



MUST READ BEFORE

FRAMING



IMPORTANT INFORMATION



EST. 2004

ontario hearth ltd.

Ortal Corner 51

**LS51, RS51, LS51 DG, RS51 DG,
LS51 H, RS51 H, LS51H DG, RS51 H DG**

FRAMING

DIMENSIONS

SPECIFICATIONS

HEAT RELEASE REQUIREMENTS

**QR LINK FOR
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OF SPECIFICATIONS:**

Building Around the Fireplace

Building Checklist

The following building checklist is a quick reference for a typical 51 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. 40" clearance from viewing area to furniture and other combustibles. Make sure a clear path is established to allow the fireplace to be safely transported to installation location.
- ☑ **Exhaust Vent:** Confirm vent size (5"x8", or 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 ¹³/₁₆" (to bottom viewing area). Legs cannot be removed/altered. If desired viewing area location on the wall is higher than 9 ¹³/₁₆", a platform can be built for the fireplace to stand on.
- ☑ **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: ⁵/₈" Type X Drywall). The area of the chase interior must be min. 120 square inches at any given point within the chase.
- ☑ **Framing:** Adhere to minimum framing dimensions (or greater). The first 10 ⁷/₁₆" above the top of the fireplace viewing area must always be non-combustible framing. For recessed fireplaces, do not exceed 12" max. front overhang depth limit. For Corner and TS models, side overhang has no limit. No material is permitted to extend past the metal lip surrounding the fireplace viewing area.
- ☑ **⁵/₈" Type X Drywall Requirements:** One layer of ⁵/₈" Type X Drywall (or equivalent) must be installed on the exterior of the chase framing. ⁵/₈" Type X Drywall (or equivalent) may be fastened to the top framing stand-off(s) only, with 1" self-tapping drywall screws 16" on center.
- ☑ **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. First 10 ⁷/₁₆" min. above the viewing area must have non-combustible framing (top front metal stand-off + non-combustible studs).
- ☑ **Gas Supply Line and Power Location:** Locate gas line with manual shut off according to local code. Power provided by a duplex outlet receptacle (120V, 15 amp, 60Hz) in same area as gas line.
- ☑ **Access Panel:** An access panel is 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 feet 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. Min. heat release size is 120 sq.in. of net free air space. Height of the heat release must not exceed 1/3 of the width.
- ☑ **Air Intake:** Only required for double glass heat barrier. Must be located at or below level of double glass fans. Min. 124 sq.in. 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 ¹/₈" from the finish to the front face of the fireplace.

Framing

Framing Requirements

Fireplace chase may be framed with either combustible (typically wood studs) or non-combustible framing (typically metal studs). Any framing within $10\frac{7}{16}$ " from the top of the fireplace glass (viewing area) must be non-combustible. Any framing after that point may be combustible.

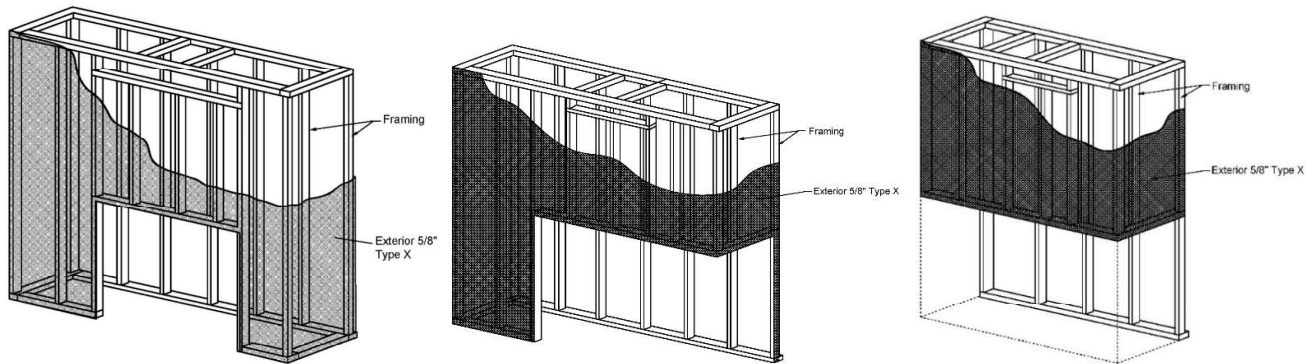
The framing of the fireplace chase must be designed to carry the entire weight of the wall and finish material. Surrounding material must not transfer weight to the fireplace or be connected in any way to the fireplace, with the exception of $\frac{5}{8}$ " Type X drywall or its equivalent. **$\frac{5}{8}$ " Type X drywall may be fastened to the top framing stand-offs only, with 1-inch self-tapping drywall screws 16 inches on center.**

