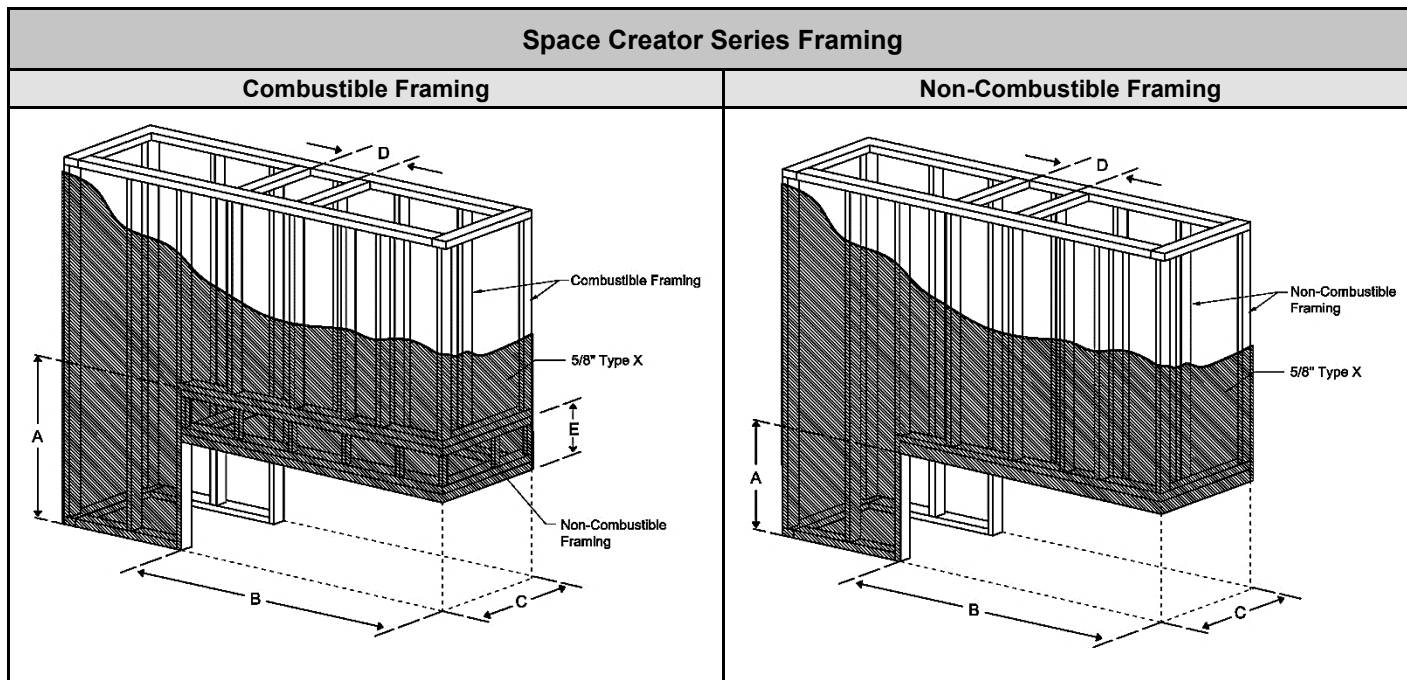


**NOTE:** Fireplace model used in framing detail above is a 31H Front. All information shown in this detail applies to all fireplaces mentioned in this manual.

**⚠ IMPORTANT:** To ensure the glass is removable after installation, Magnetic Screw (Part #M03) under the fireplace lip must be secured tightly to the firebox and screwed in as far as possible prior to installation of framing and finish material. If the magnet is not completely screwed down into the firebox, the lip will sit ajar to the firebox, preventing glass removal.

## →Framing Dimensions

The following diagrams are for illustrative purposes only. There are multiple approved installation scenarios. A flush application is not the only permitted application. The fireplace may be recessed into the wall. Refer to diagrams and values below and in the following pages for details.

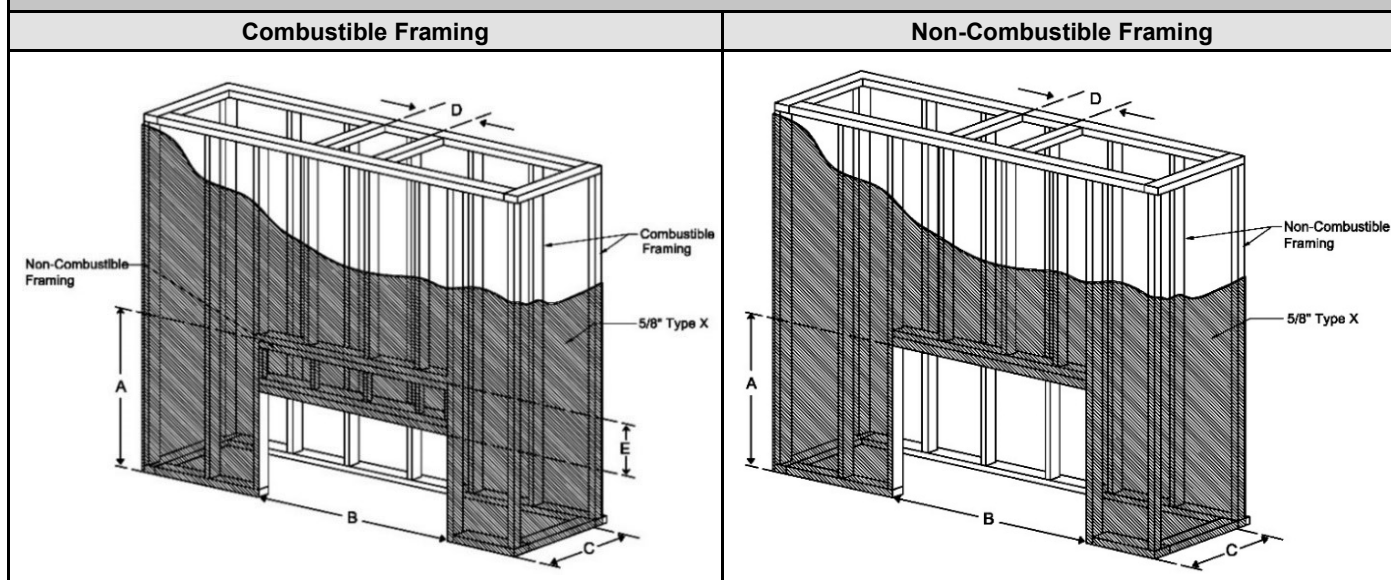


**⚠ WARNING – MAINTAIN AIR FLOW CLEARANCE:** Firebox front top vent must have minimum 4" of clearance to any material to allow sufficient airflow (see pg. 21). Failure to do so could result in improper fireplace operation, property damage, or physical injury.

Review "General Clearances" section (pg. 18) prior to framing to ensure all clearances are followed.

Model	Framing	Dimension A	Dimension B	Dimension C	Dimension D	Dimension E
SC 75	Combustible	44 1/2"	37 3/8"	19 3/8"	Refer to pipe manufacturer's firestop dimensions	13 5/8"
	Non-Combustible	30 7/8"				N/A
SC 120	Combustible	44 1/2"	56 3/4"	19 3/8"		12 7/8"
	Non-Combustible	31 5/8"				N/A
SC 150	Combustible	44 1/2"	68 5/8"	19 3/8"		12 7/8"
	Non-Combustible	31 5/8"				N/A
SC 200	Combustible	44 1/2"	88 5/8"	19 3/8"		12 7/8"
	Non-Combustible	31 5/8"				N/A

## Front Facing Series Framing

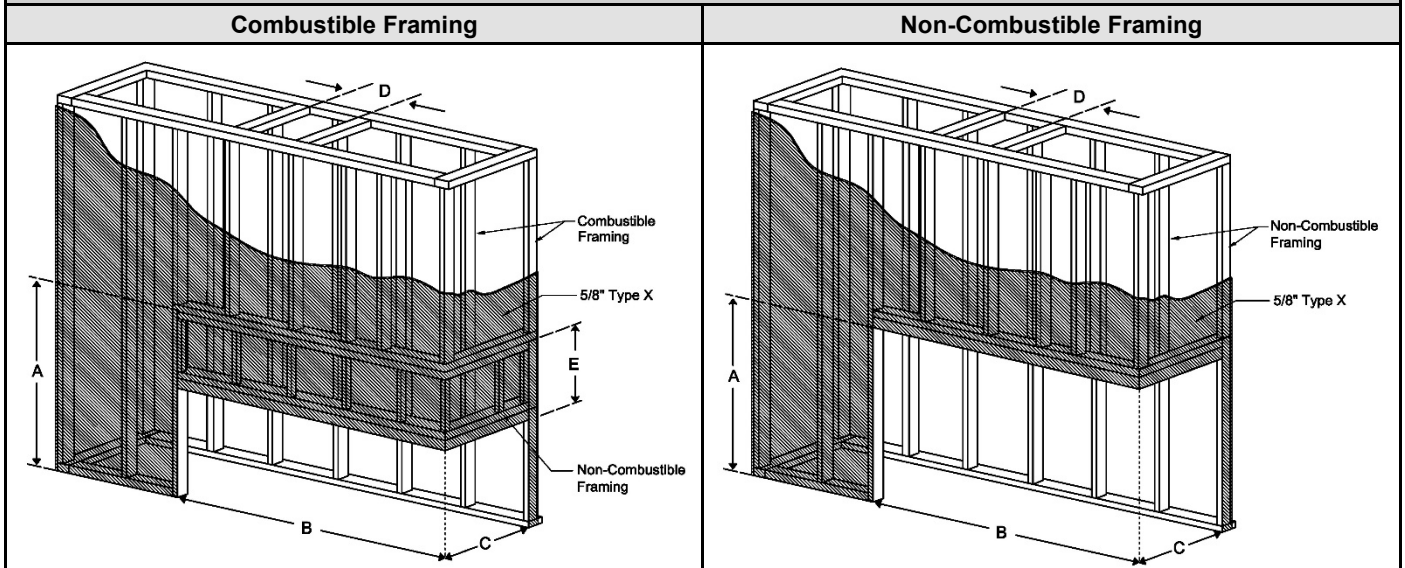


**⚠ WARNING – MAINTAIN AIR FLOW CLEARANCE:** Firebox front top vent must have minimum 4" of clearance to any material to allow sufficient airflow (see pg. 21). Failure to do so could result in improper fireplace operation, property damage, or physical injury.

Review "General Clearances" section (pg. 18) prior to framing to ensure all clearances are followed.

Model	Framing	Dimension A	Dimension B	Dimension C	Dimension D	Dimension E
40H70 F	Combustible	55 3⁄8"	24 5⁄8"	18"	Refer to pipe manufacturer's firestop dimensions	14 1⁄4"
	Non-Combustible	41 1⁄4"				N/A
75 F	Combustible	45 1⁄8"	37 3⁄4"	17 7⁄8"		15 3⁄8"
	Non-Combustible	29 7⁄8"				N/A
75x65 F	Combustible	53 3⁄8"	38 1⁄8"	18"		15 1⁄8"
	Non-Combustible	38 3⁄8"				N/A
31H F (aka 75x65H F)	Combustible	92 5⁄16"	38 13⁄16"	19 5⁄8"		13 3⁄4"
	Non-Combustible	78 7⁄8"				N/A
60x80 F	Combustible	57"	29 3⁄8"	18"		14 5⁄8"
	Non-Combustible	42 3⁄8"				N/A
110 F	Combustible	41 5⁄8"	51 7⁄8"	18"		14 1⁄8"
	Non-Combustible	27 1⁄2"				N/A
110H F	Combustible	49 1⁄2"	51 7⁄8"	18"		14 1⁄8"
	Non-Combustible	35 3⁄8"				N/A
130 F	Combustible	41 5⁄8"	58 5⁄8"	18"		14 1⁄8"
	Non-Combustible	27 1⁄2"				N/A
130H F	Combustible	49 1⁄2"	58 5⁄8"	18"		14 1⁄8"
	Non-Combustible	35 3⁄8"				N/A
150 F	Combustible	41 5⁄8"	68 1⁄2"	18"		14 1⁄8"
	Non-Combustible	27 1⁄2"				N/A
150H F	Combustible	49 1⁄2"	68 1⁄2"	18"		14 1⁄8"
	Non-Combustible	35 3⁄8"				N/A
170 F	Combustible	41 5⁄8"	76 3⁄8"	18"		14 1⁄8"
	Non-Combustible	27 1⁄2"				N/A
170H F	Combustible	49 1⁄2"	76 3⁄8"	18"		14 1⁄8"
	Non-Combustible	35 3⁄8"				N/A
200 F	Combustible	41 5⁄8"	85 3⁄4"	18"		14 1⁄8"
	Non-Combustible	27 1⁄2"				N/A
200H F	Combustible	49 1⁄2"	85 3⁄4"	18 1⁄8"		14 1⁄8"
	Non-Combustible	35 3⁄8"				N/A
250 F	Combustible	43 5⁄8"	104 3⁄8"	18"		14
	Non-Combustible	29 1⁄2"				N/A
250H F	Combustible	49 1⁄2"	104 3⁄8"	18"		14 1⁄8"
	Non-Combustible	35 3⁄8"				N/A

## Corner (RS/LS) Series Framing



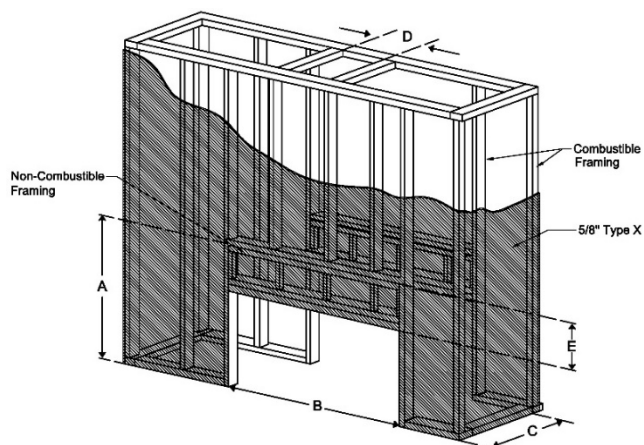
**⚠ WARNING – MAINTAIN AIR FLOW CLEARANCE: Firebox front top vent must have minimum 4" of clearance to any material to allow sufficient airflow.** Failure to do so could result in improper fireplace operation, property damage, or physical injury. See page 21 for details.

Review "General Clearances" section prior to framing to ensure all clearances are followed. See page 18 for details.

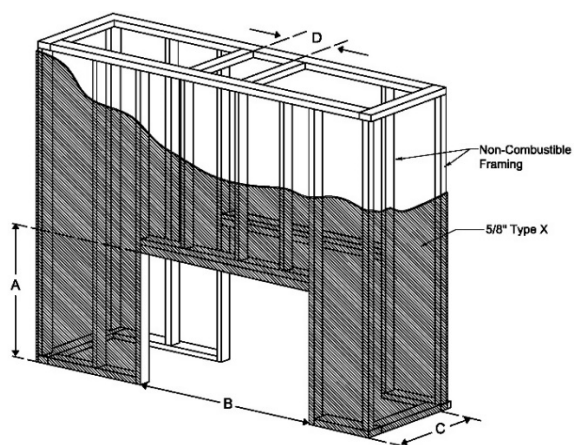
Model	Framing	Dimension A	Dimension B	Dimension C	Dimension D	Dimension E
40H70 RS/LS	Combustible	55 3⁄8"	24 1⁄4"	18 3⁄8"	Refer to pipe manufacturer's firestop dimensions	14 1⁄8"
	Non-Combustible	41 3⁄8"				N/A
75 RS/LS	Combustible	46 3⁄4"	35 1⁄4"	20 1⁄8"		13 1⁄4"
	Non-Combustible	33 1⁄2"				N/A
110 RS/LS	Combustible	43 5⁄8"	50 3⁄4"	20 5⁄8"		12 1⁄2"
	Non-Combustible	31 1⁄8"				N/A
110H RS/LS	Combustible	49 1⁄2"	51"	22 1⁄4"		12 5⁄8"
	Non-Combustible	36 7⁄8"				N/A
130 RS/LS	Combustible	43 5⁄8"	57 3⁄8"	20 5⁄8"		12 1⁄2"
	Non-Combustible	31 1⁄8"				N/A
130H RS/LS	Combustible	49 1⁄2"	57 5⁄8"	22 1⁄4"		12 5⁄8"
	Non-Combustible	36 7⁄8"				N/A
150 RS/LS	Combustible	43 5⁄8"	67 1⁄4"	20 5⁄8"		12 1⁄2"
	Non-Combustible	31 1⁄8"				N/A
150H RS/LS	Combustible	49 1⁄2"	67 1⁄2"	22 1⁄4"		12 5⁄8"
	Non-Combustible	36 7⁄8"				N/A
170 RS/LS	Combustible	43 5⁄8"	75 1⁄8"	20 5⁄8"		12 1⁄2"
	Non-Combustible	31 1⁄8"				N/A
170H RS/LS	Combustible	49 1⁄2"	75 3⁄8"	22 1⁄4"		12 5⁄8"
	Non-Combustible	36 7⁄8"				N/A
200 RS/LS	Combustible	43 5⁄8"	84 5⁄8"	20 5⁄8"		12 1⁄2"
	Non-Combustible	31 1⁄8"				N/A
200H RS/LS	Combustible	49 1⁄2"	84 7⁄8"	22 1⁄4"		12 5⁄8"
	Non-Combustible	36 7⁄8"				N/A
250 RS/LS	Combustible	43 5⁄8"	104 1⁄4"	20 5⁄8"		12 1⁄2"
	Non-Combustible	31 1⁄8"				N/A
250H RS/LS	Combustible	49 1⁄2"	104 1⁄2"	22 1⁄4"		12 5⁄8"
	Non-Combustible	36 7⁄8"				N/A

## → Tunnel Series Framing

### Combustible Framing



### Non-Combustible Framing

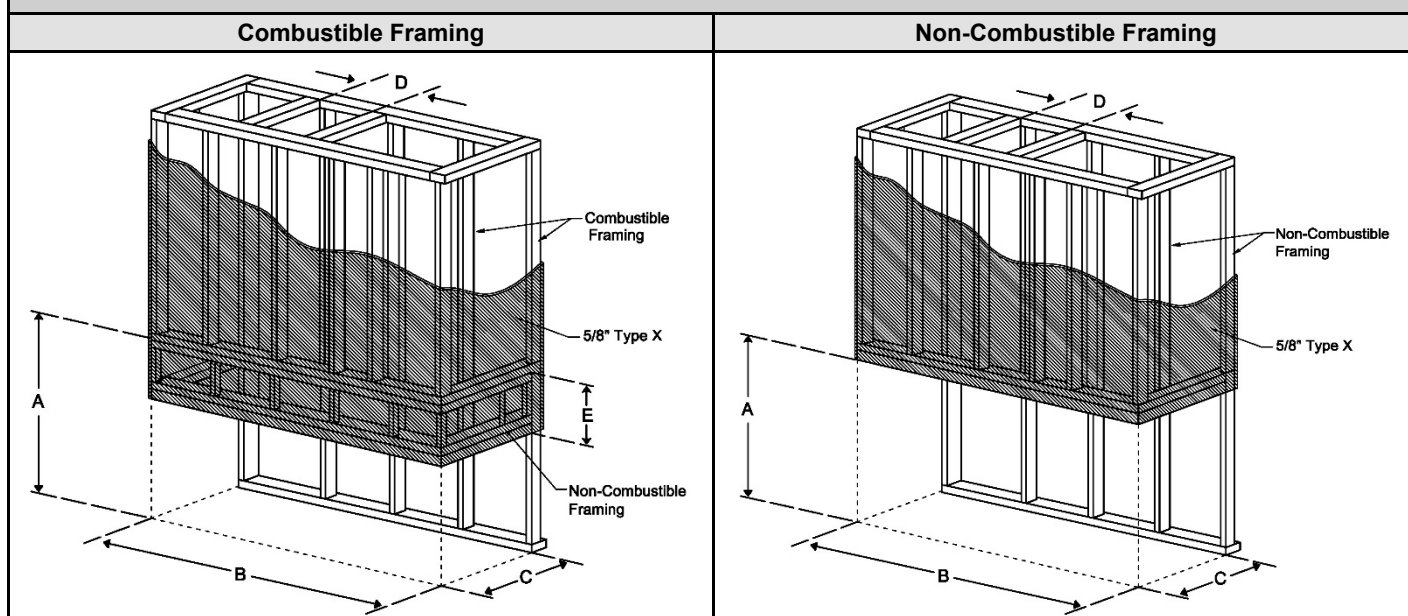


**⚠ WARNING – MAINTAIN AIR FLOW CLEARANCE:** Firebox front top vent must have minimum 4" of clearance to any material to allow sufficient airflow. Failure to do so could result in improper fireplace operation, property damage, or physical injury. See page 21 for details.

Review "General Clearances" section prior to framing to ensure all clearances are followed. See page 18 for details.

Model	Framing	Dimension A	Dimension B	Dimension C	Dimension D	Dimension E
40H70 TN	Combustible	55 <sup>3</sup> / <sub>8</sub> "	24 <sup>5</sup> / <sub>8</sub> "	18 <sup>7</sup> / <sub>8</sub> "	Refer to pipe manufacturer's firestop dimensions	14 <sup>3</sup> / <sub>8</sub> "
	Non-Combustible	41"				N/A
75x65 TN	Combustible	53 <sup>3</sup> / <sub>8</sub> "	38 <sup>3</sup> / <sub>8</sub> "	18 <sup>7</sup> / <sub>8</sub> "		15 <sup>1</sup> / <sub>8</sub> "
	Non-Combustible	38 <sup>3</sup> / <sub>8</sub> "				N/A
31H TN (aka 75x65H TN)	Combustible	92 <sup>9</sup> / <sub>16</sub> "	36 <sup>13</sup> / <sub>16</sub> "	15 <sup>1</sup> / <sub>2</sub> "		13 <sup>3</sup> / <sub>4</sub> "
	Non-Combustible	74 <sup>13</sup> / <sub>16</sub> "				N/A
60x80 TN	Combustible	57"	29 <sup>3</sup> / <sub>8</sub> "	18 <sup>7</sup> / <sub>8</sub> "		14 <sup>5</sup> / <sub>8</sub> "
	Non-Combustible	42 <sup>3</sup> / <sub>8</sub> "				N/A
110 TN	Combustible	41 <sup>5</sup> / <sub>8</sub> "	51 <sup>7</sup> / <sub>8</sub> "	19"		14 <sup>1</sup> / <sub>8</sub> "
	Non-Combustible	27 <sup>1</sup> / <sub>2</sub> "				N/A
110H TN	Combustible	49 <sup>1</sup> / <sub>2</sub> "	51 <sup>7</sup> / <sub>8</sub> "	19"		14 <sup>1</sup> / <sub>8</sub> "
	Non-Combustible	35 <sup>3</sup> / <sub>8</sub> "				N/A
110HH TN	Combustible	57 1/8"	51 <sup>11</sup> / <sub>16</sub> "	19 ¼"		14 <sup>1</sup> / <sub>16</sub> "
	Non-Combustible	43 <sup>1</sup> / <sub>16</sub> "				N/A
130 TN	Combustible	41 <sup>5</sup> / <sub>8</sub> "	58 <sup>5</sup> / <sub>8</sub> "	19"		14 <sup>1</sup> / <sub>8</sub> "
	Non-Combustible	27 <sup>1</sup> / <sub>2</sub> "				N/A
130H TN	Combustible	49 <sup>1</sup> / <sub>2</sub> "	58 <sup>5</sup> / <sub>8</sub> "	19"		14 <sup>1</sup> / <sub>8</sub> "
	Non-Combustible	35 <sup>3</sup> / <sub>8</sub> "				N/A
150 TN	Combustible	41 <sup>5</sup> / <sub>8</sub> "	68 <sup>1</sup> / <sub>2</sub> "	19"		14 <sup>1</sup> / <sub>8</sub> "
	Non-Combustible	27 <sup>1</sup> / <sub>2</sub> "				N/A
150H TN	Combustible	49 <sup>1</sup> / <sub>2</sub> "	68 <sup>1</sup> / <sub>2</sub> "	19"		14 <sup>1</sup> / <sub>8</sub> "
	Non-Combustible	35 <sup>3</sup> / <sub>8</sub> "				N/A
150HH TU	Combustible	57 <sup>1</sup> / <sub>8</sub> "	68 <sup>5</sup> / <sub>16</sub> "	19 ¼"		14 <sup>1</sup> / <sub>16</sub> "
	Non-Combustible	43 <sup>1</sup> / <sub>16</sub> "				N/A
170 TN	Combustible	41 <sup>5</sup> / <sub>8</sub> "	76 <sup>3</sup> / <sub>8</sub> "	19"		14 <sup>1</sup> / <sub>8</sub> "
	Non-Combustible	27 <sup>1</sup> / <sub>2</sub> "				N/A
170H TN	Combustible	49 <sup>1</sup> / <sub>2</sub> "	76 <sup>3</sup> / <sub>8</sub> "	19"		14 <sup>1</sup> / <sub>8</sub> "
	Non-Combustible	35 <sup>3</sup> / <sub>8</sub> "				N/A
200 TN	Combustible	41 <sup>5</sup> / <sub>8</sub> "	85 <sup>3</sup> / <sub>4</sub> "	19"		14 <sup>1</sup> / <sub>8</sub> "
	Non-Combustible	27 <sup>1</sup> / <sub>2</sub> "				N/A
200H TN	Combustible	49 <sup>1</sup> / <sub>2</sub> "	85 <sup>3</sup> / <sub>4</sub> "	19"		14 <sup>1</sup> / <sub>8</sub> "
	Non-Combustible	35 <sup>3</sup> / <sub>8</sub> "				N/A
200HH TN	Combustible	57 <sup>1</sup> / <sub>8</sub> "	85 ¼"	19 ¼"		14 <sup>1</sup> / <sub>16</sub> "
	Non-Combustible	43 <sup>1</sup> / <sub>16</sub> "				N/A
250 TN	Combustible	43 <sup>5</sup> / <sub>8</sub> "	104 <sup>1</sup> / <sub>4</sub> "	19"		14"
	Non-Combustible	29 <sup>5</sup> / <sub>8</sub> "				N/A
250H TN	Combustible	49 <sup>1</sup> / <sub>2</sub> "	104 <sup>1</sup> / <sub>4</sub> "	19"		14"
	Non-Combustible	35 <sup>1</sup> / <sub>2</sub> "				N/A
250HH TN	Combustible	57 <sup>1</sup> / <sub>8</sub> "	104 <sup>1</sup> / <sub>16</sub> "	18 <sup>15</sup> / <sub>16</sub> "		14 <sup>1</sup> / <sub>16</sub> "
	Non-Combustible	43 <sup>1</sup> / <sub>16</sub> "				N/A

## Three Side Series Framing



**WARNING – MAINTAIN AIR FLOW CLEARANCE:** Firebox front top vent must have minimum 4" of clearance to any material to allow sufficient airflow. Failure to do so could result in improper fireplace operation, property damage, or physical injury. See page 21 for details.

Review "General Clearances" section prior to framing to ensure all clearances are followed. See page 18 for details.

Model	Framing	Dimension A	Dimension B	Dimension C	Dimension D	Dimension E
40H70 TS	Combustible	55 <sup>3</sup> / <sub>8</sub> "	22 <sup>3</sup> / <sub>8</sub> "	18 <sup>1</sup> / <sub>4</sub> "	Refer to pipe manufacturer's firestop dimensions	14 <sup>1</sup> / <sub>8</sub> "
	Non-Combustible	41 <sup>3</sup> / <sub>8</sub> "				N/A
75 TS	Combustible	46 <sup>3</sup> / <sub>4</sub> "	33 <sup>5</sup> / <sub>8</sub> "	20 <sup>1</sup> / <sub>8</sub> "		13 <sup>1</sup> / <sub>4</sub> "
	Non-Combustible	33 <sup>1</sup> / <sub>2</sub> "				N/A
110 TS	Combustible	43 <sup>5</sup> / <sub>8</sub> "	49	20 <sup>5</sup> / <sub>8</sub> "		12 <sup>1</sup> / <sub>2</sub> "
	Non-Combustible	31 <sup>1</sup> / <sub>8</sub> "				N/A
110H TS	Combustible	49 <sup>1</sup> / <sub>2</sub> "	49	22 <sup>1</sup> / <sub>4</sub> "		12 <sup>5</sup> / <sub>8</sub> "
	Non-Combustible	36 <sup>7</sup> / <sub>8</sub> "				N/A
130 TS	Combustible	43 <sup>5</sup> / <sub>8</sub> "	55 <sup>5</sup> / <sub>8</sub> "	20 <sup>5</sup> / <sub>8</sub> "		12 <sup>1</sup> / <sub>2</sub> "
	Non-Combustible	31 <sup>1</sup> / <sub>8</sub> "				N/A
130H TS	Combustible	49 <sup>1</sup> / <sub>2</sub> "	55 <sup>5</sup> / <sub>8</sub> "	22 <sup>1</sup> / <sub>4</sub> "		12 <sup>5</sup> / <sub>8</sub> "
	Non-Combustible	36 <sup>7</sup> / <sub>8</sub> "				N/A
150 TS	Combustible	43 <sup>5</sup> / <sub>8</sub> "	65 <sup>1</sup> / <sub>2</sub> "	20 <sup>5</sup> / <sub>8</sub> "		12 <sup>1</sup> / <sub>2</sub> "
	Non-Combustible	31 <sup>1</sup> / <sub>8</sub> "				N/A
150H TS	Combustible	49 <sup>1</sup> / <sub>2</sub> "	65 <sup>1</sup> / <sub>2</sub> "	22 <sup>1</sup> / <sub>4</sub> "		12 <sup>5</sup> / <sub>8</sub> "
	Non-Combustible	36 <sup>7</sup> / <sub>8</sub> "				N/A
170 TS	Combustible	43 <sup>5</sup> / <sub>8</sub> "	73 <sup>3</sup> / <sub>8</sub> "	20 <sup>5</sup> / <sub>8</sub> "		12 <sup>1</sup> / <sub>2</sub> "
	Non-Combustible	31 <sup>1</sup> / <sub>8</sub> "				N/A
170H TS	Combustible	49 <sup>1</sup> / <sub>2</sub> "	73 <sup>3</sup> / <sub>8</sub> "	22 <sup>1</sup> / <sub>4</sub> "		12 <sup>5</sup> / <sub>8</sub> "
	Non-Combustible	36 <sup>7</sup> / <sub>8</sub> "				N/A
200 TS	Combustible	43 <sup>5</sup> / <sub>8</sub> "	82 <sup>3</sup> / <sub>4</sub> "	20 <sup>5</sup> / <sub>8</sub> "		12 <sup>1</sup> / <sub>2</sub> "
	Non-Combustible	31 <sup>1</sup> / <sub>8</sub> "				N/A
200H TS	Combustible	49 <sup>1</sup> / <sub>2</sub> "	82 <sup>3</sup> / <sub>4</sub> "	22 <sup>1</sup> / <sub>4</sub> "		12 <sup>5</sup> / <sub>8</sub> "
	Non-Combustible	36 <sup>7</sup> / <sub>8</sub> "				N/A
250 TS	Combustible	43 <sup>5</sup> / <sub>8</sub> "	102 <sup>1</sup> / <sub>2</sub> "	20 <sup>5</sup> / <sub>8</sub> "		12 <sup>1</sup> / <sub>2</sub> "
	Non-Combustible	31 <sup>1</sup> / <sub>8</sub> "				N/A
250H TS	Combustible	49 <sup>1</sup> / <sub>2</sub> "	102 <sup>1</sup> / <sub>2</sub> "	22 <sup>1</sup> / <sub>4</sub> "		12 <sup>5</sup> / <sub>8</sub> "
	Non-Combustible	36 <sup>7</sup> / <sub>8</sub> "				N/A

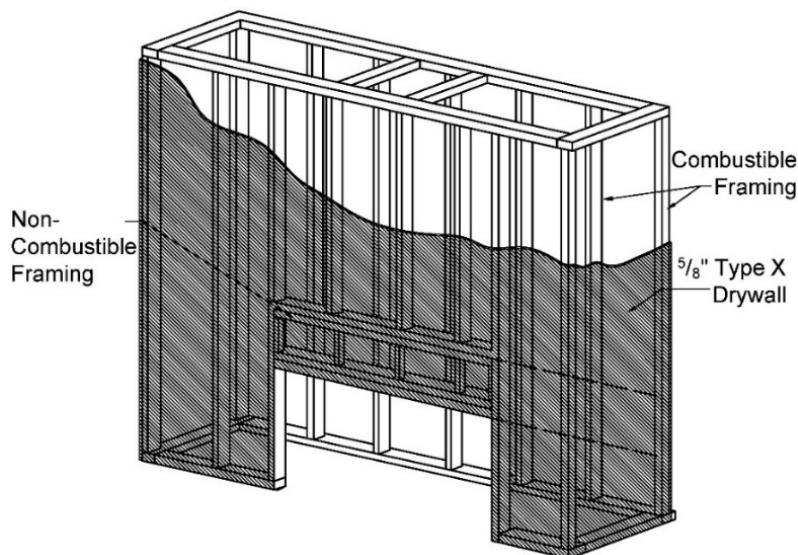
## 5/8" Type X Drywall Requirements

Exterior side (i.e., room-facing side) of the framing must be covered with 5/8" Type X Drywall (or equivalent). Finish material is installed on top of the drywall. This applies to combustible and non-combustible framing.

Drywall is not required on the exterior portion of an insulated outside-facing wall.

5/8" Type X Drywall may rest on the metal lip surrounding the opening of the fireplace. Drywall must not be attached to the fireplace as heat transfer from attaching materials (such as screws) can cause the drywall to crack.

**No material is permitted to extend past the metal lip surrounding the fireplace viewing area. This area must be unobstructed to allow the heat barrier and inside glass panel to be removable.**

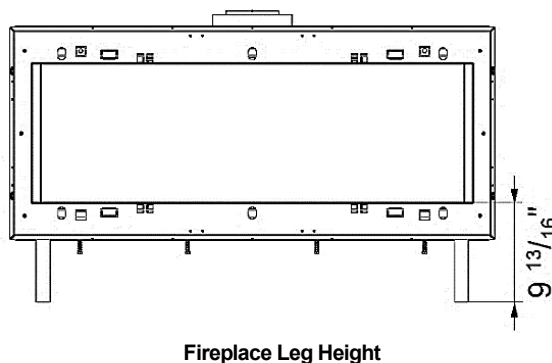


## Chase Floor/Platform

The fireplace must be installed on a flat, solid, continuous surface. Surface can be wood, concrete, metal, and other typical solid floor types. Surface material is not required to be non-combustible.

Fireplace leg height for all models is 9 13/16" (measured to bottom of viewing area), with the exception of the Space Creator 200 with a double glass heat barrier. This model has a leg height of 11 7/16". Legs cannot be removed, cut, or adjusted.

**Raised Platform Option:** To raise the fireplace higher than the leg height, build a platform for the fireplace to stand on. Platform must be stable and able to bear the full weight of the fireplace. Platform can be constructed out of wood, concrete, metal, or any other solid materials. Platform material is not required to be non-combustible.



**NOTE:** For fireplaces with the double glass heat barrier, an air intake might be necessary to incorporate into the platform depending on the design. See "Air Intake for a Platform" for details.

## Hearth Extension

A hearth extension is not required. Any hearth extension used is for appearance only and does not have to conform to a standard hearth extension installation requirement.

## →General Clearances

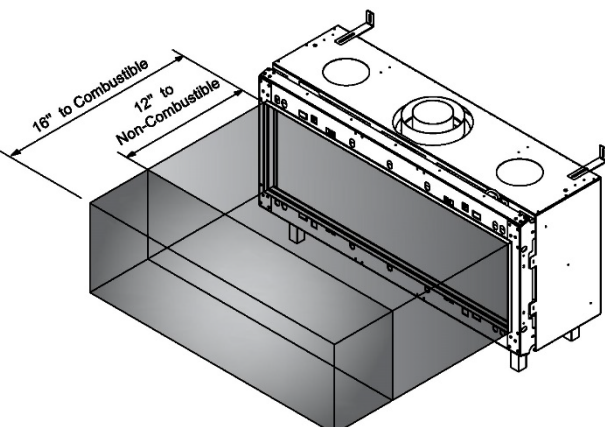
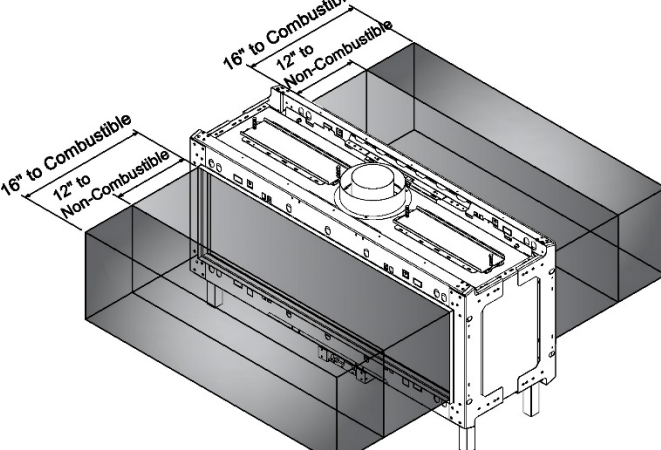
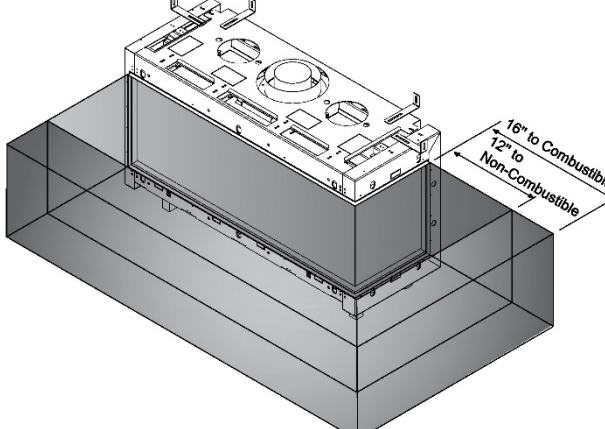
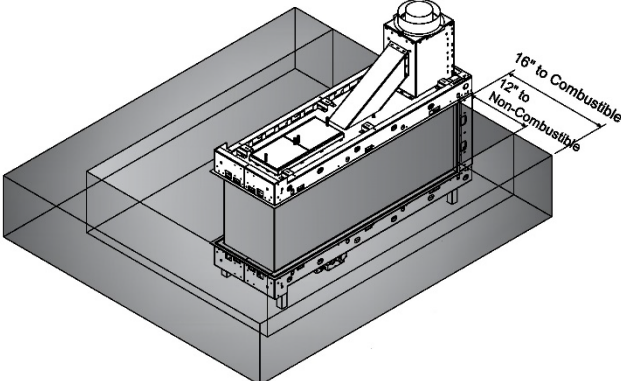
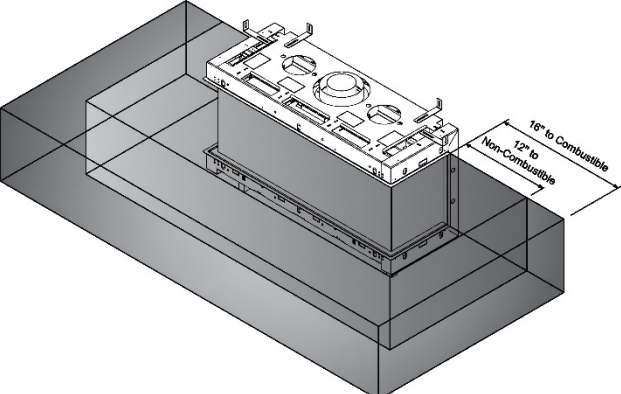
### →Viewing Area Clearances

The viewing area clearance zone is an area that extends perpendicular from the fireplace viewing area. The depth of the viewing area clearance zone depends on the combustibility of the material in question. Distance is measured from the fireplace heat barrier.

<b>Non-Combustible Materials</b>	Must be minimum <b>12 inches</b> from fireplace viewing area.
<b>Combustible Materials</b>	Must be minimum <b>16 inches</b> from fireplace viewing area.

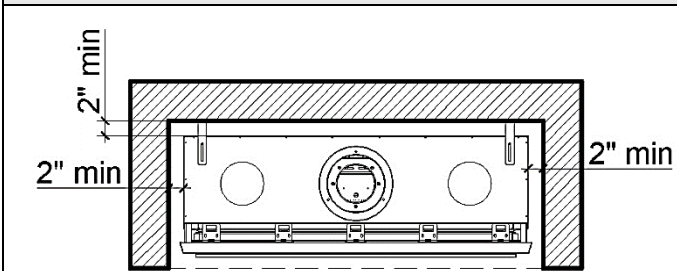
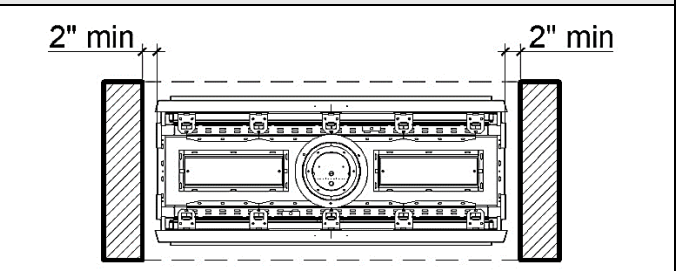
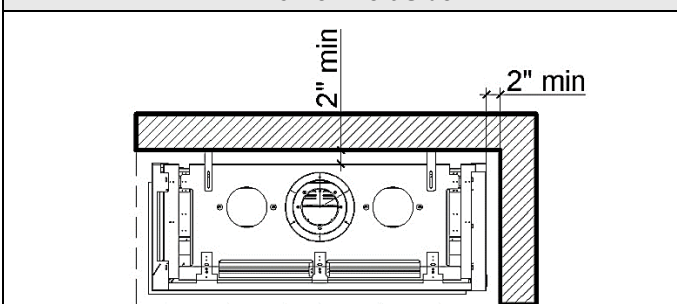
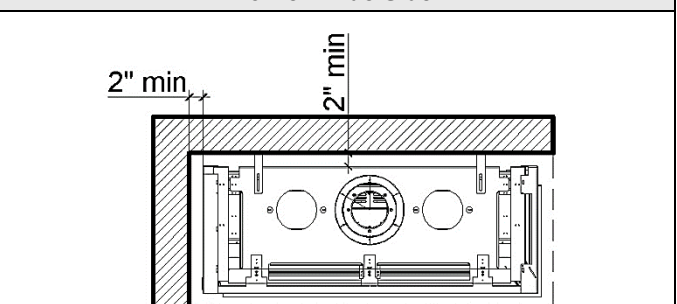
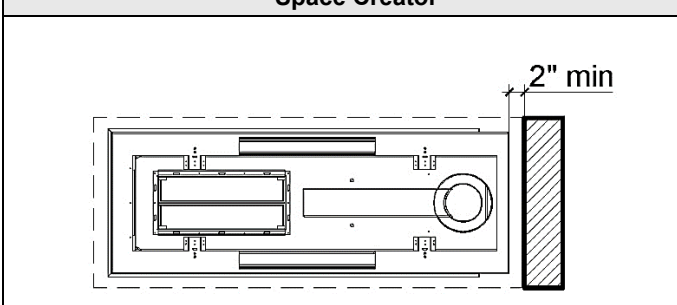
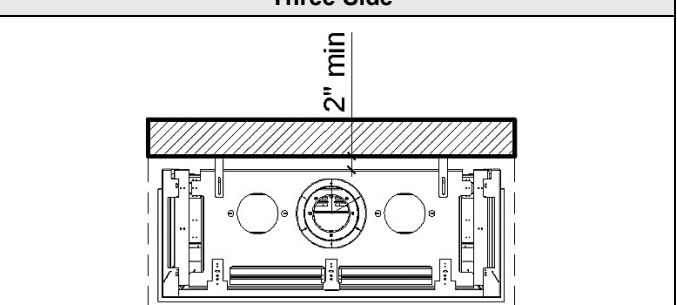
Materials (including combustible flooring and combustible finish material) are permitted below and around the viewing area clearance zone.

**! IMPORTANT NOTE:** When placing material near the glass, take care to consider fireplace serviceability. It is strongly recommended that any items/materials placed in front of the front (long) glass be movable for easy access to the fireplace during servicing. Recommendation does not apply to side (short) glass(es).

Viewing Area Clearances Per Model	
Front	Tunnel
	
Corner	Space Creator
	
Three Sided	
	

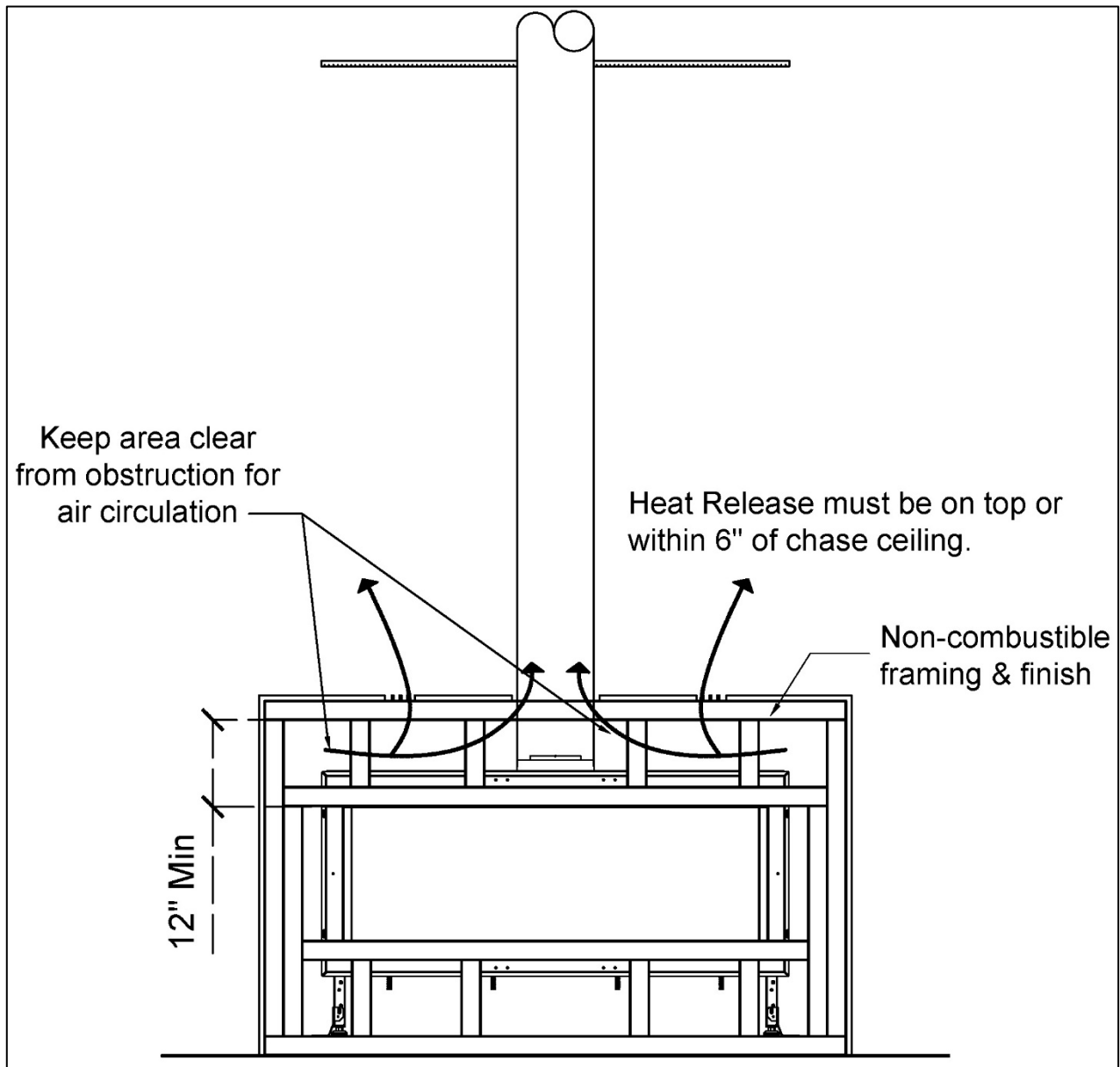
**Firebox Clearance**

Maintain a **2-inch** clearance from the back and/or side of the fireplace (depending on the model) to any material.

Firebox Clearance Per Model	
Front	Tunnel
	
Corner: Left Side	Corner: Ride Side
	
Space Creator	Three Side
	

## Clearance to Chase Ceiling

Maintain a **12-inch** clearance from the top of the fireplace viewing area to the lowest point of the ceiling or to any building materials.



Minimum Chase Ceiling Clearance Diagram

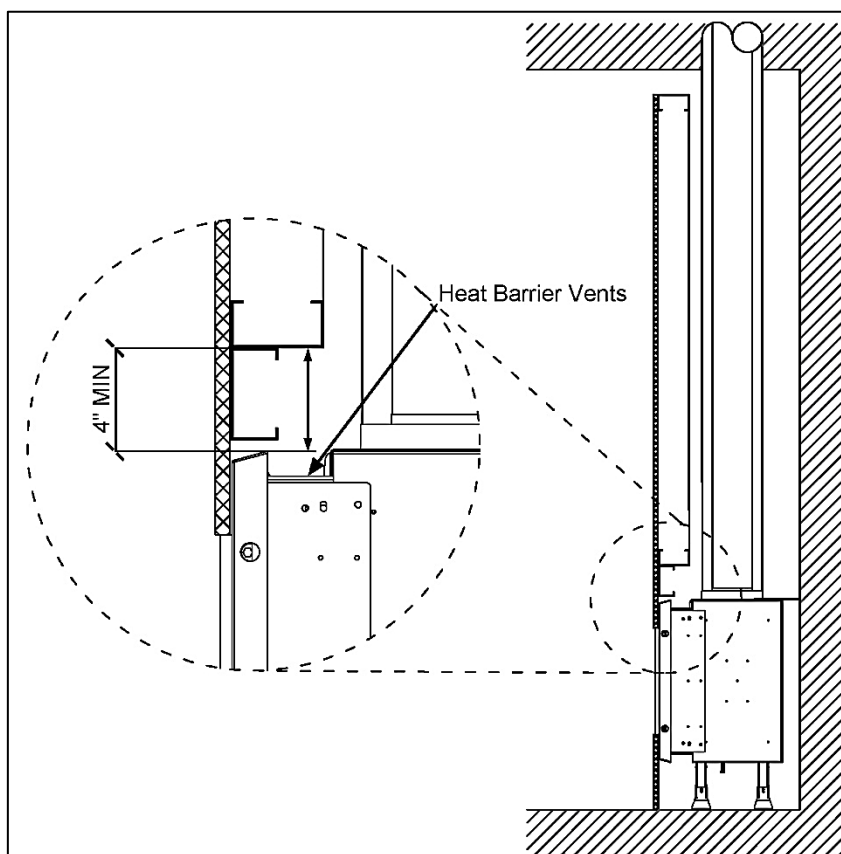


### NOTES:

- A heat release is required for every installation, but it is not required to be split between the two sides of the chase as shown in the diagram above. It is shown in this diagram for illustrative purposes only. See the "Heat Release Requirements" section for details.
- Clearance around the vent pipe must be maintained (1" clearance on the sides and bottom, 3" on top). See the "Vent Clearances" section for details.

### **Air Flow Clearance**

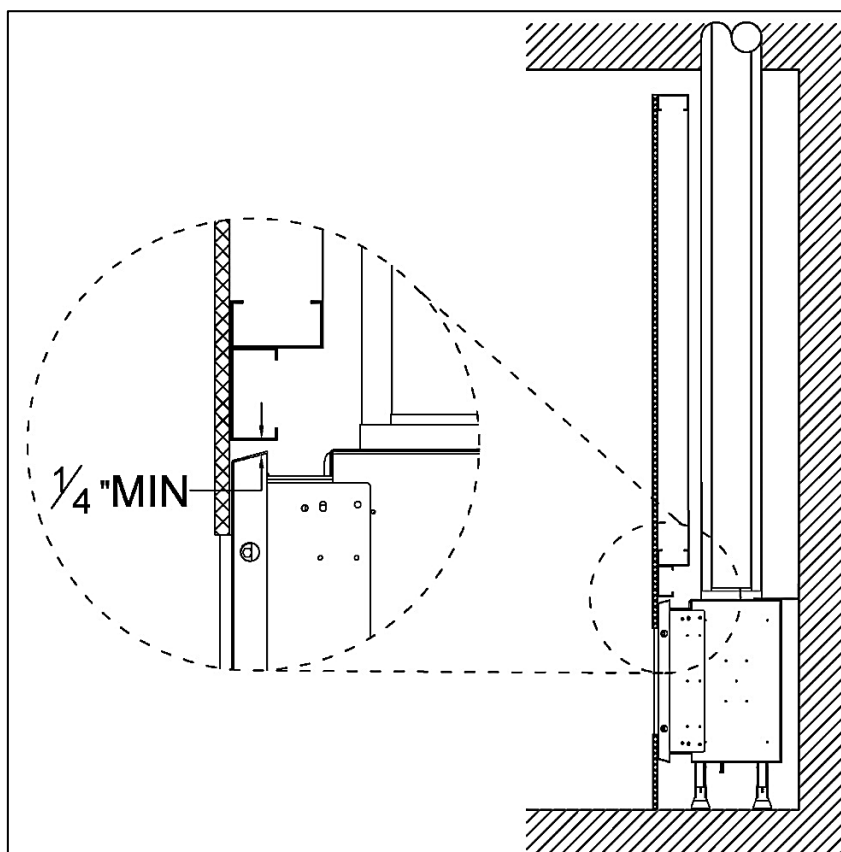
A **4-inch** clearance from the heat barrier vent openings along the top of the fireplace is required. Framing and building material is **NOT** permitted in this area. Doing so will block the vents and cause the entire surrounding to overheat.