No material is permitted to extend past the $\frac{5}{8}$ " deep metal drywall lip surrounding the fireplace viewing area. This area must be unobstructed to allow the heat barrier and inside glass panel to be removed.

See next page for "Framing Dimensions" section.

$\frac{5}{8}$ " Type X Drywall Requirements

Exterior of the framing must be covered with $\frac{5}{8}$ " Type X Drywall (or equivalent). Chase interior does not require a layer of $\frac{5}{8}$ " Type X Drywall. This applies to both combustible and non-combustible framing.



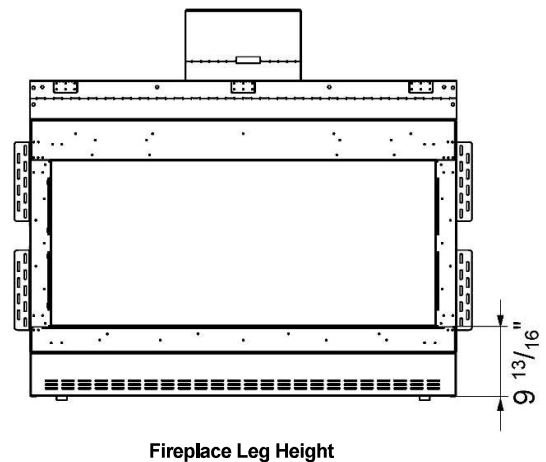
NOTE: $\frac{5}{8}$ " Type X Drywall (or equivalent) is not required on the exterior portion of an insulated outside-facing wall.

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.

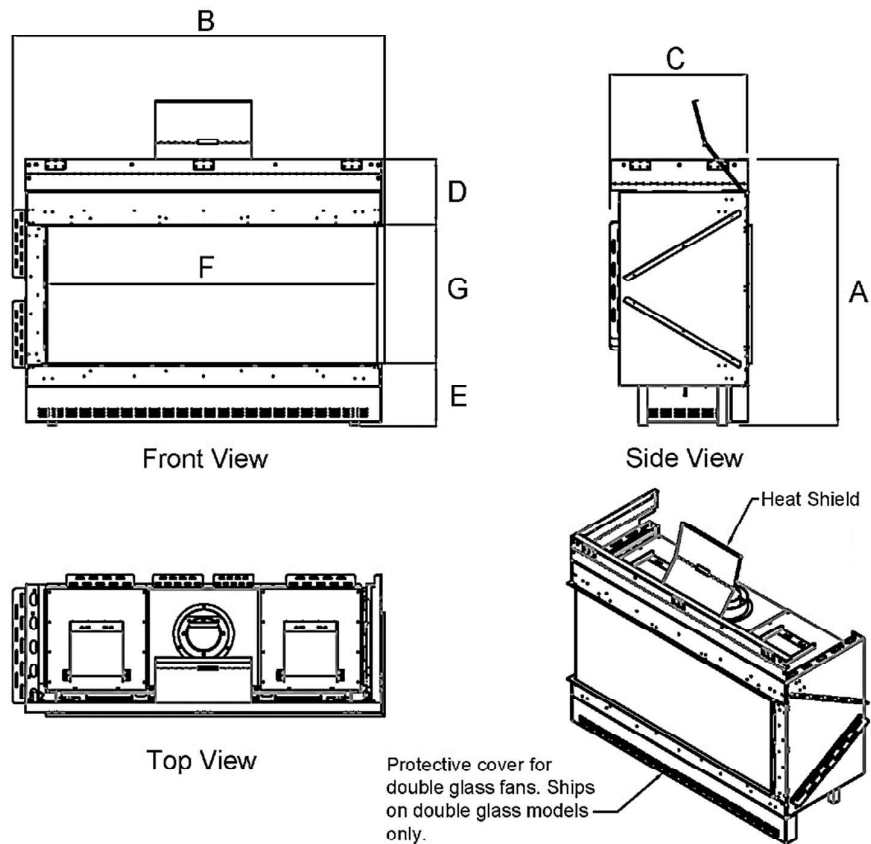
Fireplace leg height is $9\frac{13}{16}$ ", measured to the bottom viewing area. Legs cannot be removed, cut, or adjusted.

Raised Platform Option: To raise the fireplace higher than $9\frac{13}{16}$ " 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.



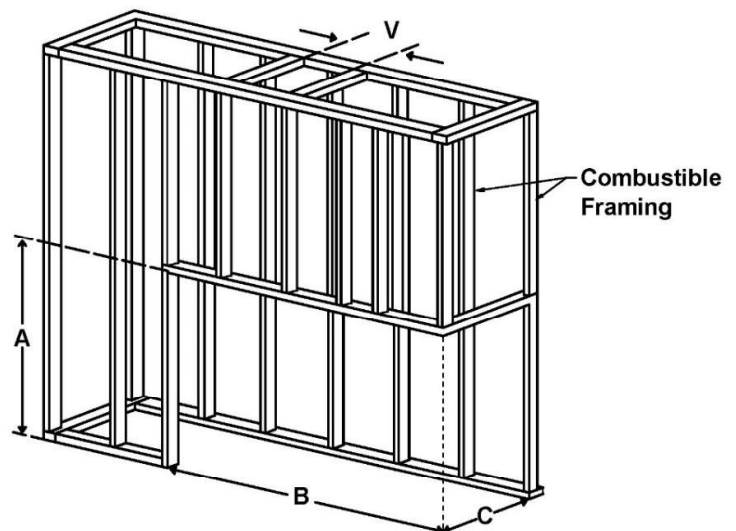
NOTE: For fireplaces with the double glass heat barrier, an air intake might be necessary to incorporate into the platform depending on the design. See "Air Intake for a Platform" section on page 19 for details.

51 Corner (RS/LS) Series



Fireplace	A: Height	B: Length	C: Depth	D: Stand-Off	E: Legs	F: Glass Length	G: Glass Height
51 RS/LS	35 ³ / ₄ "	57 ⁵ / ₈ "	21 ⁵ / ₈ "	10 ⁷ / ₁₆ "	9 ¹³ / ₁₆ "	53"	15 ³ / ₄ "
51H RS/LS	41 ¹¹ / ₁₆ "	57 ⁵ / ₈ "	21 ⁵ / ₈ "	10 ⁷ / ₁₆ "	9 ¹³ / ₁₆ "	53"	21 ⁵ / ₈ "

Framing		
Fireplace	51 RS/LS	51H RS/LS
A: Height	35 ³ / ₄ "	41 ¹¹ / ₁₆ "
B: Length	57 ⁵ / ₈ "	57 ⁵ / ₈ "
C: Depth	21 ⁵ / ₈ "	21 ⁵ / ₈ "
V: Firestop	Refer to pipe manufacturer's firestop dimensions	