**NOTE:** It is acceptable if the flat stud immediately above the fireplace hangs over heat barrier vents *slightly* when using standard metal framing (as shown in diagram above).

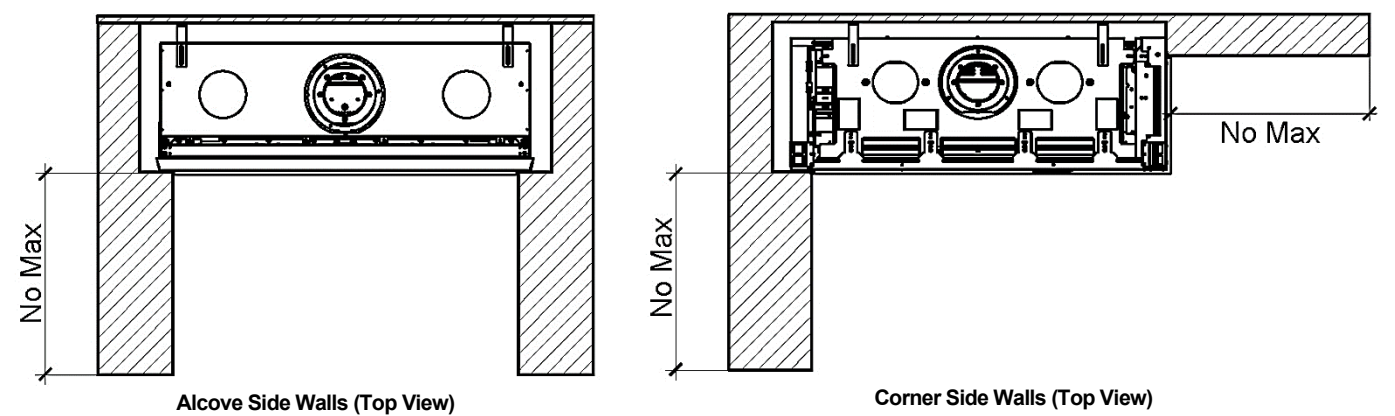
### **Framing Clearance**

Maintain a minimum  $\frac{1}{4}$  inch of space between the framing and the face of the fireplace.



**Clearance to a Side Wall**

The fireplace viewing area is zero-clearance to a side wall. A side wall is defined as a wall that meets the viewing area at a 90° angle.



= Building Material

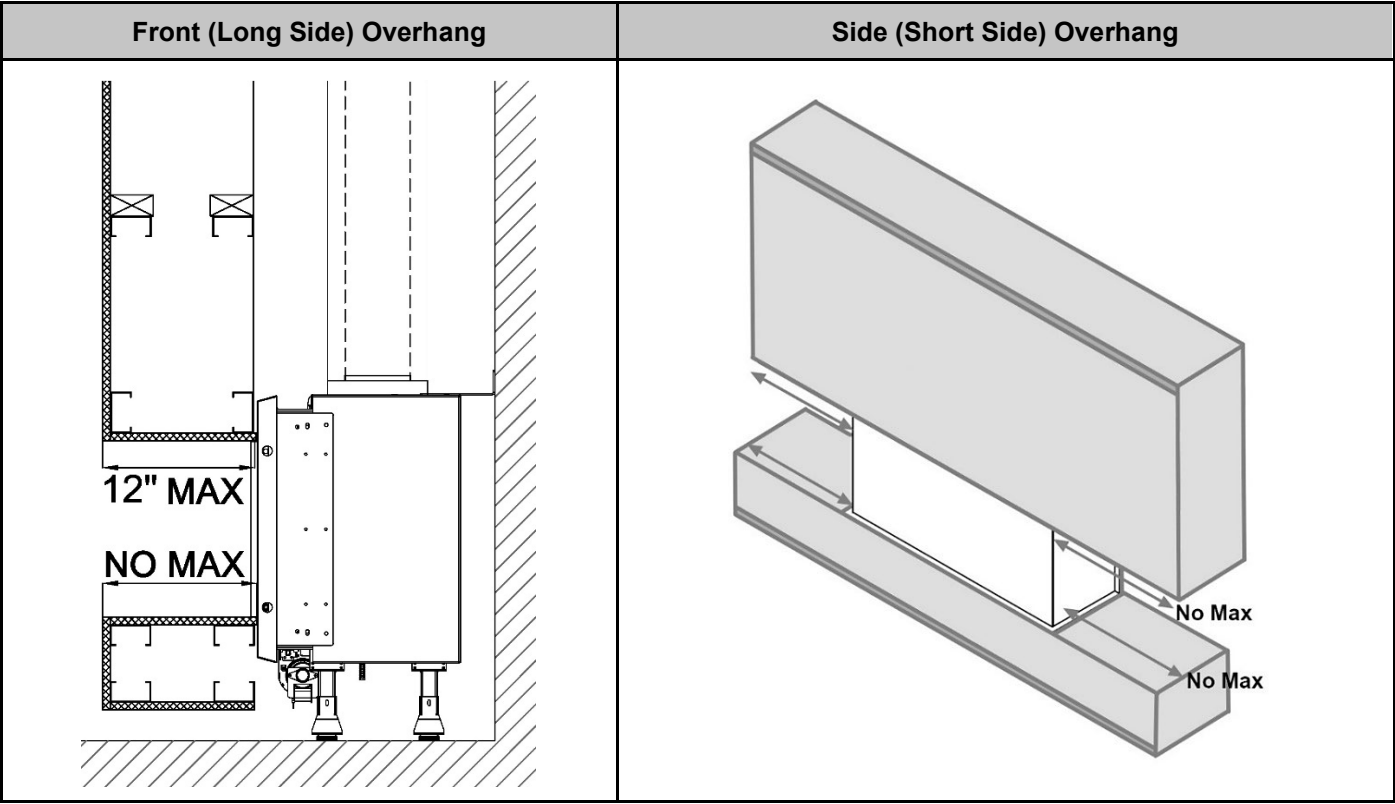
The temperature on the side wall can get as high as 150°F above ambient temperature. While the fireplace certification allows for this temperature variance, building and finish materials will have their own limitations. Consult the material manufacturer to ensure the material can safely withstand this temperature range.

This information does not apply to a wall that is constructed in front of the viewing area. For materials that will be in front of a main or side viewing area, please refer to the “Viewing Area Clearances” section.

**Maximum Overhang Depth**

Overhang depth of a recessed fireplace must not exceed **12 inches**. Overhang depth is measured from the edge of the fireplace lip to the out-most part of the wall (including finish material). **Side overhang has no limit.** Finish material on the underside of the overhang may be combustible or non-combustible.

Bottom recess (or “hearth extension”) has no minimum or maximum depth requirement. If bottom recess depth exceeds 12 inches, ensure the structure is capable of supporting the weight of a fireplace technician for servicing.



## Heat Release

A heat release is an opening in the fireplace chase that allows the heat inside the chase to passively circulate into an interior room. This heat is generated convectively as the fireplace heats up. It is separate from exhaust heat produced at the combustion chamber of the fireplace. For safety purposes, a **heat release is required** to keep the wall around the fireplace cool.

### Heat Release Requirements

- The heat release must be located at or near the top of the fireplace chase and **start within 6 inches** (0-6 inches max) of the **chase ceiling** (where the firestop is located). It can start at the chase ceiling. It can be located on the front, sides or back of the chase. It can be released into any interior space that shares a wall with the chase.
- Minimum heat release size requirement depends on heat release orientation:

Fireplace Series	Horizontal Heat Release	Vertical Heat Release
40-75* (includes 31H)	Minimum 50 sq. in. of free air space	Minimum 65 sq. in. of free air space
110-130*	Minimum 120 sq. in. of free air space	Minimum 156 sq. in. of free air space
150-200	Minimum 200 sq. in. of free air space	Minimum 260 sq. in. of free air space
250	Minimum 250 sq. in. of free air space	Minimum 325 sq. in. of free air space

\*Includes Built-In/Custom Curve & Island fireplaces. Heat release requirements do not apply to Curve & Island fireplaces with standard Ortal-provided hood options.

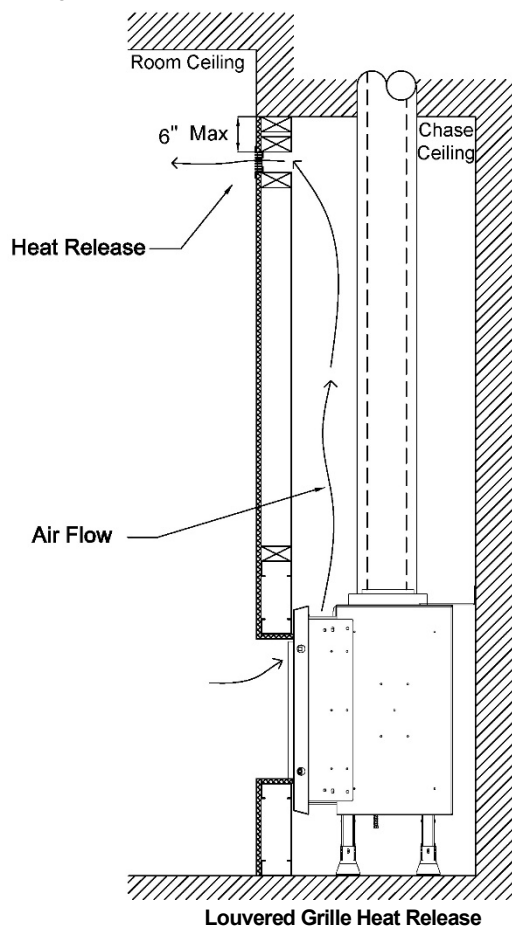
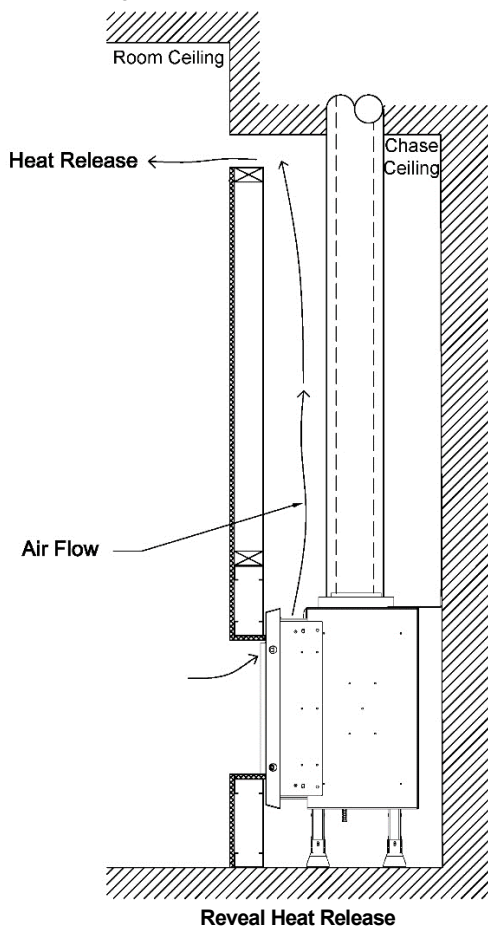
- For horizontal heat releases only, the height of the heat release must not exceed 1/3 of the width. (This does not apply to vertical heat releases.)
- The space the heat release vents into must have a minimum volume of 184 ft<sup>3</sup>.
- The heat release can be in the form of (but not limited to) a louvered ventilation grille, gap, or reveal.
- For louvered/perforated ventilation grilles, the net free air space allowed in the louvered area must be equal or greater than the minimum number of square inches required per fireplace.
- The interior area of the narrowest part of the fireplace chase (in square inches) must never be less than your required heat release size (see "Chase Area Minimum" section for details).
- The heat release cannot be vented outdoors or to an unconditioned space.

**NOTE: An angled heat release is not permitted.**

The following diagrams are examples of potential heat release options. These drawings serve as illustrative purposes only.

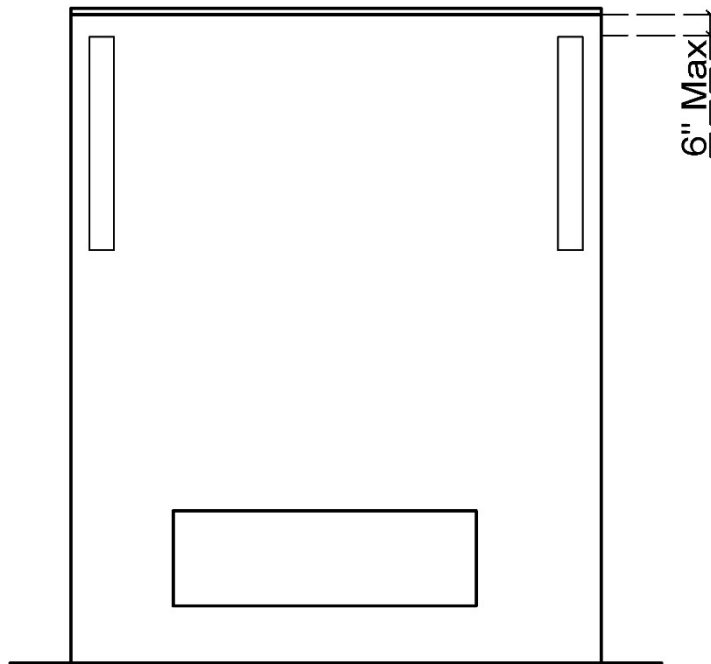
### Horizontal Heat Release

Note: The chase ceiling and the room ceiling are different reference points. The chase ceiling may be lower than, equal to, or higher than the room ceiling. The heat release must start within 6" of the chase ceiling. It cannot start lower than 6" from the chase ceiling.



### **Vertical Heat Release: Split Front**

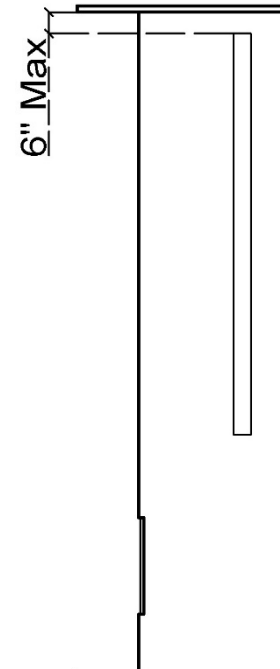
The heat release is oriented vertically and split between the two sides of the chase.



Split Front Vertical Heat Release

### **Vertical Heat Release: Full Side**

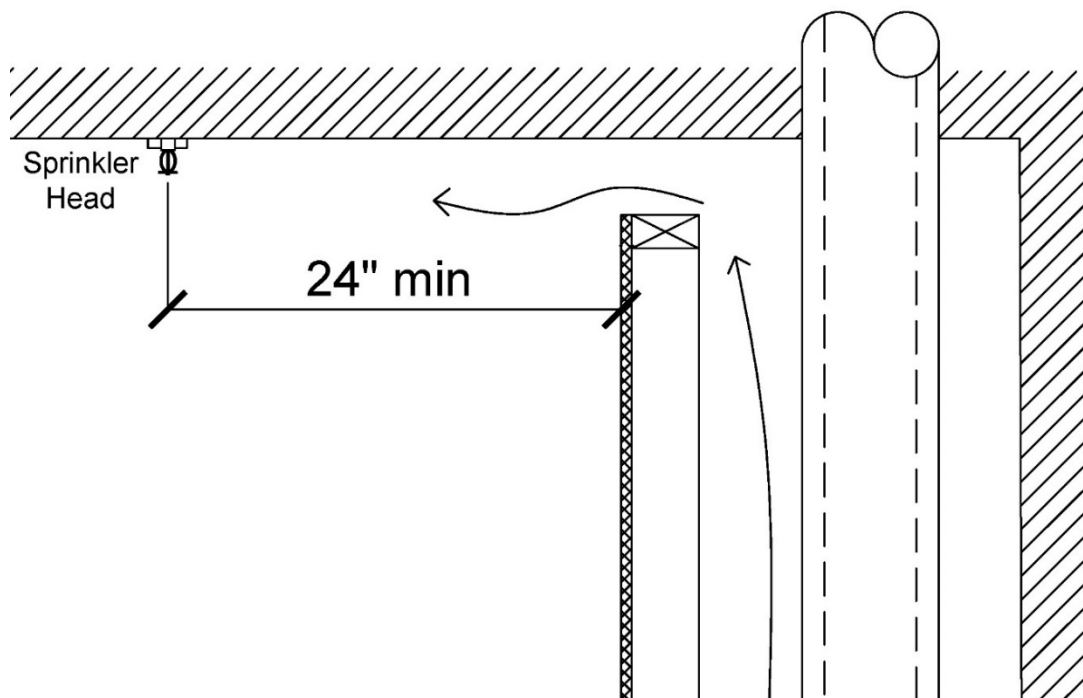
The heat release is oriented vertically. Entire heat release is on one side of the fireplace chase.



Full Vertical Heat Release on One Side

### ***Sprinkler Clearance to Heat Release***

In a situation where a sprinkler head is near the heat release, the sprinkler head must be minimum **24 inches** (linear length) from any point of the heat release opening.



## Air Intake

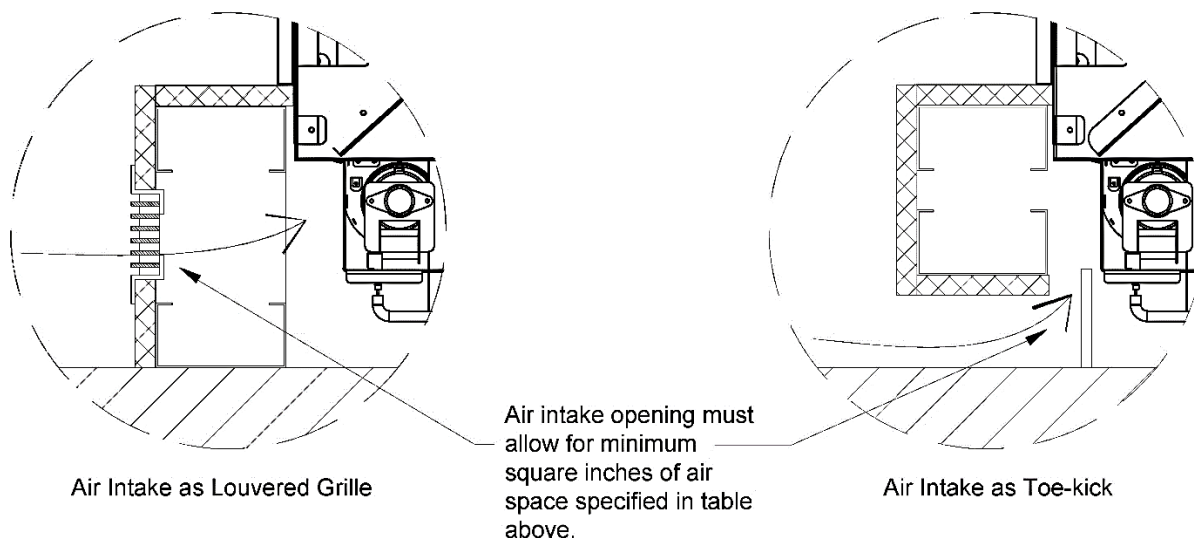
When installing a fireplace with a double glass heat barrier, it is essential to maintain cool air flow between the double glass panels. For this purpose, an opening must be provided toward the bottom of the wall to allow the double glass fans to circulate room air through the glass panels and up into the chase. This opening, called an air intake, needs to be made before closing the wall surface below the fireplace. Air intake must meet the minimum size requirement.

Fireplace Series	Air Intake
40-130* (includes 31H)	Minimum 124 sq. in. of free air space
150-200	Minimum 200 sq. in. of free air space
250	Minimum 250 sq. in. of free air space

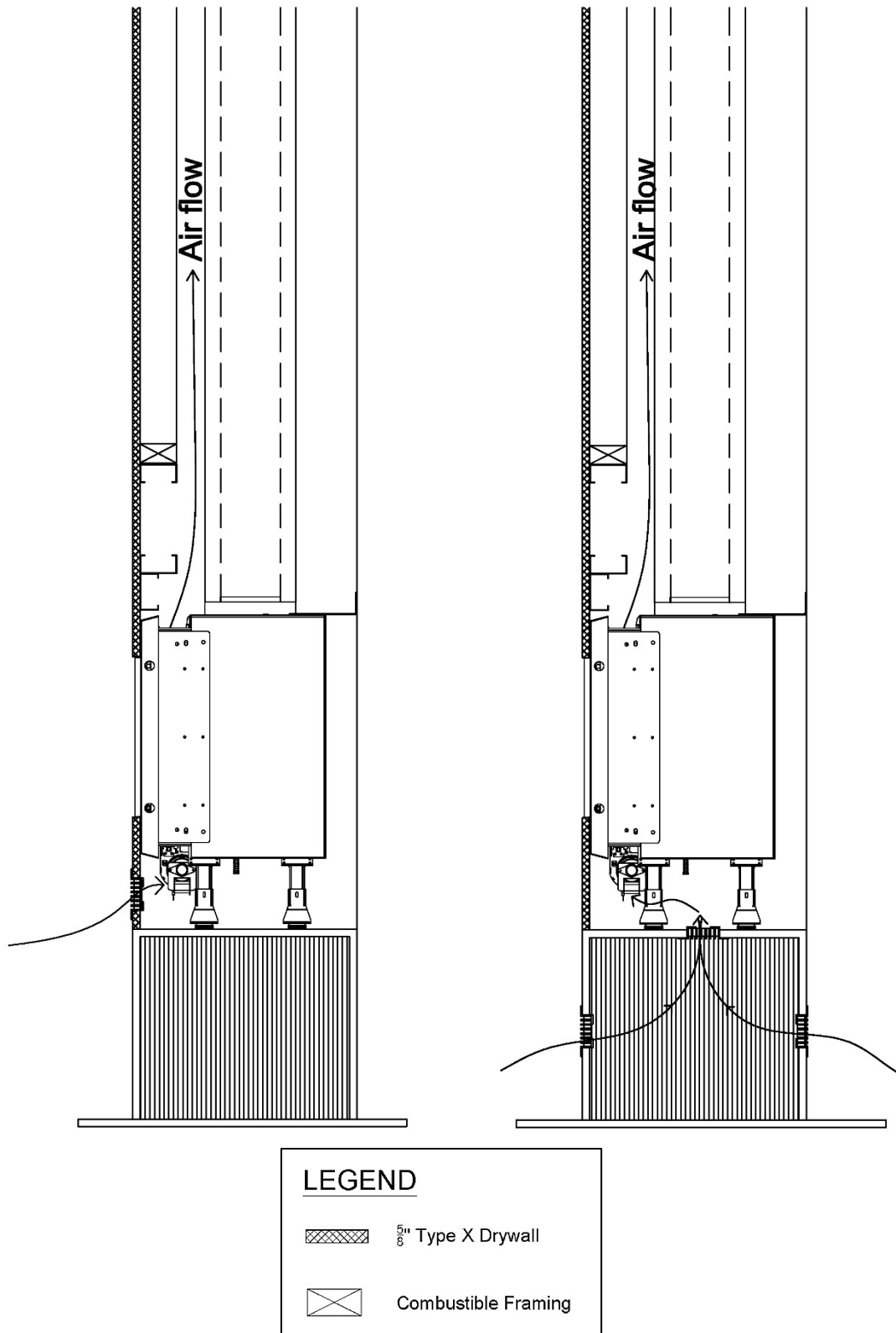
**\*Includes Built-In/Custom Curve & Island fireplaces. Curve & Island fireplaces with standard Ortal-provided base have an air intake already built into the base.**

The air intake can be in the form of a louvered/perforated ventilation grille, gap, or toe-kick (reveal). For louvered ventilation grilles, the net free air space allowed in the louvered area must be equal or greater than the minimum number of square inches required per fireplace.

**The entire air intake must be located at or below the level of the double glass fans.** The air intake is not required to be on the front wall of the fireplace. The air intake cannot be on a wall that allows air from outside the house directly into the fireplace chase. Air must be from a conditioned space.



## Air Intake for a Platform



**NOTE:** Please refer to the “Platform” section for details on platform construction.

## Mounting a TV/Artwork

Ortal's Cool Wall Technology is a technique that reduces the convective heat from the fireplace and prevents heat buildup inside the fireplace chase, mitigating any damage that may result from the wall reaching high temperatures. Ortal's Cool Wall system enables the option of safely installing artwork, a TV, or other similar electronic components above the fireplace by reducing the wall temperature above the fireplace.

Location	Wall Temperature
0-6 inches above fireplace	100°F - 120°F
6-12 inches above fireplace	90°F - 100°F
12 inches above fireplace	80°F - 90°F

### Maintain the following general requirements to mount a TV or artwork above the fireplace and prevent heat damage:

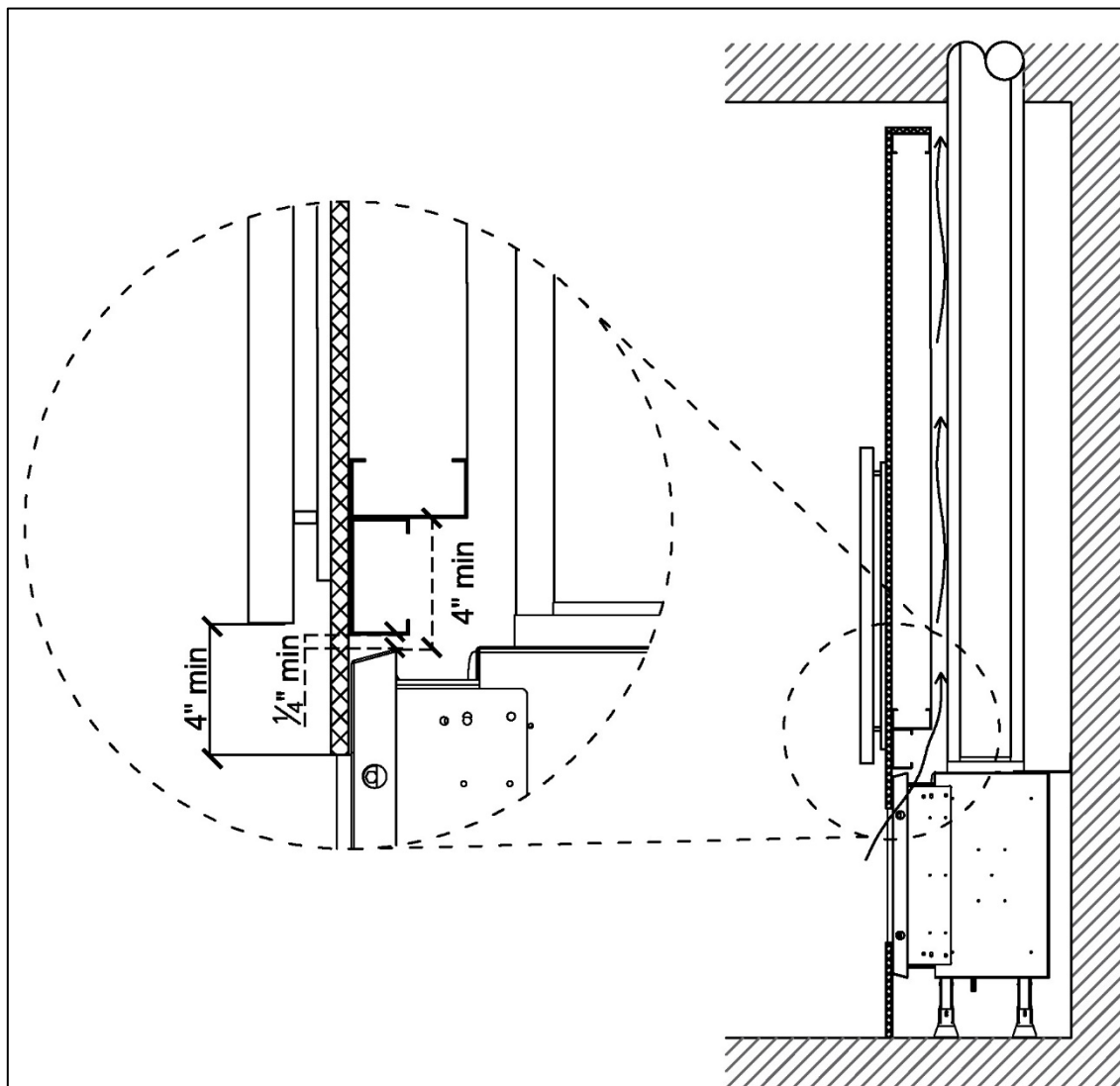
- Mount the TV or artwork at the minimum clearance above the top of the fireplace viewing area. Minimum clearance amount depends on flush or recessed installation. See sections below for more information.
- Wires inside the chase are not permitted to cross over the fireplace. Wires must be installed against a wall.