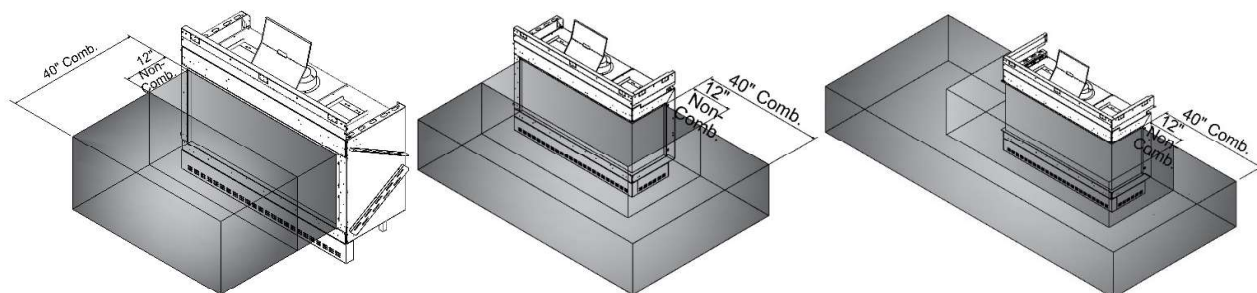


General Clearances

Viewing Area Clearance Zone

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.

Non-Combustible Materials	Must be minimum 12 inches from fireplace viewing area.
Combustible Materials	Must be minimum 40 inches from fireplace viewing area.

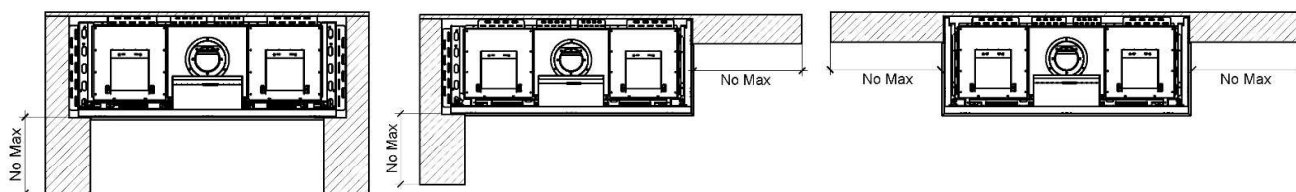


Materials (including combustible flooring and combustible finish material) are permitted below and around the viewing area clearance zone.

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.

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

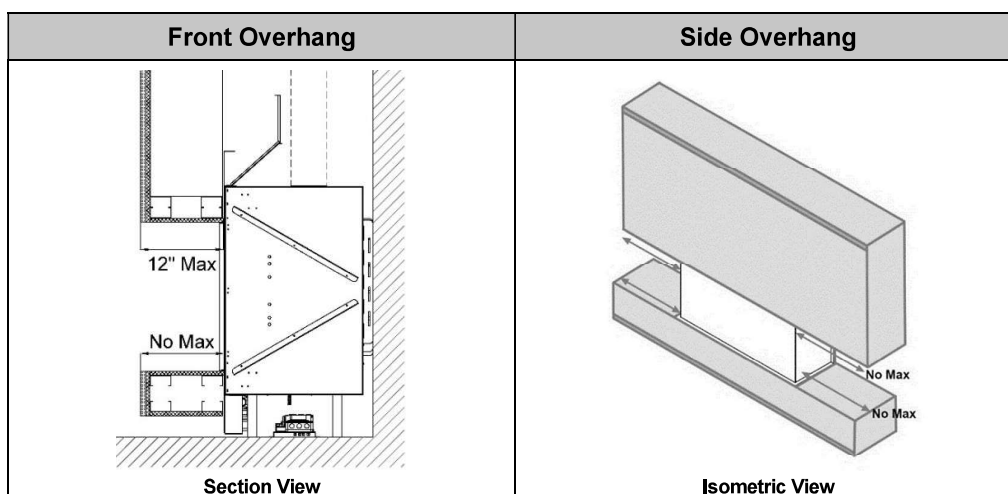
The temperature on the side wall can get as high as 150°F above ambient temperature. While the fireplace certification allows for this temperature variance, building and finish materials will have their own limitations. Consult the material manufacturer to ensure the material can safely withstand this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

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 in the combustion chamber of the fireplace. For safety purposes, a **heat release is required** in order to keep the wall around the fireplace cool. Heat release requirements are the same for all 51 series models.

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/firestop. 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:

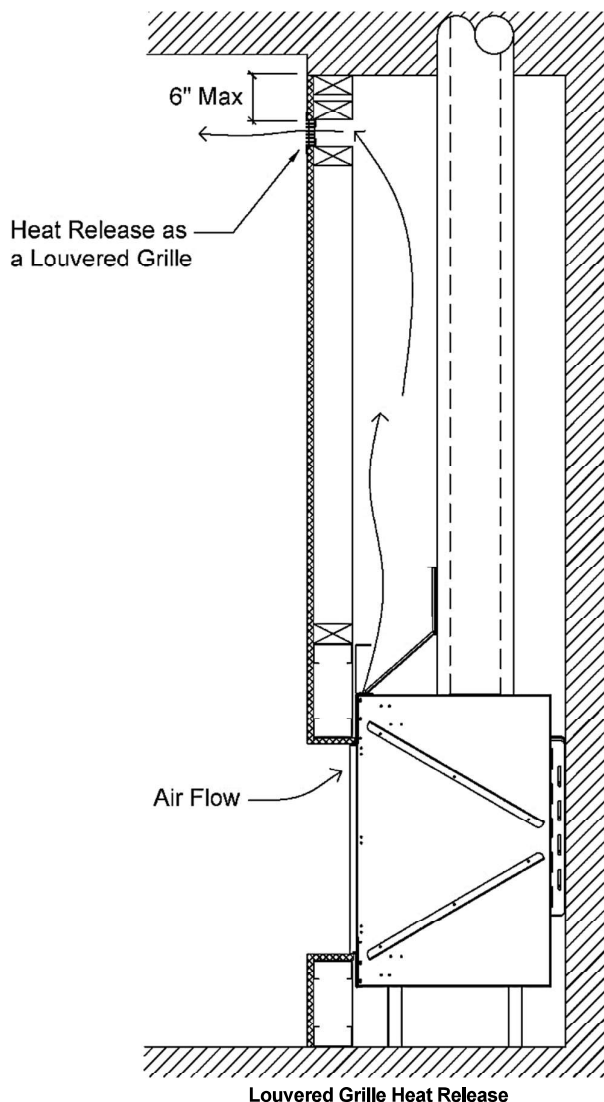
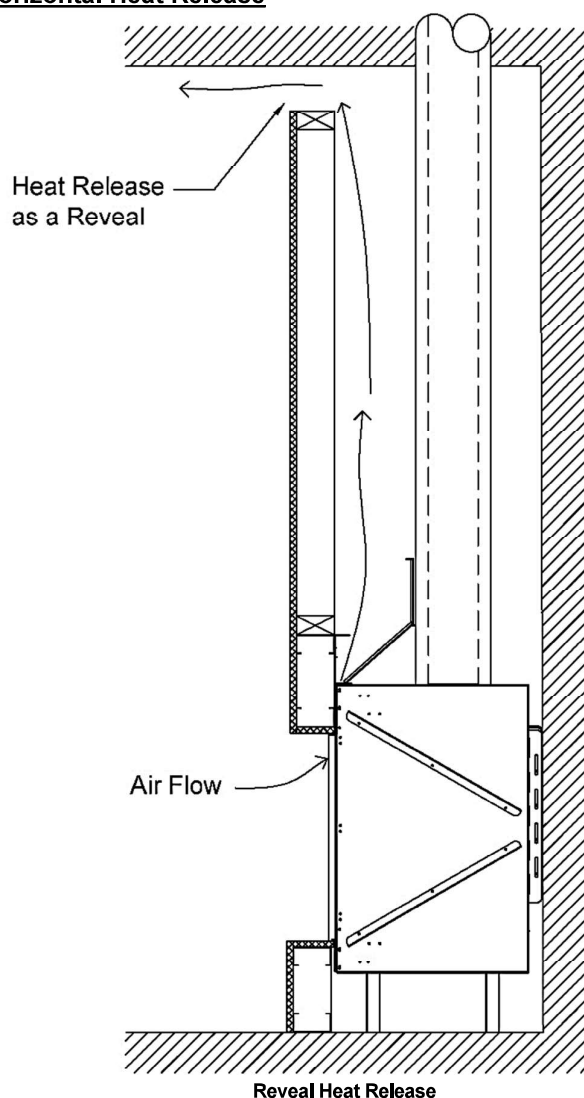
Fireplace Series	Horizontal Heat Release	Vertical Heat Release
51	Minimum 120 sq. in. of free air space	Minimum 156 sq. in. of free air space

- 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 ft³.
- 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 on page 22 for details).
- The heat release cannot be vented outdoors or to an unconditioned space.