The decision to install a television above the fireplace is up to the discretion of the owner. TV and art manufacturers may specify that their product should not be installed on, near or above a heat source. Ortal will not be held liable for any adverse effects on a TV, artwork or other equipment located near the fireplace. It is the owner's responsibility to verify that their TV or artwork can withstand the wall temperatures as outlined in the above wall temperature chart.

The following diagrams can be used as a guide for customers who do decide to locate their TV and artwork above their fireplace. These drawings illustrate ways of reducing the amount of heat impact to the area surrounding the fireplace.

### Flush Mounted TV/Artwork

When the TV is mounted on a wall that is flush to the fireplace, the TV must be at least **4 inches** from the top of the fireplace glass viewing area. Ensure all clearances are maintained. See diagram below for details.

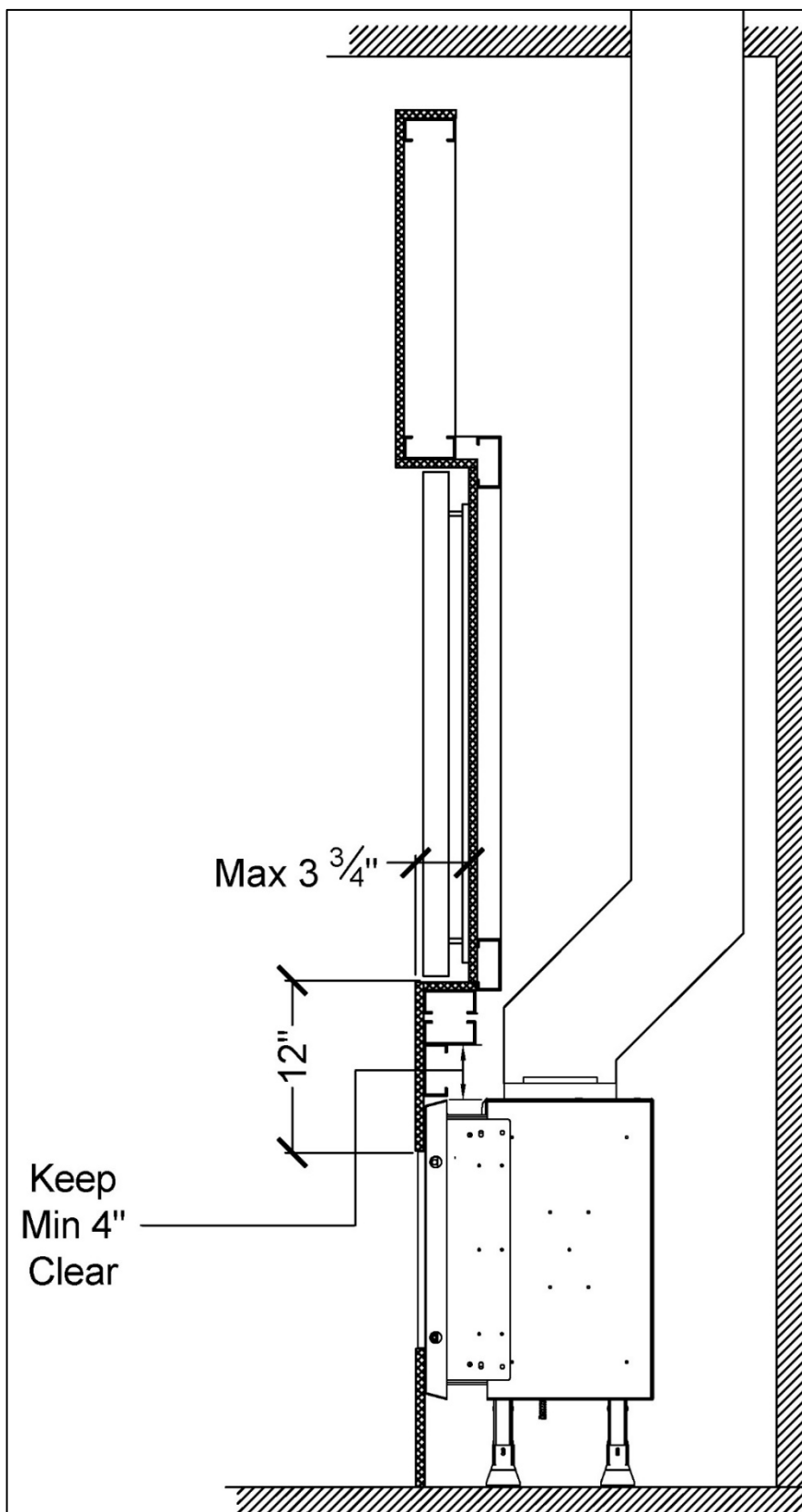



**NOTE:** Vent clearances must be maintained. See "General Clearances" section for details.

### **Recessed TV/Artwork**

When the TV is mounted on a wall that recesses over the fireplace, the TV must be at least **12 inches** from the top of the fireplace glass viewing area.

At 12 inches above the fireplace viewing area, maximum possible recess is  $3\frac{3}{4}$  inches. A deeper recess will interfere with required clearances to venting. Maximum possible recess increases at <12 inches above the viewing area when venting is offset (as shown in diagram below).



 **NOTE:** Vent clearances must be maintained. See “General Clearances” section for details.

## Access Panel

An access panel is not required (see notes below for exception), but it is **highly recommended**. It allows for access to the fireplace's gas and electrical components for servicing.

**! NOTE:** An access panel, or some other form of clear access, is required for power vented fireplaces. For servicing purposes, the power vent control box (located at the fireplace) must be easily accessible in a way that does not require removal of the fireplace glass.

Access Panel Size and Location Recommendations:

- Minimum of 10 inches x 10 inches in size
- Located within 36 inches of the pilot to the side or back of the fireplace (see "Routing the Gas Line")

The size and location of the access panel may vary, but in all cases, it must allow the technician to comfortably access and service the fireplace's gas and electrical components. These components are attached to the pilot on a flexible gas line and can be moved within 36 inches of the pilot (located at the center front of the burner).

For ease of access, move the fireplace's gas and electrical components as close to the access panel as possible. **If there is any distance between the access panel and the gas and electrical components, the access panel size must be increased accordingly.** Prior to installation, fireplace dealers/installers should work with the owner, builder, project architects and/or interior designers to determine the best size and location of their access panel.

If an access panel cannot be incorporated, the alternative method of servicing the gas and electrical components is through the fireplace. This procedure requires removing the glass panel(s) and interior design media, and lifting the grill, burner, and bottom pressure release valve. This will increase service time and difficulty. An access panel is always preferred. Fireplace dealers/installers are advised to consult with their clients regarding the advantages and disadvantages of each service option.

**! NOTE:** If local code requires an access panel, defer to local code requirements.

## Chase Area Minimum

To ensure the convective heat within the chase passively moves to the heat release at an optimal rate, all parts of the interior of the chase must at least the same size as the fireplace heat release (see "Heat Release" section to determine your model's required heat release size) at size at any given point. To determine if your chase meets this requirement, use the following equation at the narrowest part of the chase.

**Chase Area = (Chase Length x Chase Depth) – (Area of the Pipe)**

### Area of the Pipe:

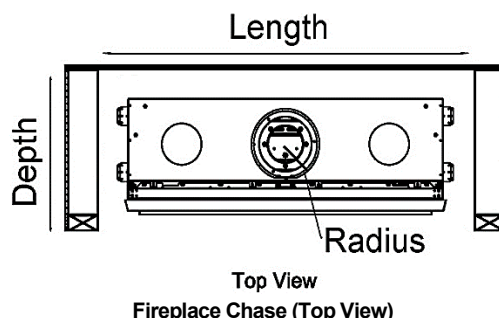
4"x6" venting = 28.27 in<sup>2</sup>

5"x8" venting = 50.27 in<sup>2</sup>

3"x5" venting\* = 19.63 in<sup>2</sup>

\*Used for Power Venting only

If the heat release is split into 25/75 portions due to an oversized ledge, the chase only needs to be the size of 75% of the heat release because 25% of the heat is already being released at the ledge (see "Ledge Detail" section below for details).



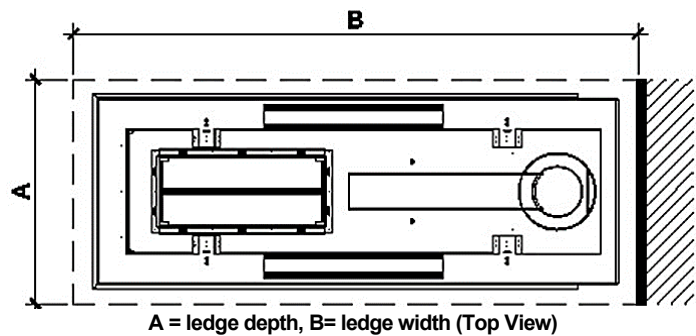
## Recessed Partial Ledge

A ledge over the top of a fireplace that is less than 24 inches from the top of the fireplace viewing area must maintain a minimum of **12 inches from the top of the viewing area to the bottom of the building material. Entire structure must be non-combustible (framing and finish).**

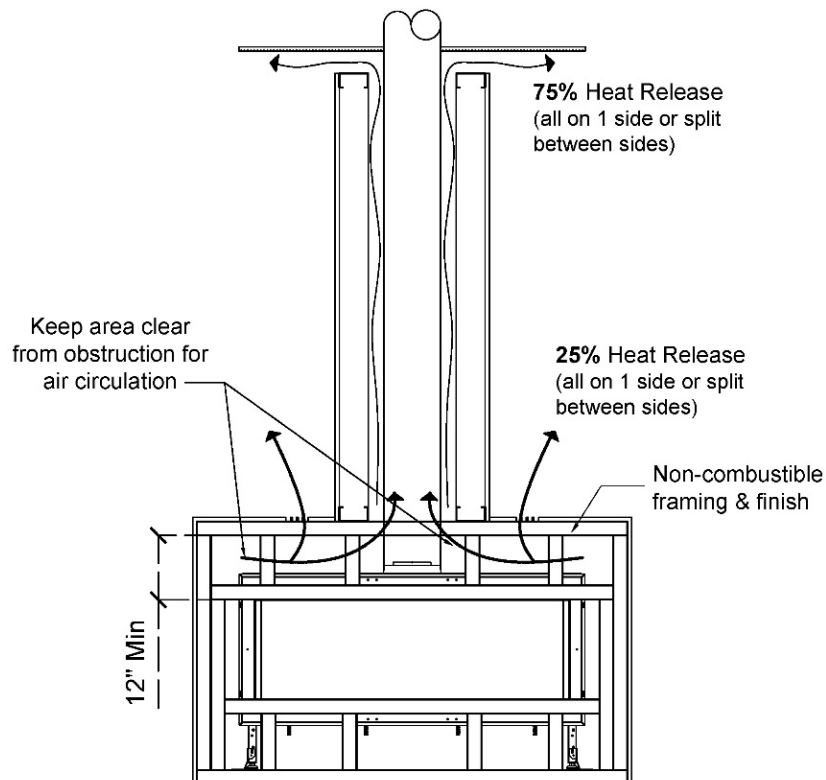
If ledge surface area exceeds the values shown in the chart below, the heat release must be divided between the ledge and the chase ceiling: 25% at the ledge and 75% at the chase ceiling. This is referred to as an oversized partial ledge (see diagram below).

Fireplace Series	Maximum Ledge Surface Area
40-75* (includes 31H)	$A \times B \leq 220$ sq. in.
90-130*	$A \times B \leq 340$ sq. in.
150-170	$A \times B \leq 410$ sq. in.
200	$A \times B \leq 520$ sq. in.
250	$A \times B \leq 580$ sq. in.

\*Includes Curve & Island and 31H Series Fireplaces



## Oversized Partial Ledge



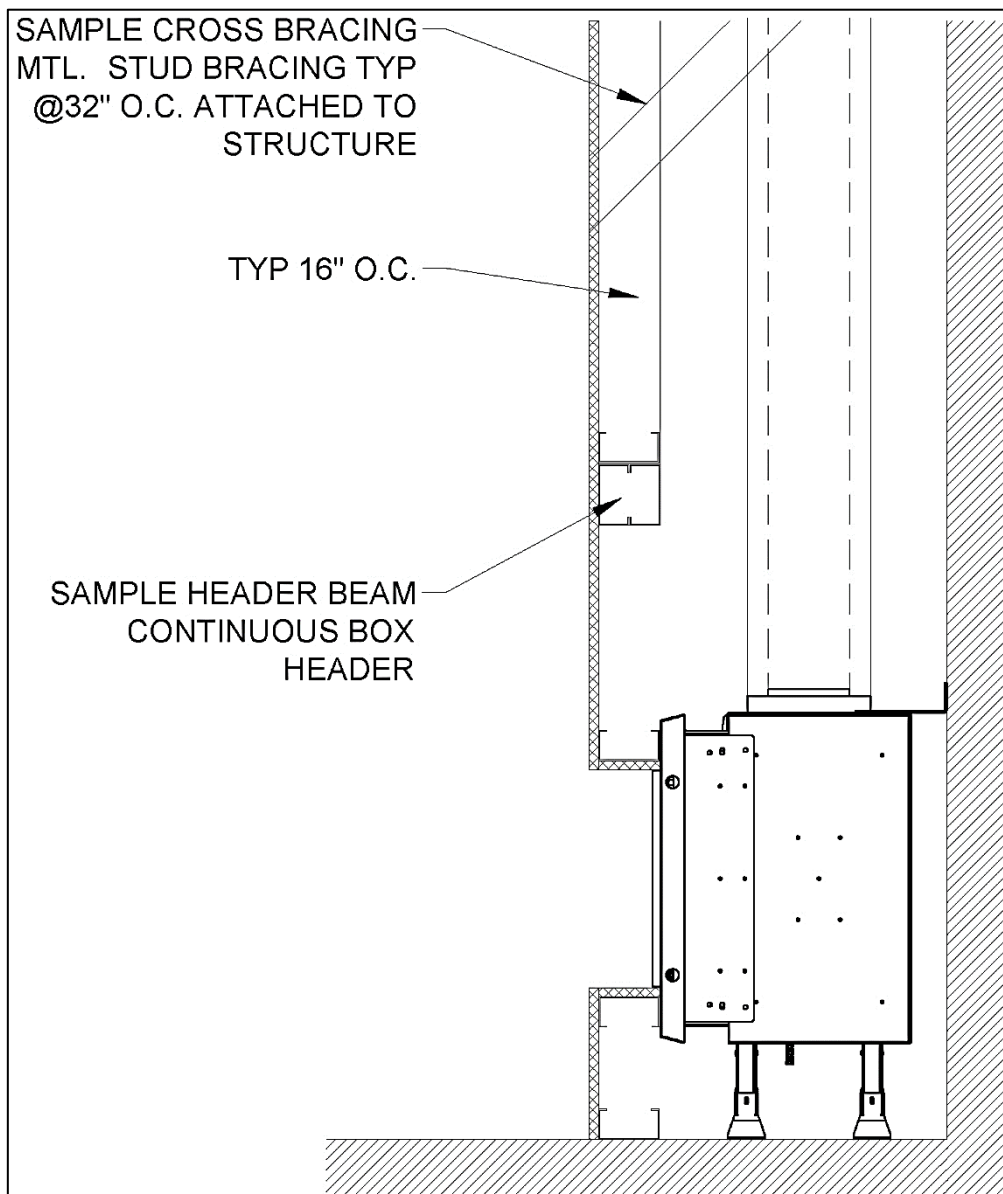
Oversized Partial Recessed Ledge Detail

**NOTE:** Chase area minimum requirements must be met throughout the entire fireplace chase. See “Chase Area Minimum” section above for details.

## Structural Weight Support

The fireplace must not carry any structural weight. The framing must be supported by another surface. Consult with the project structural engineer and refer to your local building codes for proper wall support.

The following drawing shows a recommended approach to this type of installation. Please note that these drawings are not to scale. All fireplace drawings with correct dimensions are available on the Ortol website.



## Step-by-Step Chase Construction

The following checklist is a simplified overview of typical chase construction for a built-in fireplace installation. This list is not exhaustive and does not supplement thorough review of the installation manual.

### Step 1

#### BUILD BACK AND SIDE WALLS

- ☑ Frame the back and side walls according to framing requirements.
- ☑ Build the platform (if necessary) to the desired height and install inside fireplace chase.
  - Platform must be stable and able to bear the full weight of the fireplace. Platform can be constructed out of wood, concrete, metal, or any other solid materials. Material is not required to be non-combustible.

### Step 2

#### INSTALL FIREPLACE AND VENTING, RUN GAS AND ELECTRICAL

- ☑ Install the fireplace and venting. This must be completed by an authorized Ortal dealer (unless otherwise authorized by Ortal with written approval).
- ☑ Move the gas valve and receiver unit to the designated access panel location. If the fireplace will not have an access panel, keep gas valve and receiver unit directly underneath the fireplace.
- ☑ Run gas and electric to the gas valve and receiver unit location.

### Step 3

#### BUILD FRONT WALL

- ☑ Install front chase wall:
  - Build front wall according to framing requirements.
  - Stand up the front wall and move into place.
  - Secure front wall to the rest of the chase structure.
- ☑ Cover the exterior of each wall (sides and front, and back if applicable depending on your design) with  $\frac{5}{8}$ " Type X Drywall (or equivalent) and seal gaps with a non-combustible fire sealant.



**NOTE:**  $\frac{5}{8}$ " Type X Drywall (or equivalent) is not required on the exterior portion of an insulated outside-facing wall.

- ☑ Check to make sure constructed chase meets heat release and air intake (if applicable) requirements.

### Step 4

#### APPLY FINISHES

- ☑ Apply finishes and install accessories, following all clearances and building requirements.
- ☑ Ensure furniture and other combustible materials maintain a minimum 16 inches of clearance directly in front of the fireplace viewing area for both front and side viewing areas (as applicable).

## Finishing

The following diagrams show various finish applications. **Diagrams apply to both combustible and non-combustible finish material.**



### IMPORTANT NOTES:

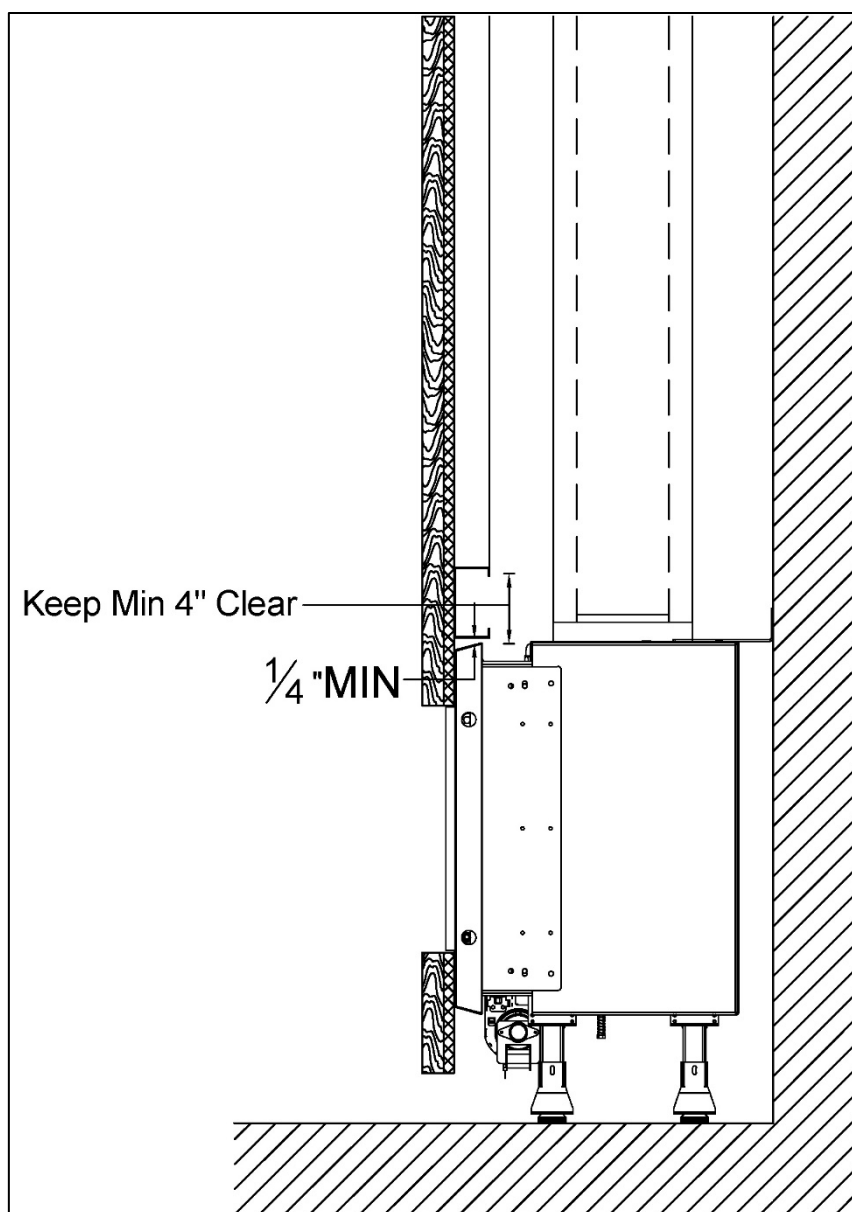
- All recessed installations must comply with applicable maximum overhang limit and side wall clearances. See "Maximum Overhang Depth" and "Clearance to a Side Wall" sections for details.
- No material is permitted to extend past the metal lip surrounding the fireplace viewing area. This area must be unobstructed to allow the heat barrier and inside glass panel to be removable.
- MANUFACTURED STONE: A minimum 2-inch recess is suggested. Consult stone manufacturer for clearance requirements.
- 5/8" DensGlass® Fireguard® Sheathing is an approved 5/8" Type X Drywall equivalent. This may be necessary for use with heavier finishes.



**WARNING:** Wood finish or floor/hearth extension may dry out, crack, warp or become discolored over time. Consult with floor manufacturer for required clearances to a heat source.

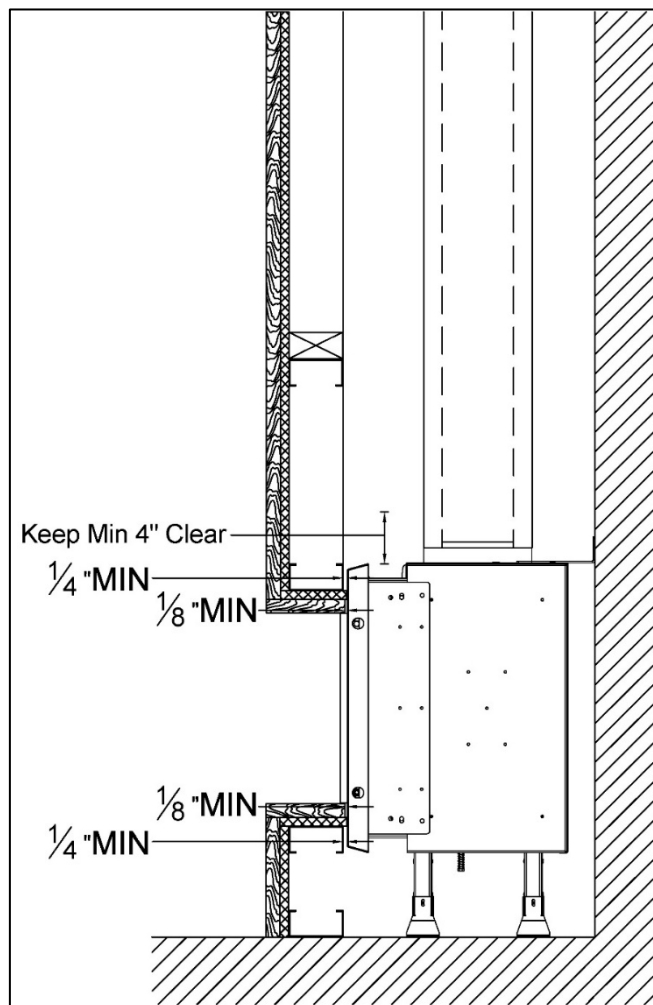
## Flush Installation

Diagram applies to both combustible and non-combustible finish material.



## Recessed Installation

Diagram applies to both combustible and non-combustible finish material. The finish must maintain at least a  $\frac{1}{8}$ " clearance to the fireplace.



### Maximum Overhang Depth

Overhang depth of a recessed fireplace must not exceed **12 inches**. Overhang depth is measured from the edge of the fireplace lip to the out-most part of the wall (including finish material). **Side overhang has no limit**. Finish material on the underside of the overhang may be combustible or non-combustible.

Bottom recess (or "hearth extension") has no minimum or maximum depth requirement. If bottom recess depth exceeds 12 inches, ensure the structure is capable of supporting the weight of a fireplace technician for servicing.

Front (Long Side) Overhang	Side (Short Side) Overhang

# Venting

## General Vent Requirements

The fireplace operates using a direct vent system and requires co-axial direct vent pipe. The fireplace must be properly connected to an approved vent system. Venting is not provided with the fireplace and must be sourced from one of the approved vent manufacturers mentioned in the table below. Proper installation, use, and maintenance of venting is determined by and can be acquired from the vent manufacturer.

Vent Requirements			
Fireplace Series	Direct Vent Type	Vent Size	Approved Vent Manufacturers
40 60 75	Passive Vent (standard)	4x6 co-axial direct vent pipe (4" interior, 6 5/8" exterior)	Olympia: Ventis DuraVent: Direct Vent Pro ICC: EXCELDirect BDM: Pro-Form Direct Vent System Selkirk: Direct-Temp System
	Enervex Power Vent (optional)	4x6 co-axial direct vent pipe (4" interior, 6 5/8" exterior)	
	Ortal Power Vent* (optional)	3x5 co-axial direct vent pipe (3" interior, 5" exterior)	DuraVent: CVS line
→75H (31H) 110 120 130 150 170 200 250	Passive Vent (standard)	5x8 co-axial direct vent pipe (5-inch interior, 8-inch exterior)	Olympia: Ventis DuraVent: Direct Vent Pro ICC: EXCELDirect BDM: Pro-Form Direct Vent System Selkirk: Direct-Temp System
	Enervex Power Vent (optional)	5x8 co-axial direct vent pipe (5-inch interior, 8-inch exterior)	
	Ortal Power Vent* (optional)	3x5 co-axial direct vent pipe (3-inch interior, 5-inch exterior)	DuraVent: CVS line
Island 70	Passive Vent (standard)	4x6 co-axial direct vent pipe (4" interior, 6 5/8" exterior)	Olympia: Ventis DuraVent: Direct Vent Pro ICC: EXCELDirect BDM: Pro-Form Direct Vent System Selkirk: Direct-Temp System
	Enervex Power Vent (optional) (see note below)	5x8 co-axial direct vent pipe (5-inch interior, 8-inch exterior)	
Curve Island 130	Passive Vent (standard)	5x8 co-axial direct vent pipe (5-inch interior, 8-inch exterior)	Olympia: Ventis DuraVent: Direct Vent Pro ICC: EXCELDirect BDM: Pro-Form Direct Vent System Selkirk: Direct-Temp System
	Enervex Power Vent (optional) (see note below)	5x8 co-axial direct vent pipe (5-inch interior, 8-inch exterior)	

**\*Power Vent:** a fan-assisted direct vent system that boosts airflow for vent configurations with too much constriction. Review "Vent Configurations" section to determine if your fireplace needs a power vent. See the Ortal Power Vent Manual for more details on power venting.



**NOTE:** The Curve and Island series fireplaces are not permitted for use with an Ortal Power Vent.



**TERMINATION CAP NOTE:** Low Profile Vertical Termination Cap and Sconce Horizontal Termination Cap can negatively impact flame appearance and are not recommended for use with the fireplace.




**WARNING:** Do not combine vent components from different vent manufacturers. Please follow the manufacturer's instructions for vent system installation.

## Vent Configurations

The following sections provide information for calculating vent configuration distances and elbows. For vent configurations that cannot conform to these guidelines, consider Ortal's Power Vent System, or contact Ortal for assistance. Power Vent information can be found in the Power Vent Installation Manual.

**Please consider the following guidelines when determining vent configuration:**

### Elbows

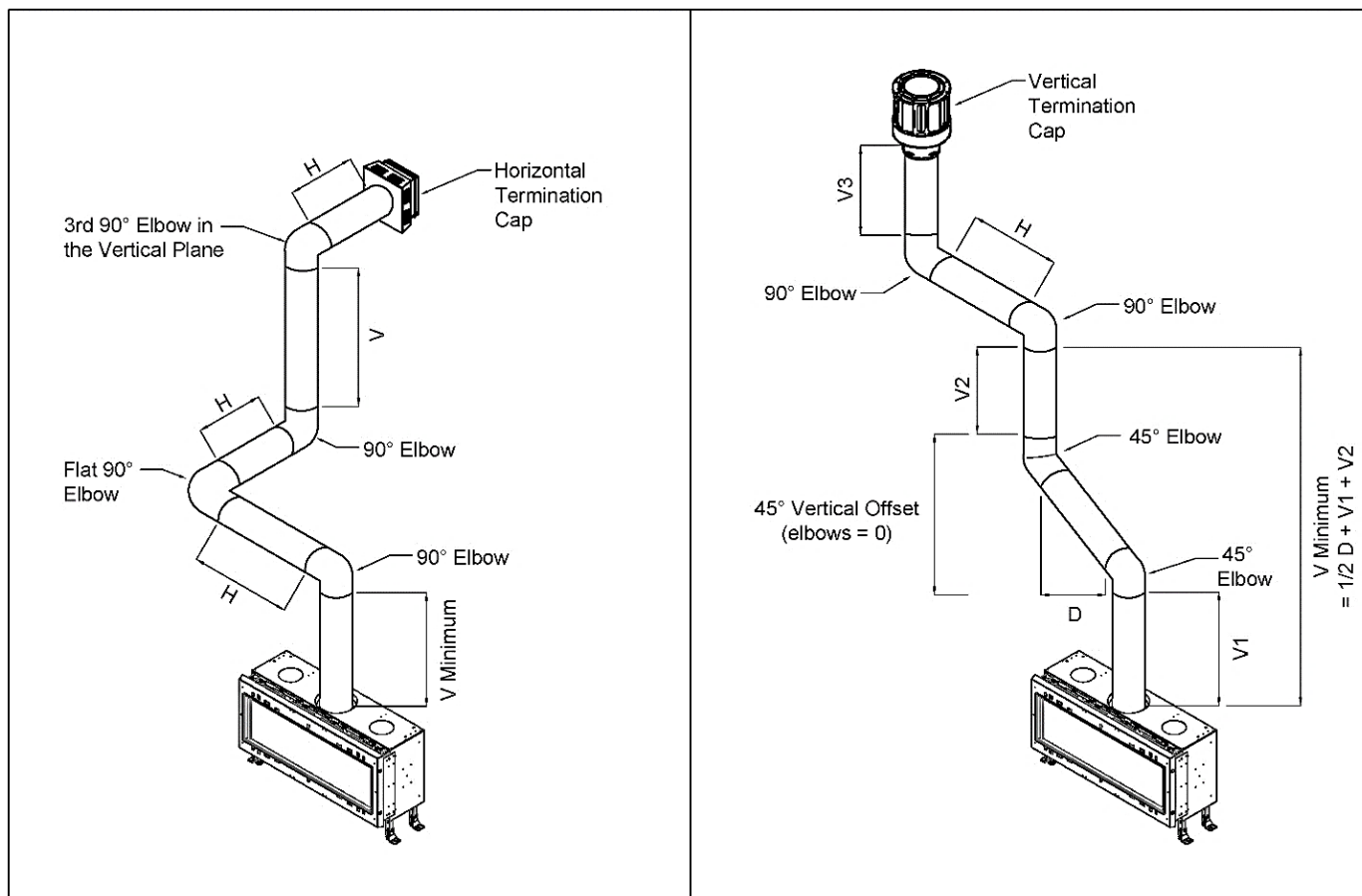
- **Maximum Elbows:** Up to **four** 90° elbows can be used in the vent configuration. Two 45° elbows = one 90° elbow.
  - **45° Vertical Offset Exception:** Two 45° elbows in the vertical plane with a diagonal run in between is equal to **0 elbows**. They are not counted with other elbows in the vent configuration. This offset exception is applicable immediately on the top of the fireplace and anywhere else within the vent configuration.  
**The diagonal run between the two 45° elbows must be included when calculating vertical and horizontal distances.**
  - **45° Horizontal Offset:** Two 45° elbows that begin and end in the horizontal plane, with a diagonal run in between, is equal to **one 90° elbow**. Additionally, **3 feet** must be reduced from the total allowable horizontal run.  
**The diagonal run between the two 45° elbows must be included when calculating vertical and horizontal distances**
- **Exceeding two 90° Elbows:** For more than two 90° elbows, the minimum total vertical rise is **6 feet** for 90-250 models. This does not apply to 40-75 models.
- **Flat 90° Elbows:** For every flat 90° elbow (a 90° elbow that stays in the horizontal plane), **6 feet** must be reduced from the total allowable horizontal run. Up to two flat elbows are allowed.
  - Example: If max allowable horizontal run is 24 feet and 1 flat elbow is added, max run is reduced to 18 feet.
- **3rd 90° Elbow in the Vertical Plane:** The 3<sup>rd</sup> elbow in the vertical plane reduces **3 feet** from total allowable horizontal run. Do not include flat elbows when determining which 90° elbow in your configuration is 3<sup>rd</sup> in the vertical plane.
  -  **Exception:** If the 3rd 90° elbow in the vertical plane turns the vent direction from horizontal to vertical, the total allowable horizontal run does not require a 3-foot reduction.

### Diagonal Runs

- **Calculating Diagonal Runs (D):** Diagonal (45°) vent runs have an equal combination of vertical and horizontal aspects. To include diagonal portions of your desired vent configuration when determining overall vent limitations, divide the diagonal distance in half. Add this value to the total vertical rise and total horizontal run distances in your vent configuration. Include these values when utilizing the Vent Configuration Tables below.
  - Example: 6 feet diagonal run = 3 feet vertical rise & 3 feet horizontal run

### Other

- **V Minimum:** This is the minimum amount of vertical rise required before the first *completely* horizontal (not diagonal) run.
- Any vent configuration that does not meet these parameters requires Ortal's review and approval.



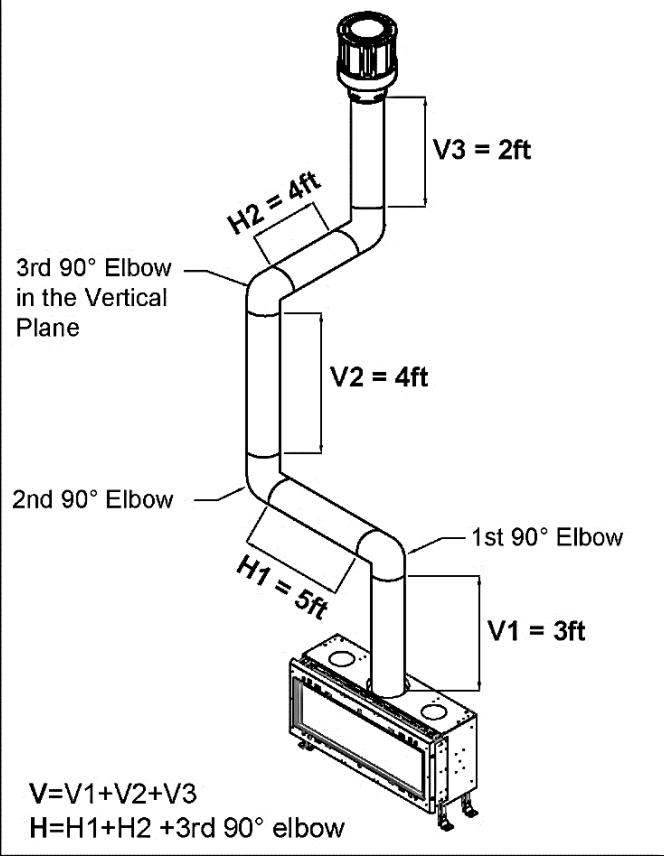
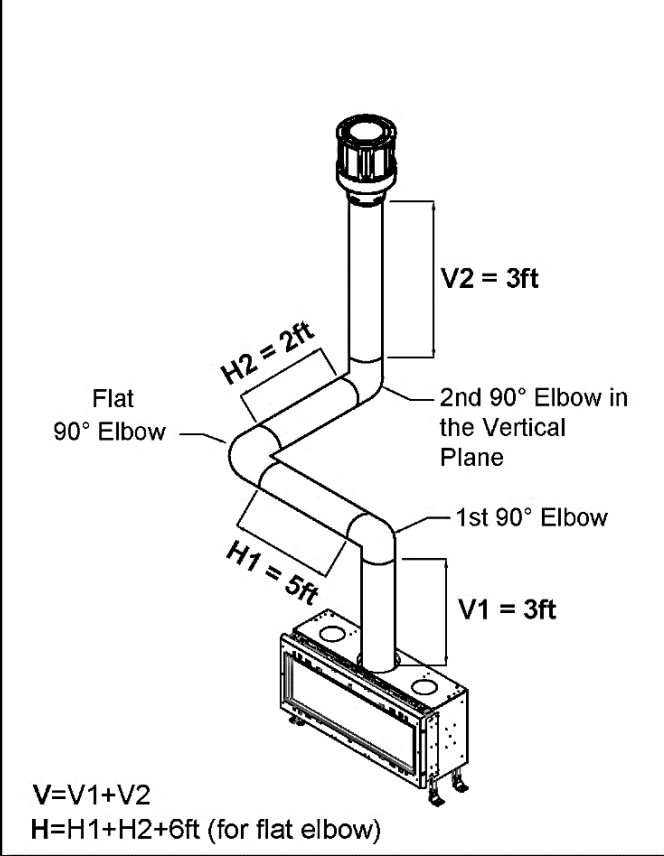
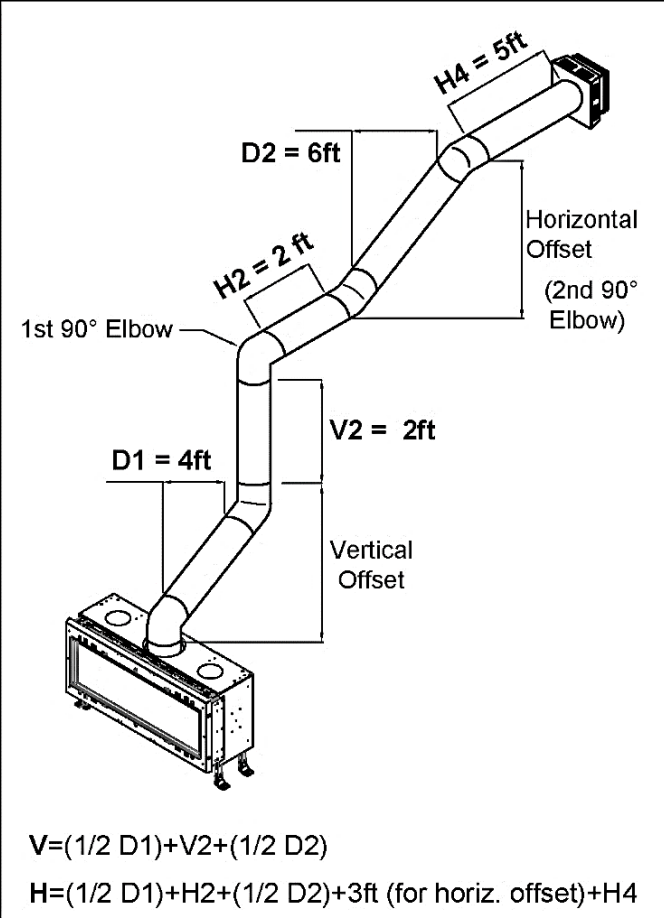
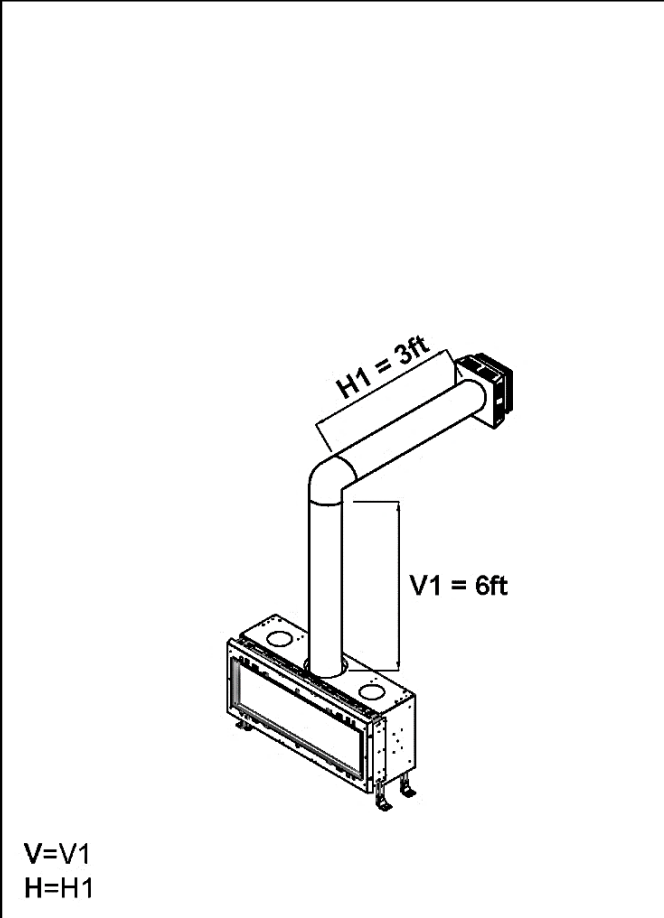
**! TERMINATION CAP NOTE:** Low Profile Vertical Termination Cap and Sconce Horizontal Termination Cap can negatively impact flame appearance and are not recommended for use with the fireplace.

### Allowable Maximum Horizontal Runs

Series 40-75 (includes 31H)		Series 110-130		Series 150-170		Series 200		Series 250	
V minimum = 0 ft		V minimum = 3 ft		V minimum = 3 ft		V minimum = 6 ft		V minimum = 6 ft	
Vertical (V)	Max Horizontal (H)	Vertical (V)	Max Horizontal (H)	Vertical (V)	Max Horizontal (H)	Vertical (V)	Max Horizontal (H)	Vertical (V)	Max Horizontal (H)
0 ft	6 ft	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
1 ft	12 ft	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
3 ft	21 ft	3 ft	12 ft	3 ft	9 ft	N/A	N/A	N/A	N/A
6 ft	24 ft	6 ft	24 ft	6 ft	18 ft	6 ft	18 ft	6 ft	3 ft
9 ft	30 ft	9 ft	30 ft	9 ft	30 ft	9 ft	19 ft	9 ft	8 ft
12 ft	30 ft	12 ft	30 ft	12 ft	30 ft	12 ft	19 ft	12 ft	11 ft
15 ft	24 ft	15 ft	30 ft	15 ft	30 ft	15 ft	19 ft	15 ft	12 ft
18 ft	21 ft	18 ft	27 ft	18 ft	30 ft	18 ft	19 ft	18 ft	12 ft
21 ft	18 ft	21 ft	24 ft	21 ft	27 ft	21 ft	19 ft	21 ft	10 ft
24 ft	15 ft	24 ft	21 ft	24 ft	24 ft	24 ft	19 ft	24 ft	8 ft
27 ft	12 ft	27 ft	21 ft	27 ft	21 ft	27 ft	19 ft	27 ft	7 ft
30 ft	12 ft	30 ft	21 ft	30 ft	21 ft	30 ft	19 ft	30 ft	5 ft
33 ft	12 ft	33 ft	21 ft	33 ft	15 ft	33 ft	19 ft	33 ft	4 ft
36 ft	4 ft	36 ft	12 ft	36 ft	15 ft	36 ft	19 ft	36 ft	0 ft
44 ft	0 ft	44 ft	0 ft	44 ft	0 ft	44 ft	0 ft	N/A	N/A

**! CHART NOTE:** Do not include the space elbows take up when calculating your vertical and horizontal distances.

## Examples using a 110 Front

 <p>3rd 90° Elbow in the Vertical Plane</p> <p>2nd 90° Elbow</p> <p>1st 90° Elbow</p> <p><math>V_1 = 3\text{ft}</math></p> <p><math>H_1 = 5\text{ft}</math></p> <p><math>V_2 = 4\text{ft}</math></p> <p><math>H_2 = 4\text{ft}</math></p> <p><math>V_3 = 2\text{ft}</math></p> <p><math>V = V_1 + V_2 + V_3</math>  <math>H = H_1 + H_2 + 3\text{rd } 90^\circ \text{ elbow}</math></p>	 <p>Flat 90° Elbow</p> <p>2nd 90° Elbow in the Vertical Plane</p> <p>1st 90° Elbow</p> <p><math>V_1 = 3\text{ft}</math></p> <p><math>H_1 = 5\text{ft}</math></p> <p><math>H_2 = 2\text{ft}</math></p> <p><math>V_2 = 3\text{ft}</math></p> <p><math>V = V_1 + V_2</math>  <math>H = H_1 + H_2 + 6\text{ft (for flat elbow)}</math></p>
<p><math>V = 3\text{ft} + 4\text{ft} + 2\text{ft} = 9\text{ft}</math>  <math>H = 5\text{ft} + 4\text{ft} + 3\text{ft} = 12\text{ft}</math></p>	<p><math>V = 3\text{ft} + 3\text{ft} = 6\text{ft}</math>  <math>H = 5\text{ft} + 2\text{ft} + 6\text{ft} = 13\text{ft}</math></p>
 <p>1st 90° Elbow</p> <p>Horizontal Offset (2nd 90° Elbow)</p> <p>Vertical Offset</p> <p><math>D_1 = 4\text{ft}</math></p> <p><math>V_2 = 2\text{ft}</math></p> <p><math>H_2 = 2\text{ft}</math></p> <p><math>D_2 = 6\text{ft}</math></p> <p><math>H_4 = 5\text{ft}</math></p> <p><math>V = (1/2 D_1) + V_2 + (1/2 D_2)</math>  <math>H = (1/2 D_1) + H_2 + (1/2 D_2) + 3\text{ft (for horiz. offset)} + H_4</math></p>	 <p><math>V_1 = 6\text{ft}</math></p> <p><math>H_1 = 3\text{ft}</math></p> <p><math>V = V_1</math>  <math>H = H_1</math></p>
<p><math>V = 2\text{ft} + 2\text{ft} + 3\text{ft} = 7\text{ft}</math>  <math>H = 2\text{ft} + 2\text{ft} + 3\text{ft} + 3\text{ft} + 5\text{ft} = 15\text{ft}</math></p>	<p><math>V = 6\text{ft}</math>  <math>H = 3\text{ft}</math></p>

## Vent Restrictors

A vent restrictor is a metal plate that reduces the flow of exhaust evacuating the fireplace. A restrictor is only necessary when the flame is receiving too much oxygen. Various-sized restrictors are supplied with every fireplace. See instructions below to determine which restrictor, if any, is recommended for your fireplace.

### Restrictor Sizing Guidelines

The restrictor sizing tables in this section determine the recommended restrictor for your vent configuration. These tables show Ortal's recommendations only. The Environment, gas type and other factors may affect the best restrictor choice.

#### How to use the "Recommended Restrictor" tables:

1. Find the total vertical rise in your vent configuration along the y-axis.
2. Find the horizontal run in your vent configuration along the x-axis.
3. Follow the desired rise and run values within the table until they meet. This value is the recommended restrictor size (in inches) for your vent configuration.

#### Legend:

X: Vent configuration is not allowed. Power vent required.

0: No restrictor required.

Numbers other than 0: Represents the recommended restrictor (by width).

#### Restrictor Sizes:

- 20mm (0.79")
- 30mm (1.18")
- 40mm (1.57")
- 50mm (1.97")
- 70mm (2.75")
- 85mm (3.35")
- Space Creator Restrictor: 6 holes (passive or power vent)
- Space Creator Restrictor: 1 hole (power vent only)

**NOTE:** Space Creator models come with a special restrictor specific to the Space Creator Series. It is not required to use any other available restrictor.