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

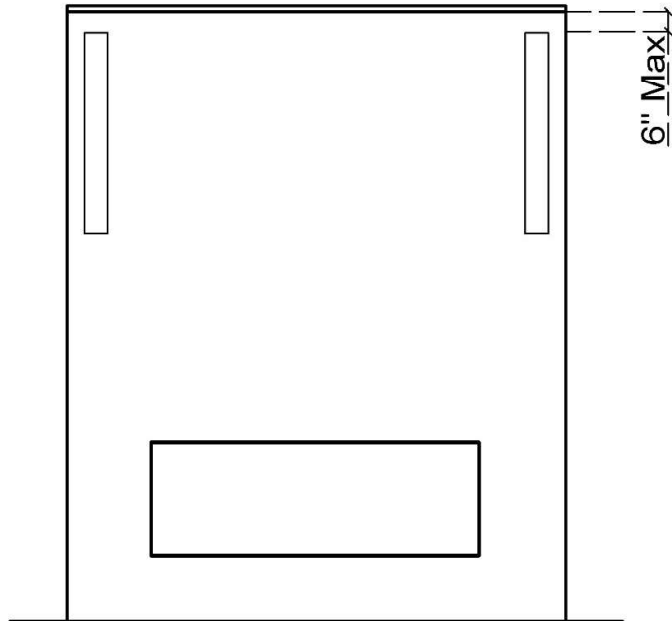
The following diagrams are examples of potential heat release options. These drawings serve as illustrative purposes only.

Horizontal Heat Release



Vertical Heat Release: Split Front

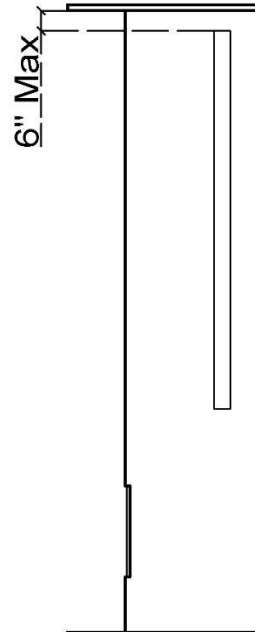
The heat release is oriented vertically and split between the two sides of the chase.



Split Front Vertical Heat Release

Vertical Heat Release: Full Side

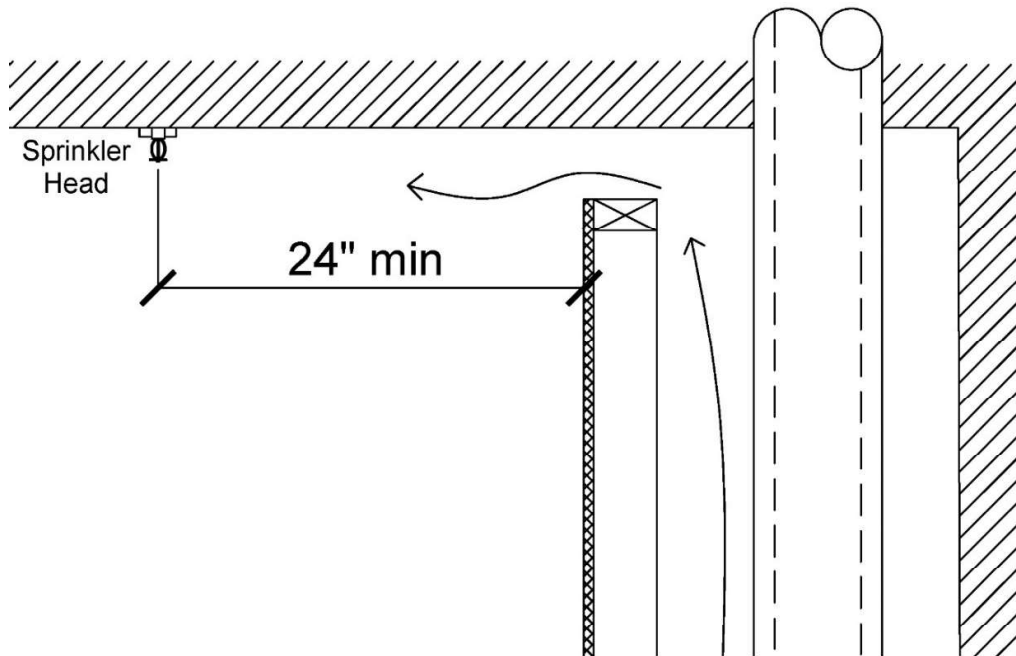
The heat release is oriented vertically. Entire heat release is on one side of the fireplace chase.