Series 40-75 Fireplaces (includes 31H) V Minimum = 0 Feet													
Total Vertical Vent Rise	44'	1.97"	X	X	X	X	X	X	X	X	X	X	
	33'	1.97"	1.97"	1.97"	1.97"	1.57"	X	X	X	X	X	X	
	30'	1.97"	1.97"	1.97"	1.97"	1.57"	X	X	X	X	X	X	
	27'	1.97"	1.97"	1.97"	1.97"	1.57"	X	X	X	X	X	X	
	24'	1.97"	1.97"	1.97"	1.97"	1.57"	1.18"	X	X	X	X	X	
	21'	1.97"	1.97"	1.97"	1.97"	1.57"	1.18"	0	X	X	X	X	
	18'	1.97"	1.97"	1.97"	1.57"	1.57"	1.18"	0.79"	0	X	X	X	
	15'	1.57"	1.57"	1.57"	1.57"	1.18"	1.18"	0.79"	0	0	X	X	X
	12'	1.57"	1.57"	1.57"	1.18"	1.18"	0.79"	0	0	0	X	X	X
	9'	1.57"	1.57"	1.18"	1.18"	0.79"	0	0	0	0	X	X	X
	6'	1.18"	1.18"	0.79"	0.79"	0	0	0	0	0	X	X	X
	3'	0	0	0	0	0	0	0	0	X	X	X	X
	0'	0	0	0	0	0	X	X	X	X	X	X	X
		0'	3'	6'	9'	12'	15'	18'	21'	24'	27'	30'	33'
Horizontal Vent Run													

Series 110-130 Fireplaces V Minimum = 3 Feet													
Total Vertical Vent Rise	44'	2.75"	X	X	X	X	X	X	X	X	X	X	
	33'	2.75"	1.97"	1.97"	1.97"	X	X	X	X	X	X	X	
	30'	2.75"	1.97"	1.97"	1.97"	X	X	X	X	X	X	X	
	27'	2.75"	1.97"	1.97"	1.97"	X	X	X	X	X	X	X	
	24'	2.75"	2.75"	2.75"	1.97"	X	X	X	X	X	X	X	
	21'	2.75"	2.75"	1.97"	1.97"	1.57"	1.18"	X	X	X	X	X	
	18'	1.97"	1.97"	1.97"	1.57"	1.57"	1.18"	0	X	X	X	X	
	15'	1.97"	1.97"	1.97"	1.57"	1.57"	1.18"	0	0	X	X	X	
	12'	1.97"	1.97"	1.57"	1.57"	1.18"	1.18"	0	0	X	X	X	
	9'	1.57"	1.57"	1.18"	1.18"	0	0	0	0	0	X	X	X
	6'	1.18"	0	0	0	0	0	0	0	0	X	X	X
	3'	0	0	0	0	0	X	X	X	X	X	X	X
	0'	X	X	X	X	X	X	X	X	X	X	X	X
		0'	3'	6'	9'	12'	15'	18'	21'	24'	27'	30'	33'
Horizontal Vent Run													

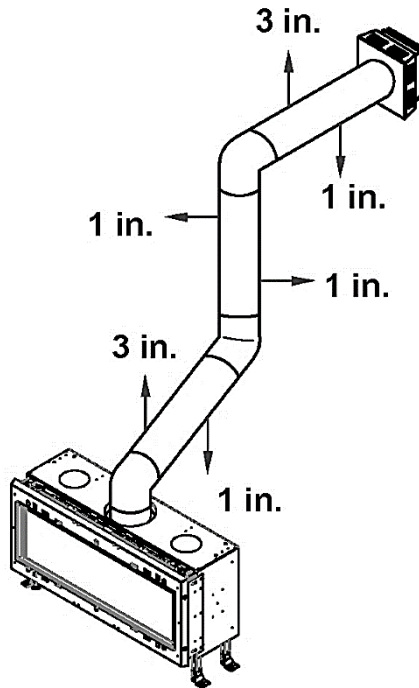
Series 150-170 Fireplaces													
V Minimum = 3 Feet													
Total Vertical Vent Rise	44'	2.75"	X	X	X	X	X	X	X	X	X	X	
	33'	2.75"	2.75"	2.75"	1.97"	X	X	X	X	X	X	X	
	30'	2.75"	2.75"	2.75"	1.97"	X	X	X	X	X	X	X	
	27'	2.75"	2.75"	2.75"	1.97"	X	X	X	X	X	X	X	
	24'	2.75"	2.75"	2.75"	1.97"	1.57"	X	X	X	X	X	X	
	21'	2.75"	2.75"	1.97"	1.57"	1.57"	1.18"	1.18"	X	X	X	X	
	18'	1.97"	1.97"	1.97"	1.57"	1.18"	0	0	0	X	X	X	
	15'	1.97"	1.97"	1.57"	1.57"	1.18"	0	0	0	X	X	X	
	12'	1.97"	1.97"	1.57"	1.18"	1.18"	0	0	0	X	X	X	
	9'	1.57"	1.57"	1.18"	1.18"	0	0	0	0	X	X	X	
	6'	1.18"	1.18"	0	0	0	0	0	X	X	X	X	
	3'	0	0	0	0	X	X	X	X	X	X	X	
0'	X	X	X	X	X	X	X	X	X	X	X		
		0'	3'	6'	9'	12'	15'	18'	21'	24'	27'	30'	33'
Horizontal Vent Run													

Series 200 Fireplaces V Minimum = 6 Feet													
Total Vertical Vent Rise	44'	2.75"	X	X	X	X	X	X	X	X	X	X	
	33'	2.75"	1.97"	1.97"	X	X	X	X	X	X	X	X	
	30'	2.75"	1.97"	1.97"	1.97"	X	X	X	X	X	X	X	
	27'	2.75"	1.97"	1.97"	1.97"	X	X	X	X	X	X	X	
	24'	2.75"	1.97"	1.97"	1.57"	1.18"	X	X	X	X	X	X	
	21'	2.75"	1.97"	1.57"	1.18"	1.18"	1.18"	0	X	X	X	X	
	18'	1.97"	1.97"	1.57"	1.18"	1.18"	0	0	0	X	X	X	
	15'	1.97"	1.97"	1.57"	1.18"	1.18"	0	0	0	X	X	X	
	12'	1.57"	1.57"	1.57"	1.18"	0	0	0	0	X	X	X	
	9'	1.57"	1.57"	1.18"	1.18"	0	0	0	0	X	X	X	
	6'	0	0	0	0	0	0	0	X	X	X	X	
	3'	X	X	X	X	X	X	X	X	X	X	X	
	0'	X	X	X	X	X	X	X	X	X	X	X	
		0'	3'	6'	9'	12'	15'	18'	21'	24'	27'	30'	33'
Horizontal Vent Run													

Series 250 Fireplaces V Minimum = 6 Feet													
Total Vertical Vent Rise	44'	X	X	X	X	X	X	X	X	X	X	X	
	36'	2.75"	X	X	X	X	X	X	X	X	X	X	
	33'	2.75"	1.97"	X	X	X	X	X	X	X	X	X	
	30'	2.75"	1.97"	X	X	X	X	X	X	X	X	X	
	27'	1.97"	1.97"	1.97"	X	X	X	X	X	X	X	X	
	24'	1.97"	1.97"	1.97"	X	X	X	X	X	X	X	X	
	21'	1.97"	1.57"	1.57"	1.18"	X	X	X	X	X	X	X	
	18'	1.97"	1.57"	1.57"	1.18"	1.18"	X	X	X	X	X	X	
	15'	1.57"	1.57"	1.18"	1.18"	0	X	X	X	X	X	X	
	12'	1.57"	1.18"	1.18"	1.18"	X	X	X	X	X	X	X	
	9'	1.18"	1.18"	0	X	X	X	X	X	X	X	X	
	6'	0	0	X	X	X	X	X	X	X	X	X	
	3'	X	X	X	X	X	X	X	X	X	X	X	
0'	X	X	X	X	X	X	X	X	X	X	X		
		0'	3'	6'	9'	12'	15'	18'	21'	24'	27'	30'	33'
Horizontal Vent Run													

## Vent Clearances

The following clearances apply to the vent system regardless of vent manufacturer.

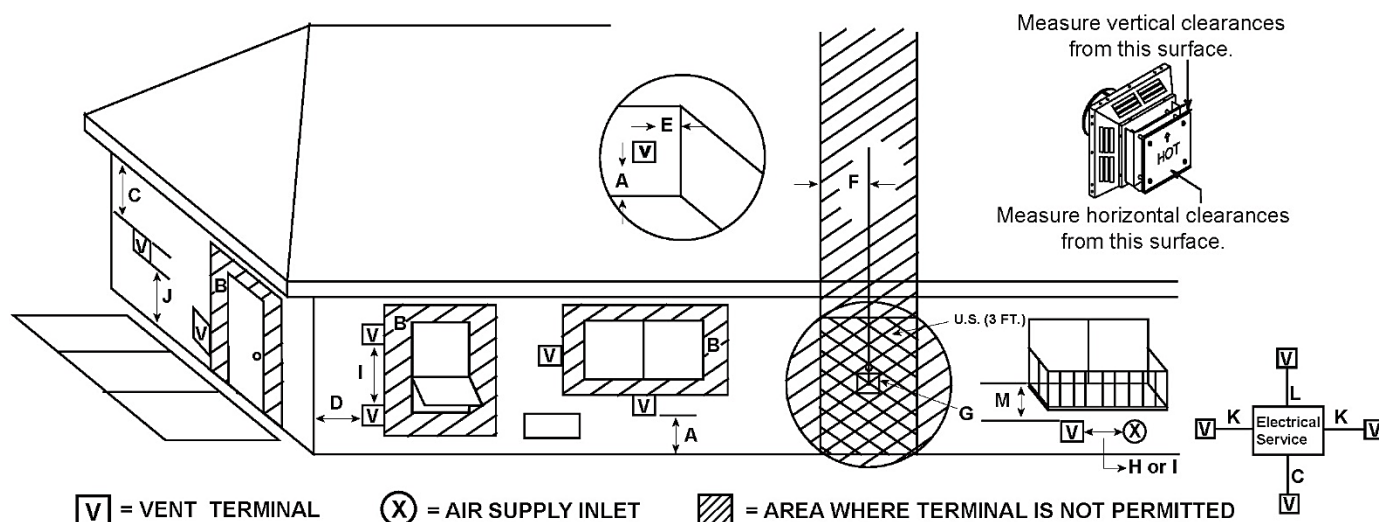


Vent Clearances	
<b>Sides: 1 inch</b>	Applies to entire circumference when venting is oriented <b>vertically</b> .
<b>*Top: 3 inches</b>	Applies to venting with any amount of <b>horizontal</b> aspect.
<b>Bottom: 1 inch</b>	Applies to venting with any amount of <b>horizontal</b> aspect.

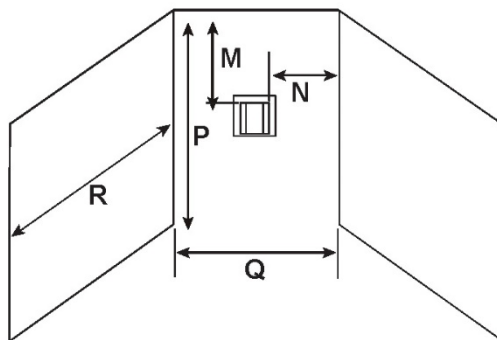
**\*Exception:** Wall thimble top clearance to any material is **1 inch**.

## Termination

### Horizontal Termination Clearance Diagram



Location	Country	Minimum Clearance	Description
A	US & Canada	12 inches	Clearance above grade, veranda, porch, deck, or balcony. NOTE: 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.
B	US	≤ 50,000 BTU: 9 inches > 50,000 BTU: 12 inches	Clearance to an operable window or door. NOTE: Zero clearance to an inoperable window or door.
	Canada	12 inches	
C	US & Canada	24 inches	Vertical clearance to a <b>ventilated</b> soffit located above the vent termination.
		18 inches	Vertical clearance to an <b>unventilated</b> soffit located above the vent termination.
		42 inches	Vertical clearance to vinyl clad soffits and below electrical service.
D	US & Canada	9 inches	Clearance to an outside corner.
E	US & Canada	6 inches	Clearance to an inside corner.
F	US	N/A	Not to be installed above a gas meter/regulator assembly within 3 feet (90 cm) horizontally from the center-line of the regulator.
	Canada	3 feet	
G	US & Canada	3 feet	Clearance to gas service regulator vent outlet.
H	US	9 inches	Clearance to a non-mechanical air supply inlet to the building or the combustion air inlet to any other appliance. NOTE: 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.
	Canada	12 inches	
I	US	3 feet	Clearance to a mechanical (powered) air supply inlet. NOTE: 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.
	Canada	6 feet	
J*	US & Canada	7 feet	Clearance above paved sidewalk or a paved driveway located on <b>public</b> property. NOTE: 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. *a vent shall not terminate directly above a sidewalk or paved driveway which is located between two single family dwellings and serves both dwellings.
K	US & Canada	6 inches	Clearance from sides of electrical service. NOTE: Location of the vent termination must not interfere with access to the electrical service.
L	US & Canada	12 inches	Clearance above electrical service. NOTE: Location of the vent termination must not interfere with access to the electrical service.



Covered Alcove: spaces open only on one side and with an overhang

Horizontal Termination Clearances Continued: Covered Alcove Application				
Location	Country	Minimum Clearance	Description	
COVERED ALCOVE APPLICATION	M	US & Canada	16 inches	Clearance under <b>non-vinyl</b> veranda, porch, deck, balcony, or overhang. NOTE: Termination in a covered alcove space is permitted with the dimensions specified. 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.
	N	US & Canada	6 inches	Non-vinyl sidewalls.
			12 inches	Vinyl sidewalls.
	P	US & Canada	8 feet	Alcove height.
	Q	US & Canada	See table below.	Alcove width (dependent on number of caps in the space).
	R	US & Canada	See table below.	Alcove depth (dependent on number of caps in the space).

# Vent Caps	$Q_{\text{MINIMUM}}$	$R_{\text{MAXIMUM}}$
1 vent cap	3 feet	$2 \times Q_{\text{ACTUAL}}$
2 vent caps	6 feet	$1 \times Q_{\text{ACTUAL}}$
3 vent caps	9 feet	$\frac{2}{3} \times Q_{\text{ACTUAL}}$
4 vent caps	12 feet	$\frac{1}{2} \times Q_{\text{ACTUAL}}$
$Q_{\text{MIN}} = \# \text{ vent caps} \times 3$		$R_{\text{MAX}} = (\frac{2}{\# \text{ vent caps}}) \times Q_{\text{ACTUAL}}$

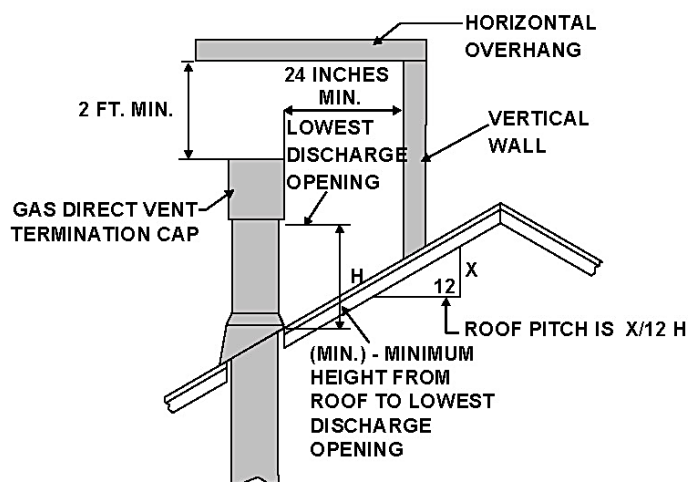
#### ! HORIZONTAL TERMINATION CAP CLEARANCES - NOTES:

- If exterior walls are finished with vinyl siding, it is required that a vinyl protector kit be installed.
- 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.
- Termination caps may be hot. Consider their proximity to doors or other traffic areas.

! **TERMINATION CAP NOTE:** Sconce Horizontal Termination Cap can negatively impact flame appearance and are not recommended for use with the fireplace.

## Vertical Termination Clearance Diagram

### Minimum Height From Roof To Lowest Discharge Opening

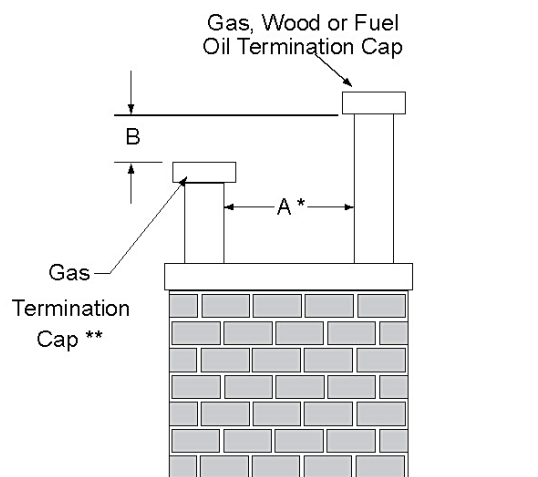


Roof Pitch	H (Min.) Ft.
Flat to 6/12.....	1.0*
Over 6/12 to 7/12.....	1.25*
Over 7/12 to 8/12.....	1.5*
Over 8/12 to 9/12.....	2.0*
Over 9/12 to 10/12.....	2.5*
Over 10/12 to 11/12.....	3.25
Over 11/12 to 12/12.....	4.0
Over 12/12 to 14/12.....	5.0
Over 14/12 to 16/12.....	6.0
Over 16/12 to 18/12.....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

\*H min. may vary depending on regional snowfall. Refer to local codes.

### 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 (such as an Enervex power vent) 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.

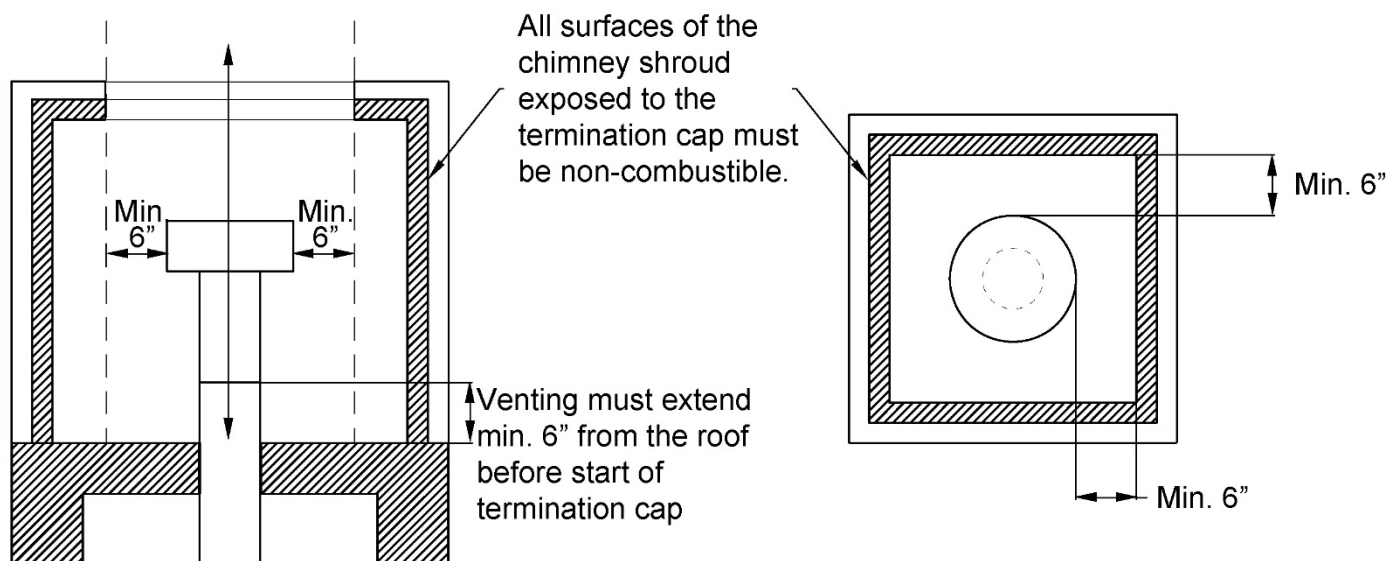
**NOTE:** This chart does not apply to a chimney shroud application. See the "Chimney Shroud" section on the next page for more information.

**TERMINATION CAP NOTE:** A Low Profile Vertical Termination Cap can negatively impact flame appearance and is not recommended for use with the fireplace.

## Chimney Shroud

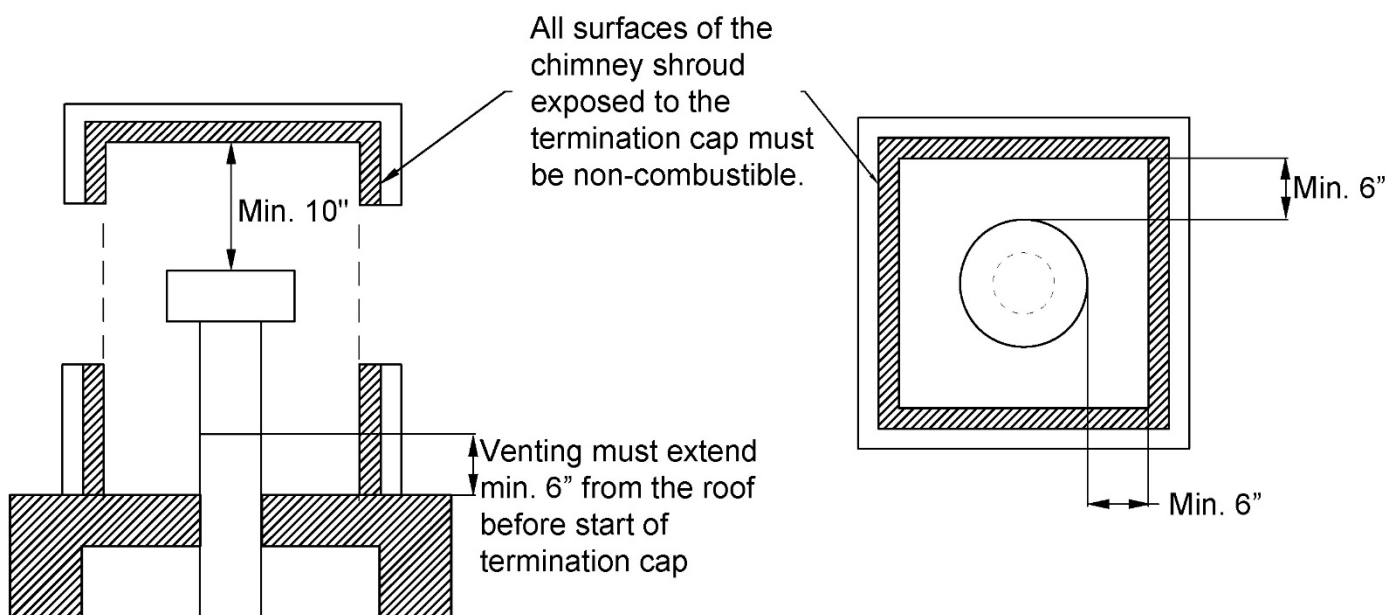
### Top Open

Keep a minimum **6-inch** clearance around the diameter of the cap's side edge and extending above and below the cap.



### Sides Open

Keep a minimum **6-inch** clearance around the diameter of the cap's side edge, and a minimum **10-inch** clearance above the top of the cap. For openings in the shroud, make sure to allow for enough air flow space to release the exhaust gases and allow the vent to operate properly.



## Vent Installation

Venting must be installed to meet the requirements as detailed in the following sections in conjunction with the vent system manufacturer's installation instructions. Venting must be supported by the structural surrounding and not by the fireplace. Each offset (elbow) must be strapped to reduce movement or possible disconnection.

The first section of venting must be secured to the fireplace starter collar with a minimum of 3 sheet metal screws no longer than  $\frac{1}{2}$ ". DO NOT use silicone to seal the sections. If sealing is required by the vent manufacturer or local code, use Mil-Pac sealant.

**⚠ WARNING: Do not combine vent components from different vent manufacturers. Please follow the manufacturer's instructions for vent system installation.**

## Vent Maintenance

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

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

## Co-Axial to Co-Linear Conversion

This section explains how the fireplace can be inserted into an existing solid fuel burning fireplace chimney by converting the co-axial venting to co-linear.



### IMPORTANT NOTES:

- **Co-linear portion of vent system may *only* be installed within a solid-fuel burning masonry fireplace and masonry chimney. It is prohibited to install co-linear in any other setting.**
- The fireplace must be vented vertically to the outside and must use one of the approved co-linear flexible ducting systems or a co-axial flexible ducting system.
- Air intake (as applicable) and heat release is still required per installation guidelines (even when venting through a chimney). All other building requirements still apply.
- Restrictor use is not required when using co-linear venting.



### WARNINGS:



- If the vent system of this appliance is disconnected for any reason, the vent and air intake systems must be properly reassembled and resealed before this appliance is put into use.
- Proper installation of the vent system, as required in this manual, is vital to the performance of this appliance. Oversights or failure to conform to all installation requirements will void the applicable warranty.
- This appliance must be properly connected to a venting system in accordance with the Ortal's installation instructions. Operation of this appliance when not connected to a properly installed and maintained venting system can result in carbon monoxide (CO) poisoning and possibly death.
- Co-linear flexible aluminum venting must be professionally inspected periodically for corrosion and damage and replaced when necessary. If the installation does not allow for future inspection or replacement of the flexible aluminum venting, then stainless steel vent liners should be used.
- The appliance must not be connected to a chimney flue serving a separate solid-fuel burning appliance.

The plan to install a gas fireplace inside an existing solid fuel burning fireplace chimney must include inspection and cleaning of the fireplace cavity and the entire chimney system. The chimney top, especially masonry chimneys and wood framed chimney tops must be inspected, and the top surface must be repaired or replaced, if necessary. Unlined chimney flues are the most vulnerable to mortar corrosion and damage. These flues must be inspected, and repair must be done before dropping the flex vent liner for this Insert

If you encounter a badly deteriorated or completely damaged firebox, do not proceed. These damaged structures must be reviewed by structural Engineers and Local Building Code officials must approve the repair work prior to this Insert being installed in such a damaged cavity.

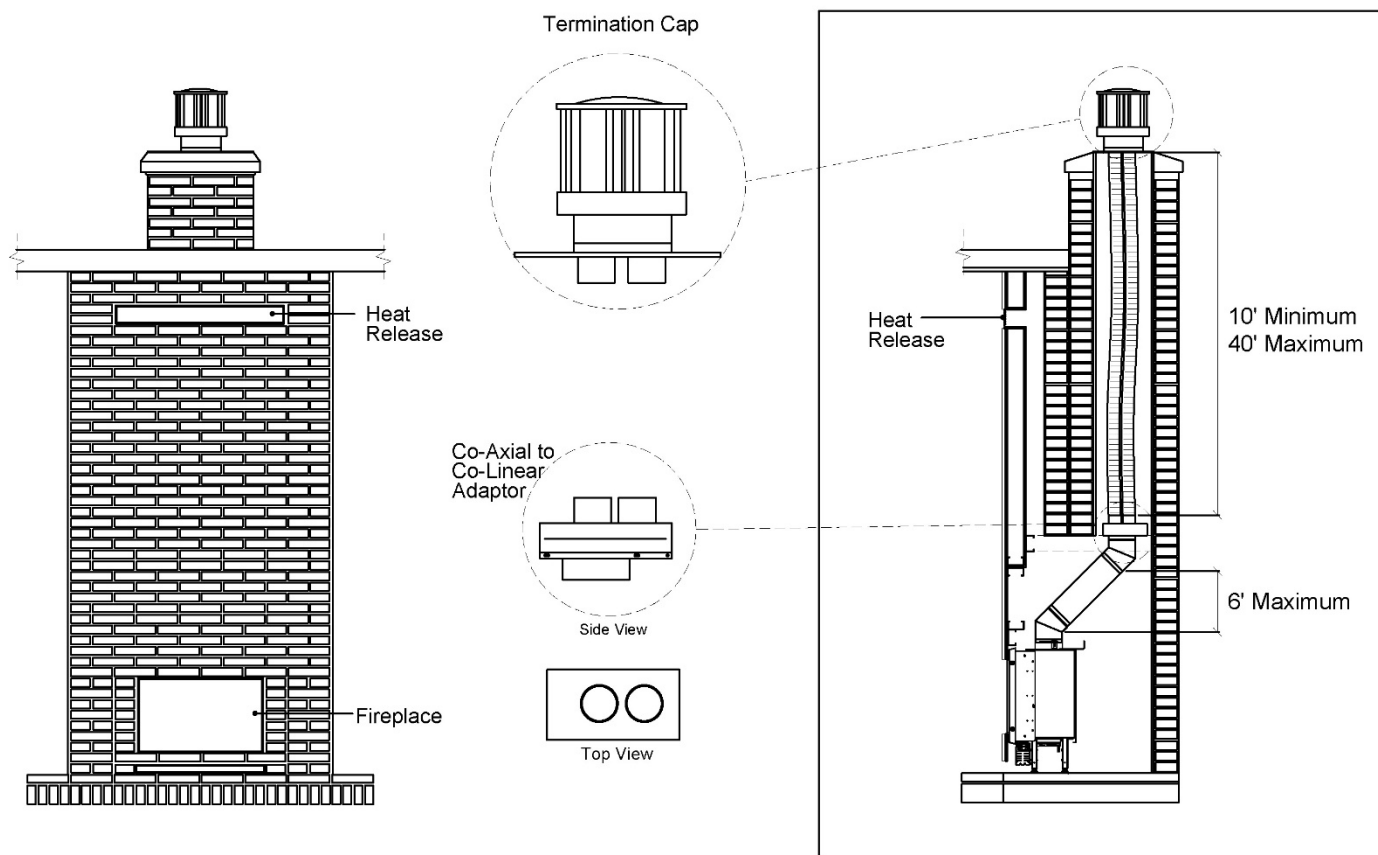
Series	Vent Size	Adapter (BDM or equivalent*)	Split Pipe Size	Termination Cap (BDM or equivalent*)
60x80	4"x6"	4"x6" to 3"x3" (DVR6-A33)	3"x3"	3"x3" (PV3-VCS33B)
75	4"x6"	4"x6" to 3"x3" (DVR6-A33)	3"x3"	3"x3" (PV3-VCS33B)
31H	5"x8"	5"x8" to 4"x3" (DVR8-A34)	4"x3"	4"x3" (PV3-VCS34B)
110/110H	5"x8"	5"x8" to 4"x3" (DVR8-A34)	4"x3"	4"x3" (PV3-VCS34B)
130/130H	5"x8"	5"x8" to 4"x3" (DVR8-A34)	4"x3"	4"x3" (PV3-VCS34B)
150/150H	5"x8"	5"x8" to 4"x3" (DVR8-A34)	4"x3"	4"x3" (PV3-VCS34B)

**\*BDM component part numbers are offered as a suggestion. Components from the following companies may also be used if they have corresponding products: DuraVent, Olympia, ICC, and Selkirk.**

Example of Co-axial to Co-linear Appliance Adapters (BDM)	Example of Co-linear Terminal (BDM)
	

## Vent Configuration

- **Minimum Vertical Rise:** 10 feet (see diagram below)
- **Maximum Vertical Rise:** 40 feet (see diagram below)
- **Offsets:** Two 45° offsets may be used directly on the fireplace with up to a 6-foot section between them. The minimum vertical rise starts above them (see diagram below). No other offsets are permitted in the vent configuration. Offsets are not required to have.



## Gas

The fireplaces are approved for use with natural gas (NG) or propane (LP) only. No other fuel types are permitted.

### Gas Pressures

Fireplace Series	Burner Size	Burner Type	Gas Type	Inlet Pressures (Inch W.C.)		Manifold Pressure (Inch W.C.)	Heat Input (BTU/hr.)		Orifice Sizes*
				Min	Max		Min	Max	
40H70	30	Single	Natural Gas	7.0	10.0	3.2	10,419	23,670	650
			Propane	11.0	13.0	10.9	12,841	21,073	220
60x80 70 75 75x65 31H	45	Single	Natural Gas	7.0	10.0	4.7	16,147	29,100	650
			Propane	11.0	13.0	9.5	15,627	28,118	320
Curve	45	Standard Double	Natural Gas	7.0	11.0	4.7	18,327	33,029	380 Front 380 Back
			Propane	11.0	13.0	10.7	17,796	28,500	160 Front 160 Back
110 120 130	100	Single	Natural Gas	7.0	11.0	5.6	22,798	37,167	1200
			Propane	11.0	13.0	10.0	25,113	35,316	380
150 170	135	Single	Natural Gas	7.0	11.0	3.5	23,312	43,715	1400
			Propane	11.0	13.0	9.5	34,008	49,704	500
200	160	Single	Natural Gas	7.0	11.0	4.5	27,467	51,277	1400
			Propane	11.0	13.0	10.0	24,329	51,011	500
250	180	Single	Natural Gas	7.0	11.0	4.7	21,700	52,700	1400
			Propane	11.0	13.0	9.0	42,640	57,045	650



**NOTE:** It can take up to 20 minutes for the flames to turn yellow.

### High Altitude Requirements

For elevations above 2,000 feet, fireplace shall be de-rated 4% for each 1,000 feet above sea level.

## Routing the Gas Line

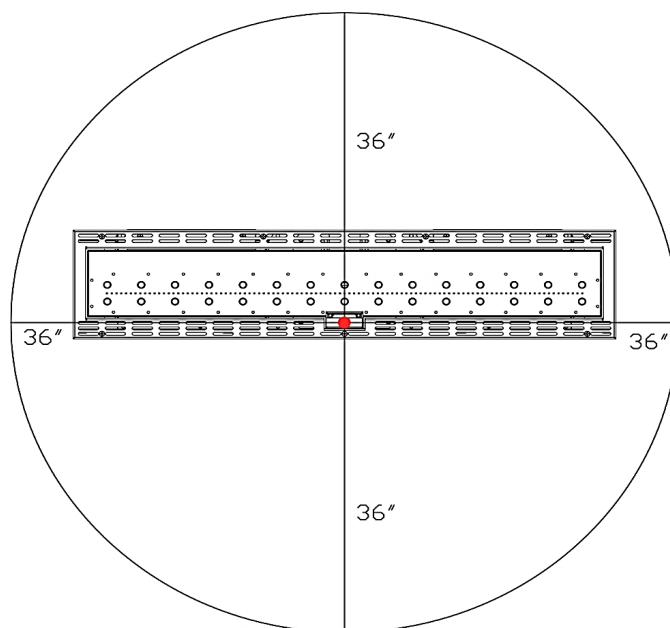
Correctly size and route the gas supply line from the supply regulator to the area where the access panel is located (or to the burner area if no access panel is available), as per the requirements outlined in the latest edition of the National Fuel Gas Code, NFPA 54 (USA) or CAN/CSA-B1491 (Canada).

**The gas and electrical components are attached to the pilot on a flexible gas line and can be kept directly under the fireplace or moved to the side or back of the fireplace within 36 inches of the pilot (located at the center front of the burner).** Gas line should be routed to the access panel area (see "Access Panel" section for details). If no access panel is planned, gas line should be routed to the most accessible area within the 36-inch radius (as shown in diagram below).

A gas shut-off valve and a 12" gas flex connector are provided with every fireplace. The location of the gas shut-off valve is dependent on local codes and requirements. Check with your authority having jurisdiction for more information.



**WARNING:** The main gas valve must be installed to allow complete disconnection of the fireplace from the gas supply piping system for servicing purposes.



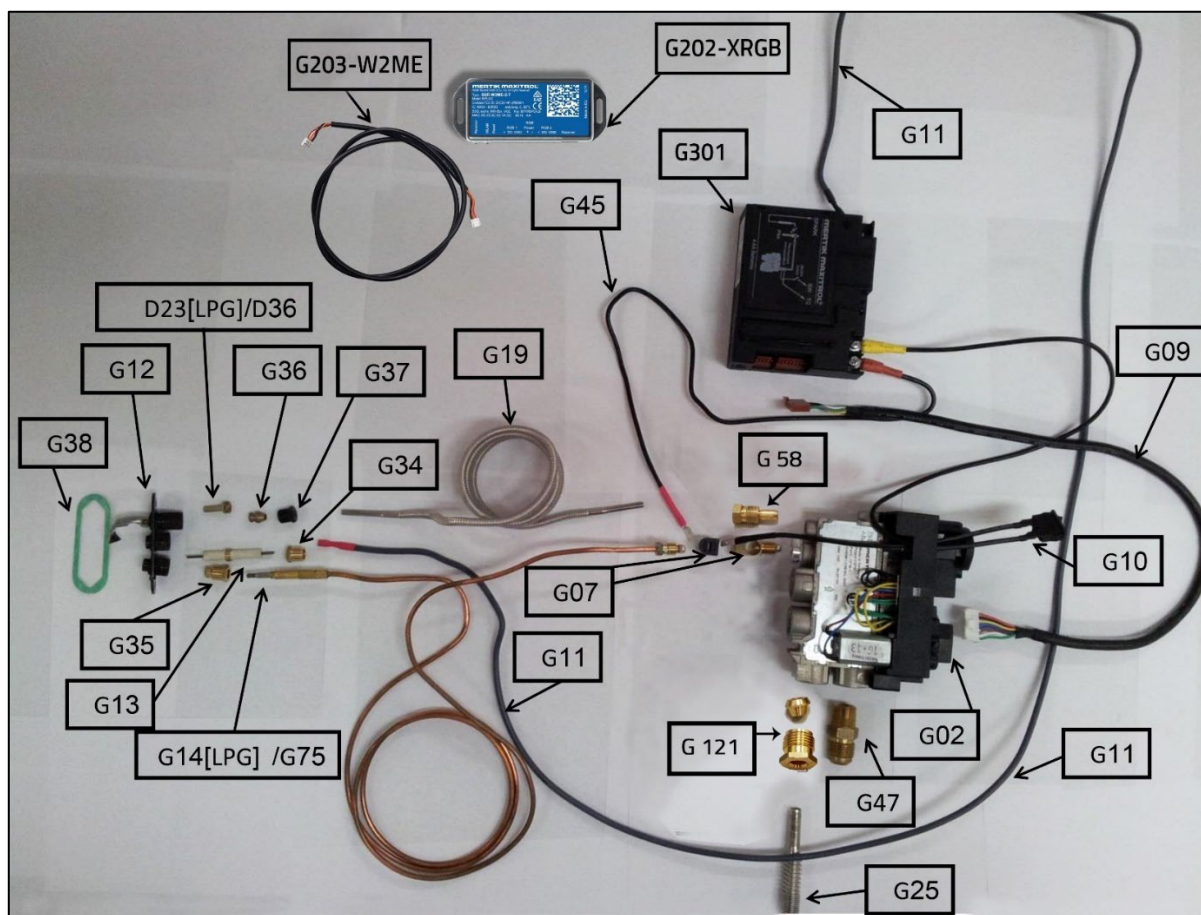
## Gas Conversion

Gas conversion (NG to LP or LP to NG) can be done in the field. Gas conversion must be performed only by technicians who have specific authorization by Ortal to change these components. The conversion kit must be supplied by Ortal. Using parts from other manufacturers or having an unauthorized party performing the conversion will void your fireplace's warranty. Conversion instructions are supplied with the conversion kit.

## Gas and Electrical Components

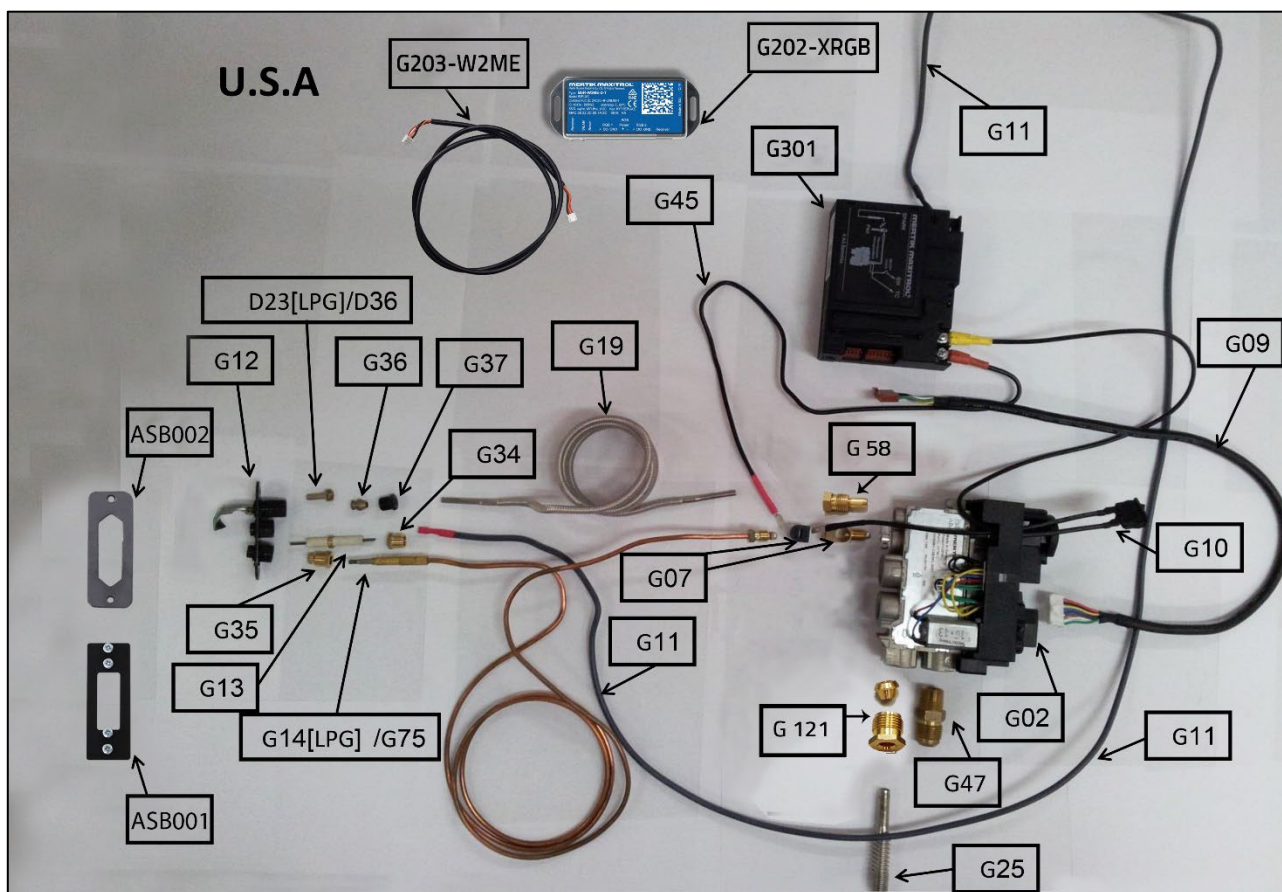
Assemblies and components are listed and described in the tables following the figure.

**For Series 40 – 170 (including H) Serial #21818-28183, and Series 200-250 (included H) Serial #21818 & forward**



Part Number	Description
D23	Orifice LPG
D36	Orifice NG
G02	Mertik Gas Valve
G301	Symax Receiver
G202-XRGB	Symax Wi-Fi Box
G203-W2ME	Symax Wi-Fi Box Cable
G07	Thermocouple Block
G09	Wire Harness for Receiver and Gas Valve
G10	Switch w. cables 180/500 mm
G11	Spark Wire
G12	Pilot Base
G75	Thermocouple NG
G14	Thermocouple LPG

Part Number	Description
G13	Electrode Target Type
G121	Main Burner Gas Fitting
G25	Burner Gas Tube
G19	Pilot Gas Tube
G34	Spark Plug Connector
G35	Thermocouple Connector
G36	OLIVE D.4 Pilot gas tube compression ring valve
G37	Pilot gas tube fitting burner side
G38	Pilot Assembly Gasket
G45	Red Cable
G58	Connection fitting 4mm One-piece
G47	Fitting for main line inlet to gas valve GV60



Part Number	Description
ASB001	Pilot Bracket
D23	Orifice LPG
D36	Orifice NG
G02	Mertik Gas Valve
G301	Symax Receiver
G202-XRGB	Symax Wi-Fi Box
G203-W2ME	Symax Wi-Fi Box Cable
G07	Thermocouple Block
G09	Wire Harness for Receiver and Gas Valve
G10	Switch w. cables 180/500 mm
G11	Spark Wire
G12	Pilot Base
G75	Thermocouple NG
G14	Thermocouple LPG

Part Number	Description
ASB002	Pilot Gasket
G13	Electrode Target Type
G121	Main Burner Gas Fitting
G25	Burner Gas Tube
G19	Pilot Gas Tube
G34	Spark Plug Connector
G35	Thermocouple Connector
G36	OLIVE D.4 Pilot gas tube compression ring valve
G37	Pilot gas tube fitting burner side
G38	Pilot Assembly Gasket
G45	Red Cable
G58	Connection fitting 4mm One-piece
G47	Fitting for main line inlet to gas valve GV60

The manufacturer of Ortal's gas and electrical components is Mertik Maxitrol. For information on these components, please visit the manufacturer's website: [www.mertikmaxitrol.com](http://www.mertikmaxitrol.com)

# Electrical



**WARNING:** Disconnect the power supply before servicing any electrical components.

## Electrical Requirements

A duplex receptacle with two outlets (not included) must be installed in the location where the gas and electrical components will be placed, which must be to the side or back of the fireplace within **36 inches** of the pilot (see diagram in "Routing the Gas Line" section). Electrical work should be performed by a qualified licensed electrician, per local code.

Outlet Type	Power Requirements
1 Duplex Receptacle (2 outlets)	120V, 15 amp, 60Hz



**WARNING:** Use of an AC Adapter other than the one provided with the fireplace (manufactured by Mertik Maxitrol) may render the system inoperable.



**NOTE:** Any device that functions using the same radio frequency as the handset will be affected when remote-controlled handset is in use.

## Power Outage

Fireplaces with a screen heat barrier and no other optional features (lights, power vent, heat control system, Wi-Fi) may be used with 4 AA batteries in the receiver in addition to the AC Adapter. If the batteries are used instead of the AC Adapter, the fireplace can operate in the event of a power outage to the building. Batteries must be replaced annually.


Fireplaces with double glass heat barrier, power vent, or a heat control system may not be used with batteries.

## Pairing the Remote and Receiver

To set up the remote-control device to operate the fireplace, follow the following guidelines to pair the remote and receiver unit on the same radio frequency.

1. Press and hold the receiver's reset button until you hear two beeps. The first beep is short, and the second beep is long. After the second beep, release the reset button.



2. Within the subsequent 20 seconds, press the following button depending on the mode of operation:
  - **10-Button Handset:** Press the  button until you see the word "CONN" and a number counting up from 1 to 8 appear on the handset display. This confirms that the synchronization and data exchange are in process.
  - **Puck Handset:** Press and hold the – button approximately 4 seconds.
  - **Wall Switch:** Use the 10-button handset to synch with the receiver. Once the remote and receiver are paired, the wall switch will function normally.
  - **MyFire App:** Use the 10-button handset to synch with the receiver. Once the remote and receiver are paired, the App will function normally.
3. You will hear two short beeps confirming the connection.



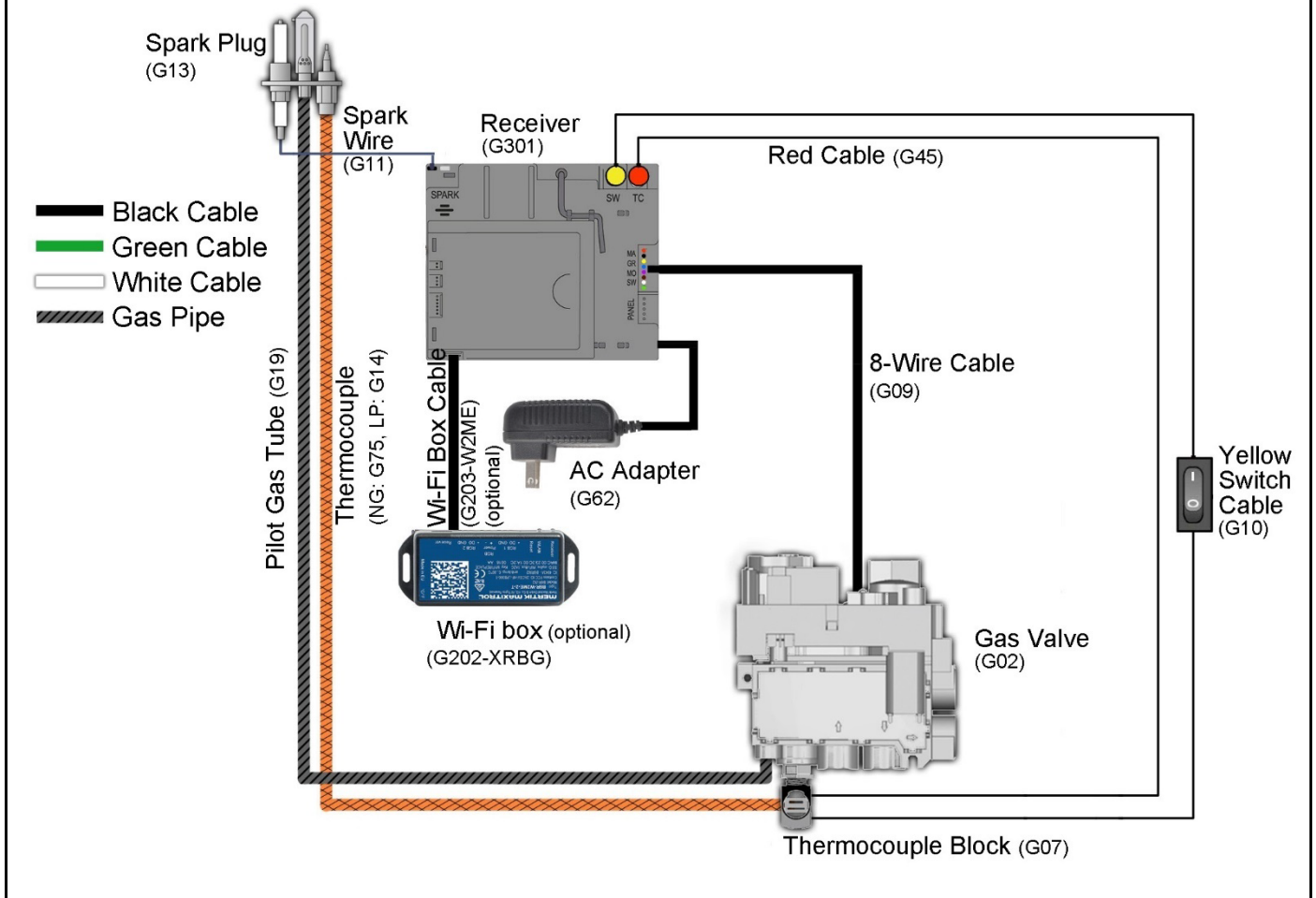
### NOTES:

- **IMPORTANT:** For safety/communication purposes, 10-button handset must be located within 26 feet of the receiver.
- If you hear one long beep, this indicates the connection has failed or the wiring is incorrect.
- The connection between remote and receiver only needs to be made once and is not required after changing the batteries in the remote.

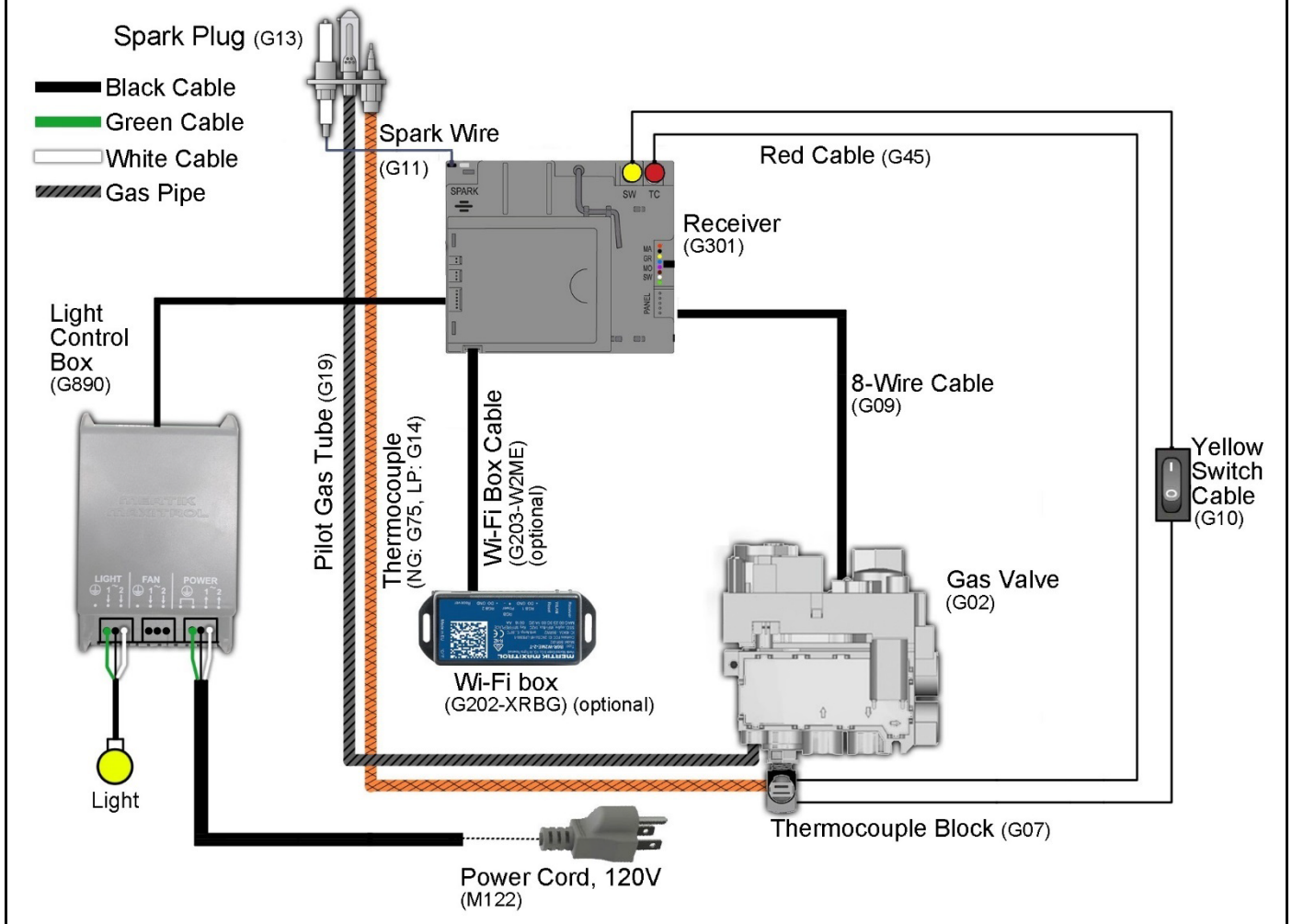
## Wiring Diagrams

The following diagrams show the electrical wiring required for different feature combinations.

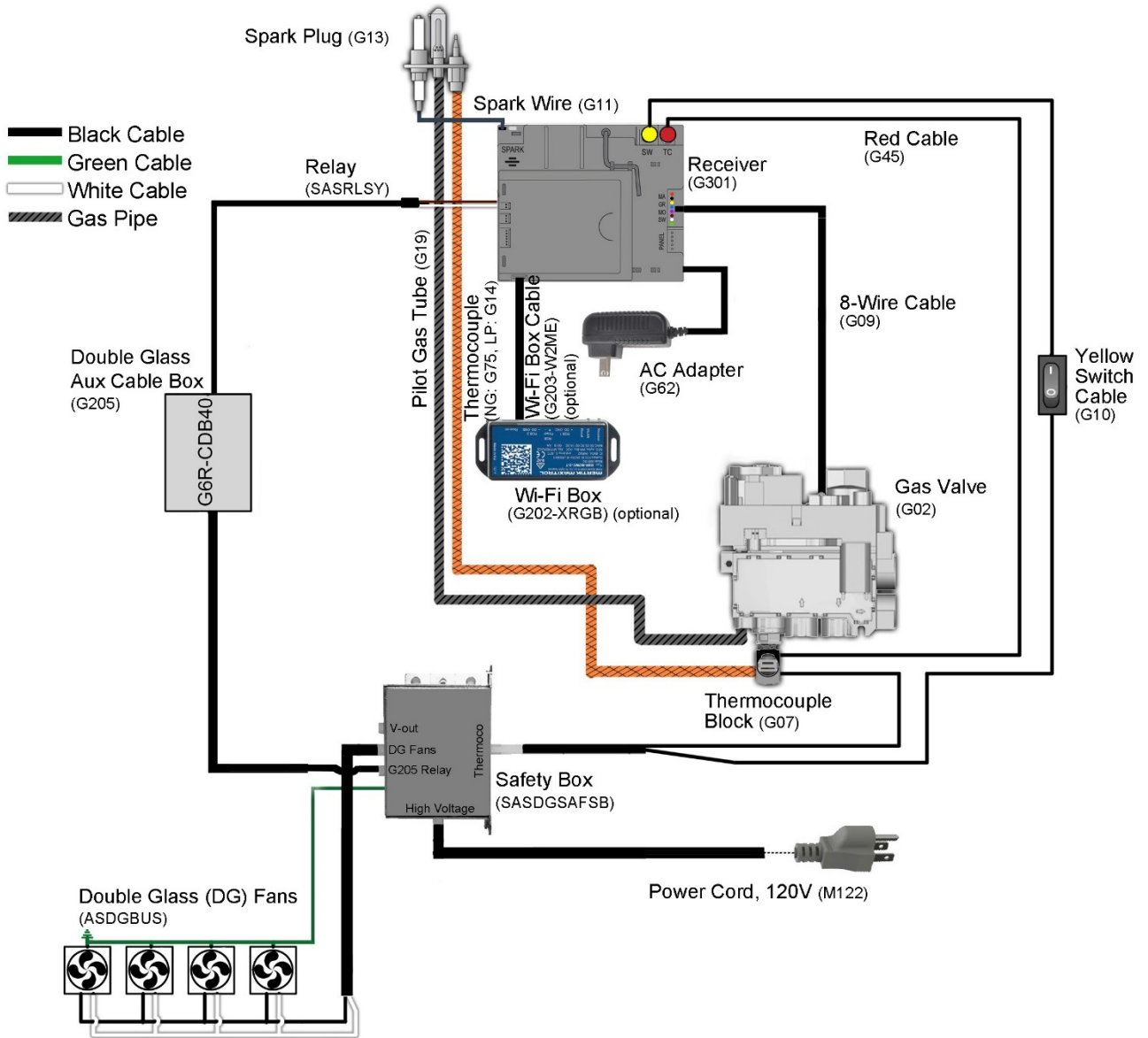
**Wiring Diagram: Screen Fireplace**



# Wiring Diagram: Screen Fireplace with Interior Lighting



## Wiring Diagram: Double Glass Fireplace



### Wiring Diagram: Double Glass Fireplace with Interior Lighting

**Legend:**

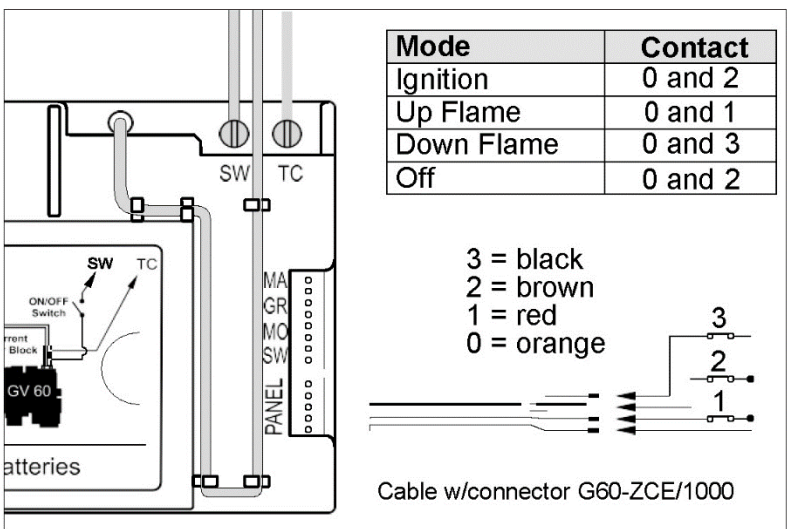
- Black Cable
- Green Cable
- White Cable
- Gas Pipe

**Components and Connections:**

- Spark Plug (G13)** is connected to **Spark Wire (G11)**.
- Spark Wire (G11)** connects to the **Relay (SASRLSY)** and the **Receiver (G301)**.
- Receiver (G301)** is connected to the **Red Cable (G45)** and the **8-Wire Cable (G09)**.
- Red Cable (G45)** connects to the **Gas Valve (G02)**.
- 8-Wire Cable (G09)** connects to the **Gas Valve (G02)** and the **Thermocouple Block (G07)**.
- Thermocouple Block (G07)** connects to the **Safety Box (SASDGSFAFSB)**.
- Safety Box (SASDGSFAFSB)** has a **High Voltage** output connected to the **Double Glass (DG) Fans (ASDGBUS)**.
- Double Glass (DG) Fans (ASDGBUS)** are connected to the **Double Glass Aux Cable Box (G205)**.
- Double Glass Aux Cable Box (G205)** connects to the **Light Control Box (G890)**.
- Light Control Box (G890)** controls the **Light** and is connected to the **Relay (SASRLSY)**.
- Relay (SASRLSY)** is connected to the **Spark Wire (G11)** and the **Receiver (G301)**.
- Wi-Fi Box (G202-XRGB) (optional)** and **Wi-Fi Box (G203-W2ME) (optional)** are connected to the **Thermocouple (NG: G75, LP: G14)** and the **Gas Valve (G02)**.
- Power Cord, 120V (M122)** is connected to the **Safety Box (SASDGSFAFSB)** and the **Thermocouple Block (G07)**.

## Home Automation Wiring Diagram

Use the following wiring diagram to connect fireplace control a hardwired home automation system.

Contacts Options/Operation											
<p><b>Ignition:</b> Close contacts 0 (orange) and 2 (brown) simultaneously for 1 second. Fireplace automatically goes to high after ignition.</p> <p><b>Up Flame:</b> Close contacts 0 (orange) and 1 (red) simultaneously. The contact needs to be closed for 12 seconds to turn the motor from end-stop to end-stop.</p> <p><b>Down Flame:</b> Close contacts 0 (orange) and 3 (black) simultaneously. The contact needs to be closed for 12 seconds to turn the motor from end-stop to end-stop.</p> <p><b>Off:</b> Close contacts 0 (orange) and 2 (brown) simultaneously for 1 second.</p>											
 <p>The diagram shows a fireplace control unit with terminals SW, TC, MA, GR, MO, and SW. It includes a front block with an ON/OFF switch and a GV 60 component. A cable with a G60-ZCE/1000 connector is shown with four wires labeled 1, 2, 3, and 0. A legend indicates: 3 = black, 2 = brown, 1 = red, 0 = orange. A table lists the contact sequences for Ignition, Up Flame, Down Flame, and Off.</p> <table border="1" style="margin: 10px auto;"> <thead> <tr> <th>Mode</th> <th>Contact</th> </tr> </thead> <tbody> <tr> <td>Ignition</td> <td>0 and 2</td> </tr> <tr> <td>Up Flame</td> <td>0 and 1</td> </tr> <tr> <td>Down Flame</td> <td>0 and 3</td> </tr> <tr> <td>Off</td> <td>0 and 2</td> </tr> </tbody> </table> <p>3 = black 2 = brown 1 = red 0 = orange</p> <p>Cable w/connector G60-ZCE/1000</p> <p><b>Wiring Diagram and Operation Sequence</b></p>		Mode	Contact	Ignition	0 and 2	Up Flame	0 and 1	Down Flame	0 and 3	Off	0 and 2
Mode	Contact										
Ignition	0 and 2										
Up Flame	0 and 1										
Down Flame	0 and 3										
Off	0 and 2										
<p><b>Mode of Operation:</b> The external source provides ON and OFF operation only. The Timer/Thermostat handset provides all other functions.</p>											
<p><b>NOTICE:</b> The Timer/Thermostat handset in Thermostatic Model controls the room temperature even if the fire is turned on by the external source. If the handset is in Manual Mode, the fire will go to High Fire in the next cycle of external operation.</p>											

**NOTE:** This wiring diagram is for hardwired home automation systems only and will not connect the fireplace to a wireless system.

## Interior Design Media

Ortal offers interior media options such as stones, glass, logs, and embers that can be provided with the fireplace. This section provides guidelines for safe placement of media. It is crucial that the placement guidelines outlined below are followed as a large portion of flame quality issues are caused by improper media setup.

**WARNING:** Only media provided by Ortal is permitted for use in the fireplace.

**WARNINGS: INSTALLING AND HANDLING MEDIA**

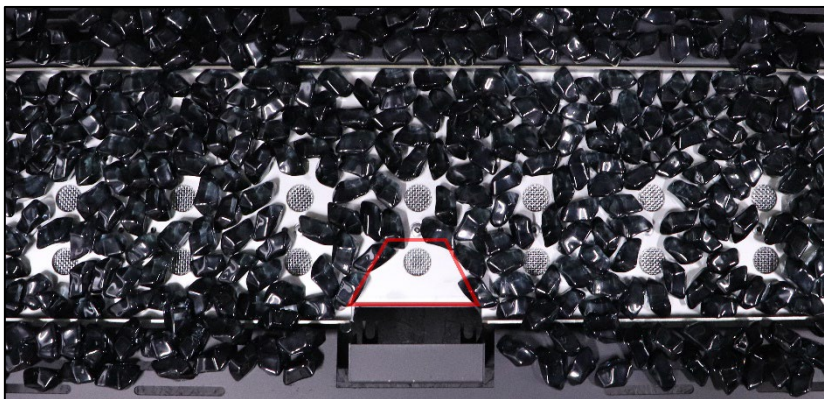
- **DO NOT** install the interior design media until fireplace installation is complete, the gas line is connected and tested for leaks, and initial burner operation has been inspected and approved.
- Media materials get very hot and will remain hot more than an hour after gas supply is turned off. Handle media only when materials are cool.
- If media is not installed according to the installation instructions, flame impingement and improper combustion may occur and result in soot and/or excessive production of carbon monoxide (CO). Carbon monoxide is a toxic, colorless, and odorless gas.

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

## Media Placement Guidelines

When installing media, adhere to the following general guidelines:

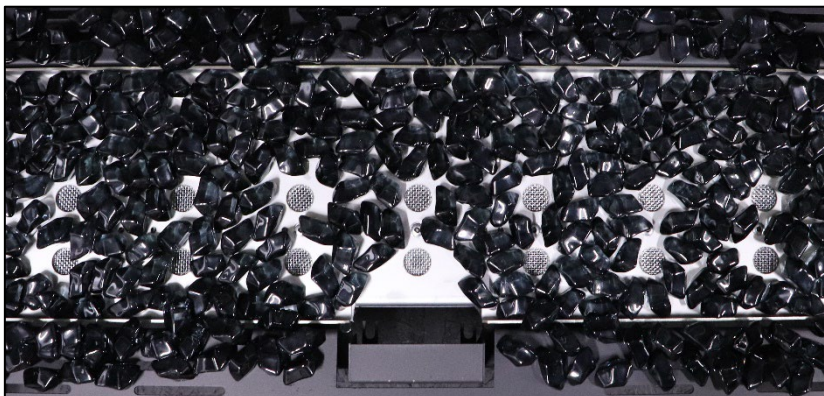
- Keep the media back from the pilot hood so at least one burner port is open. Crowding around the pilot hood may hinder lighting and could result in potential damage to the fireplace and surrounding area or personal injury.



- Do not use the hood to support media. This could cause overheating of the thermocouple.
- Keep the media away from the edges and the glass.
- Do not overfill the media tray. Keep 20% of the tray open to allow for air flow.

## Glass Media Placement

- When placing glass media, put only a single layer, and do not pack down. Once the media is placed, go back and move the glass back slightly to open the ports:



## Stone Media Placement

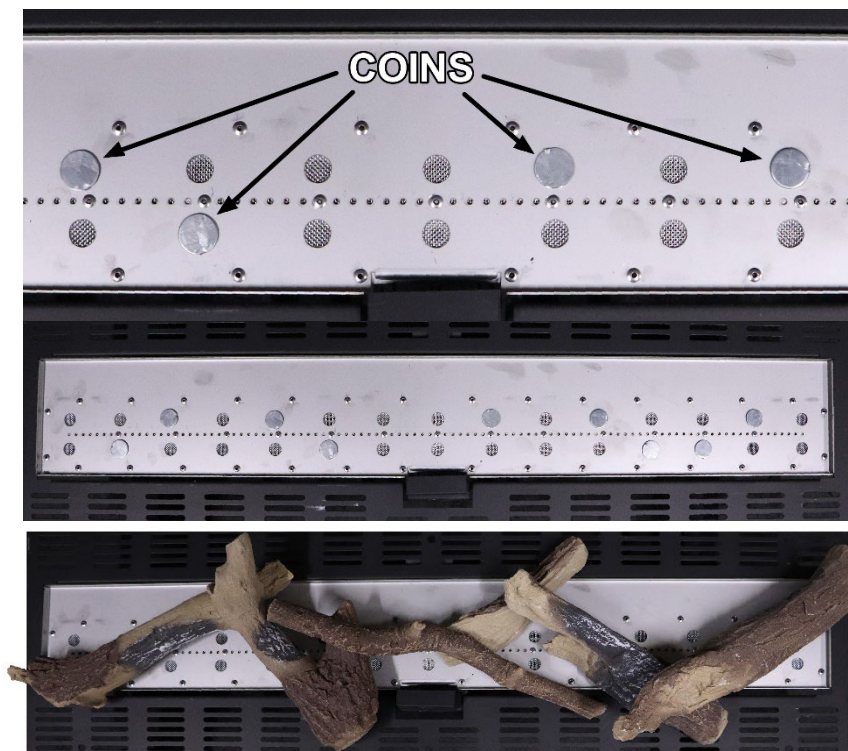
- When placing stone media, use the space left by the round shape to leave the ports open.



## Log Media Placement

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- Place the logs carefully to block as few ports as possible. If a log is placed over a port, block the port with a “coin” to keep the flame from creating soot on the media or to manipulate the look of the flame.



- Block as few ports as possible, and no more than 30% of total ports. Do **NOT** block ports that are next to one another.
- When combining both logs and glass, it is recommended to place the logs (and coins if needed) first, and then to spread the glass according to the instructions given above.



# Operation

**WARNING** – Read these instructions carefully before lighting the fireplace.

Four operation options are available for use with the fireplace:

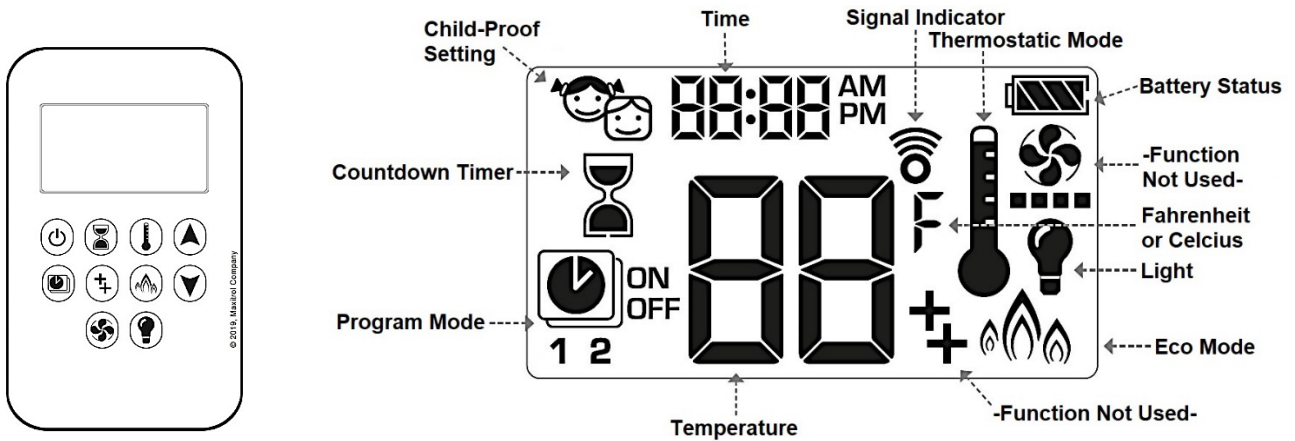
- 10-Button Remote Control Handset (default option, always included with the fireplace)
- Puck Handset (optional accessory)
- Wall Switch (optional accessory)
- MyFire Application (optional accessory, Wi-Fi capabilities automatically included with the fireplace)

**IMPORTANT:** The 10-Button remote control handset is always included with the fireplace regardless of which operation option is chosen. **DO NOT DISCARD.** The 10-Button remote must be kept within 26 feet of the fireplace at all times.

## NOTES:

- Wiring of valve and receiver must be completed before starting ignition. Failure to do so could damage the electronics.
- If operating the fireplace without an AC adapter, battery replacement is recommended at the beginning of each heating season.
- Fireplaces with double glass, power vent, and/or interior lighting features must operate using the AC Adapter and therefore will not operate during a power failure.
- Only the Mertik Maxitrol AC Adapter is permitted for use with the fireplace. Use of other adapter brands can render the system inoperable. The handsets, receivers, wall switches are not interchangeable with other electronics.
- Batteries must be kept within their recommended temperature limits (32°F to 131°F).

## 10-Button Remote Control Handset



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Control Option	Radio Frequency	Power Supply	
10-Button Handset	918.0 MHz (U.S. & Canada)	2 x 1.5V AAA batteries (quality alkaline recommended)	Replace batteries after 2 years or when low battery indicator appears on handset display

**IMPORTANT:** For safety/communication purposes, 10-button handset must be located within 26 feet of the receiver.

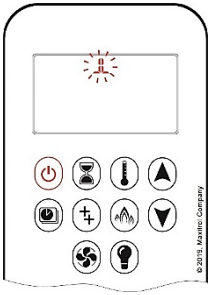
**NOTE:** Any device that functions using the same radio frequency as the handset will be affected when handset is in use.


## Operating Instructions

Instructions for operating the 10-Button Handset are shown below. For more in-depth instructions, please refer to the "Homeowner's Fireplace Operation Manual" or "Remote Operation Instructions".

**NOTE:** Some options on the remote may not be available for all fireplaces.

## Turning the Fireplace On




1. Press the  button until you hear continuous beeping, and a blinking series of lines confirms the start sequence has begun; release buttons.
2. Main gas flows once pilot ignition is confirmed.
3. The system automatically goes into Manual Mode after main burner ignition.

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

**NOTE:** If the Timer function has been set and the fireplace is manually turned on, the Timer function will need to be reset.

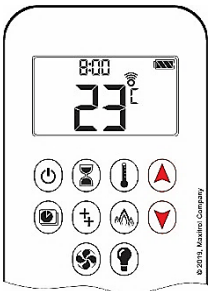
## Turning the Fireplace Off





1. Press the  button to turn the fireplace off.

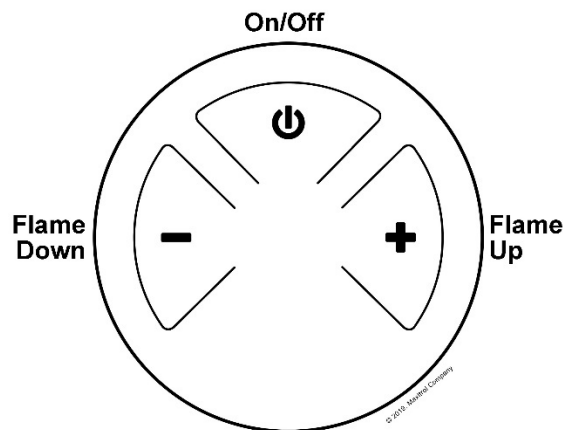
**NOTE:** The fireplace may be turned on again after the OFF icon stops flashing.

## Flame Height Adjustment



1. To increase flame height, press and hold the  button to desired flame height.
2. To decrease flame height, or to set fireplace to pilot flame only, press and hold the  button.

## Puck Handset



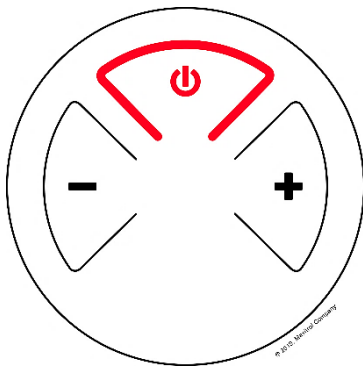
Control Option	Radio Frequency	Power Supply	
Puck Handset	918.0 MHz (U.S. & Canada)	2 x 1.5V AAA batteries (quality alkaline recommended)	Replace batteries after 2 years or when low battery indicator appears on handset display
<b>IMPORTANT:</b> For safety/communication purposes, Puck handset must be located within 26 feet of the receiver.			

**NOTE:** Any device that functions using the same radio frequency as the handset will be affected when handset is in use.


## Operating Instructions

Instructions for operating the Puck Handset are shown below.


### Turning the Fireplace On/Off



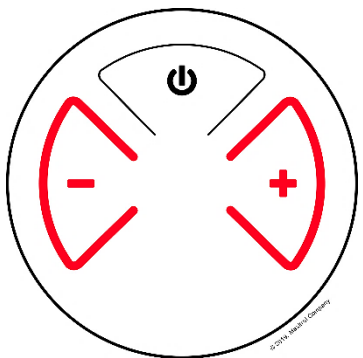
#### ON:

- Firmly press and hold the  button until two short beeps confirms the start sequence has begun; release button.

#### OFF:

- Firmly press the  button.

### Increase/Decrease Flame Height



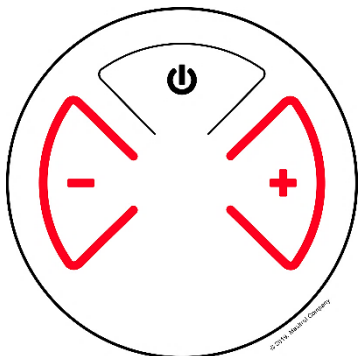
#### INCREASE:

- To increase flame height, press and hold **+** button.

#### DECREASE:

- To decrease flame height, press and hold **-** button.
- Holding the **-** button long enough sets the fireplace to pilot flame (Standby Mode).

### Designated Flame Settings



#### DESIGNATED LOW FLAME SETTING

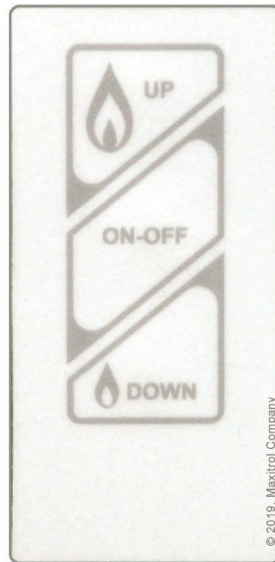
- To go to designated low flame setting, double-click **-** button.

 **NOTE:** Flame goes to High Flame before going to Low Flame.

#### DESIGNATED HIGH FLAME SETTING

- To go to designated high flame setting, double-click **+** button.

## Wall Switch



Flame Up

On/Off

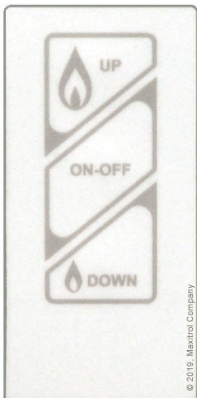
Flame Down

Control Option	Radio Frequency	Power Supply
Wall Switch	N/A	N/A

**IMPORTANT:** For safety/communication purposes, the 10-button handset must be located within 26 feet of the receiver.

## Operating Instructions

### Turning the Fireplace On/Off

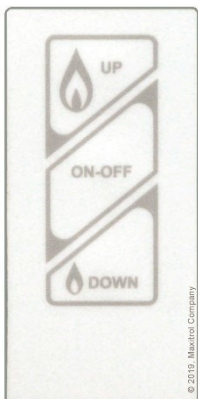


On/Off

**ON:** Press and hold the **ON-OFF** button until two short beeps confirms the start sequence has begun; release button.


**OFF:** Press the **ON-OFF** button.


### Flame Height Adjustment




Flame Up

Flame Down

**INCREASE:** To increase flame height, press and hold  (up flame) button.

**DECREASE:** To decrease flame height, press and hold  (down flame) button.

Holding the  (down flame) button long enough sets the fireplace to pilot flame (Standby Mode).

## MyFire App

The MyFire app requires the Wi-Fi kit to operate with the fireplace. The Wi-Fi kit does not automatically come with the fireplace and must be ordered.



**IMPORTANT:** For safety/communication purposes, the 10-button handset must be located within 26 feet of the receiver.

To download the MyFire app, search "MyFire" at the Apple App Store or Google Play.

## Operating Instructions

For setup and operating instructions of the MyFire app, see the Homeowner's Fireplace Operation Manual, or visit the Ortal website or [www.myfireapp.com](http://www.myfireapp.com).

## MyFire Wi-Fi Box

The MyFire Wi-Fi router box provides the Wi-Fi connection that allows the MyFire App to operate the fireplace. This part is included with the optional Wi-Fi kit. Wi-Fi kit does not automatically come with the fireplace and must be ordered.



Part	Radio Frequency	Power Supply	Wireless Communication
MyFire Wi-Fi Box	2.4 GHz	Connects to Receiver	WPA2 authentication AES 256-bit encryption security Compatible with IEEE 802.11 b/g/n

# Fireplace Maintenance

## General Maintenance

All servicing, maintenance, interior cleaning and handling of the fireplace, parts and glass must be performed by an authorized Ortal dealer service technician only.

### Servicing

- Turn off the gas and electricity **BEFORE** servicing the fireplace.
- It is recommended that a routine inspection is performed at the beginning of each heating season.
- When removing glass from multisided fireplaces, only one side of glass can be removed at a time. Glass must be re-installed before removing glass from a different side.

### Burner and Vent Inspections

- Periodic checks should be made of the burner for correct position and condition. Visually check the flame of the burner, making sure that the flames are steady.
- The vent system must be inspected before use. Annual inspection must be scheduled to ensure the flow of combustion and ventilation air.

### Submerged Parts

- Do not use the fireplace if any part has been under water, or if you suspect that it may have been under water. The Ortal dealer service technician must inspect and, if necessary, replace any parts of the control system and any gas controls which have been under water.

### Handling the Glass

Inner glass panel is 5mm ceramic glass. Exterior double glass panel is 3/16" tempered glass. Tempered glass can be sourced locally if replacement becomes necessary. Ceramic glass must be provided by Ortal.

- When removing glass from multisided fireplaces, only one side of glass can be removed at a time. Glass must be re-installed before removing glass from a different side.
- **NEVER** operate the fireplace without the glass properly secured in place.
- The glass must be removed **ONLY** by an authorized Ortal dealer service technician.
- Only an Ortal certified installer is authorized to remove the glass. Glass must be removed using an 8-inch glass-handling suction cup. Lower the glass to rest in a safe place to prevent damage to the glass edges.

### Cleaning the Fireplace

- Only an Ortal dealer service technician can open the fireplace to clean interior surfaces.
- **ALWAYS** turn off the gas valve before cleaning.
- Do **NOT** clean when hot. Make sure fireplace has had time to cool prior to cleaning any surface or component, interior or exterior.
- Keep the fireplace clean by brushing and/or vacuuming at least once a year. This can only be performed by an Ortal dealer service technician.
- When removing glass from multisided fireplaces, only one side of glass can be removed at a time. Glass must be re-installed before removing glass from a different side.
- Clean the glass when it starts to look cloudy. Use a damp cloth for cleaning the fireplace and the door.
- Verify correct operation after servicing.

### Maintenance Frequency and Equipment Checklist

- Under normal circumstances, the factory recommendation is to have the fireplace serviced at least once a year. Fireplaces meeting the following conditions should have more frequent service:
  - Fireplaces installed in commercial/public spaces should be serviced every 3 months.
  - Fireplaces installed in climates near the ocean or in other settings where corrosion buildup is more likely should be serviced every 6 months.
- Thermocouple Maintenance:
  - The thermocouple should be replaced annually or as needed in all commercial installations, and in any residential fireplace where the fireplace is operated for an average of 10 hours or more per day.
  - For all other installations, the thermocouple should be replaced every three years or as needed.

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