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 every point of the heat release opening.



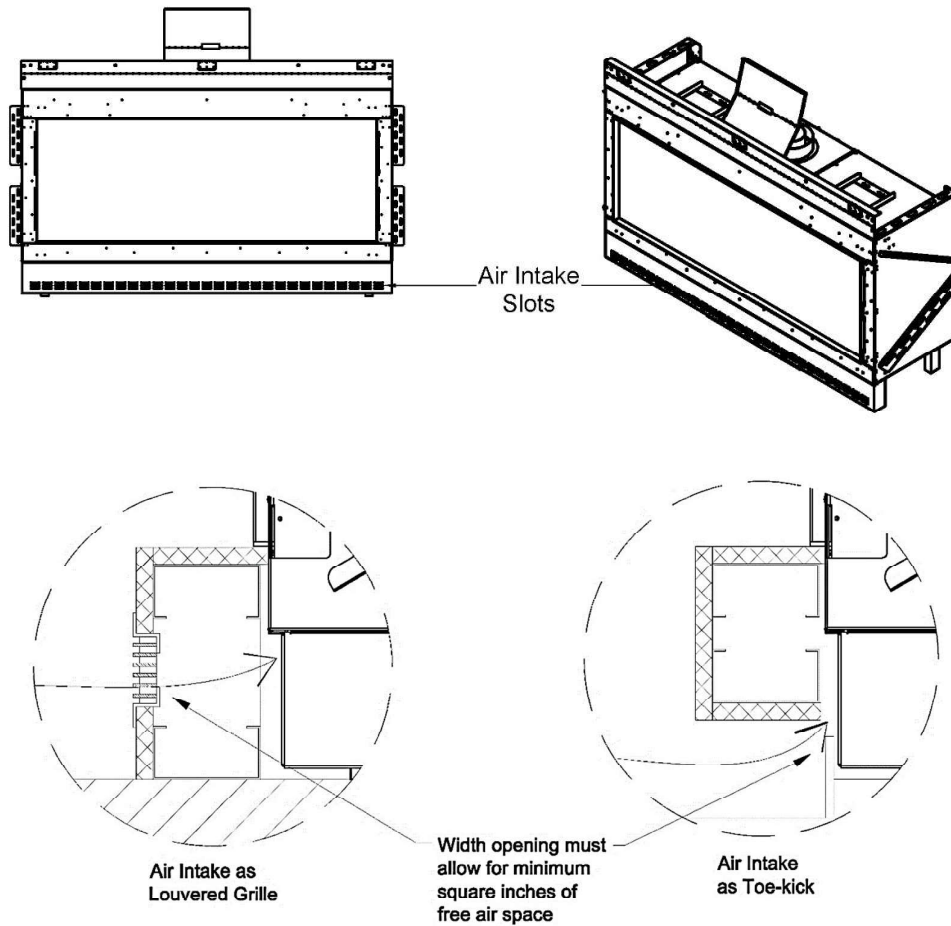
Air Intake Opening

For fireplaces with a double glass heat barrier only, an air intake opening must be incorporated into the framing and finish around the fireplace. The air intake opening is essential to maintain cool air flow between the double glass panels by allowing the double glass fans to circulate room air through the glass panels and up into the chase. The opening must meet the minimum size requirement, as stated in the table below.

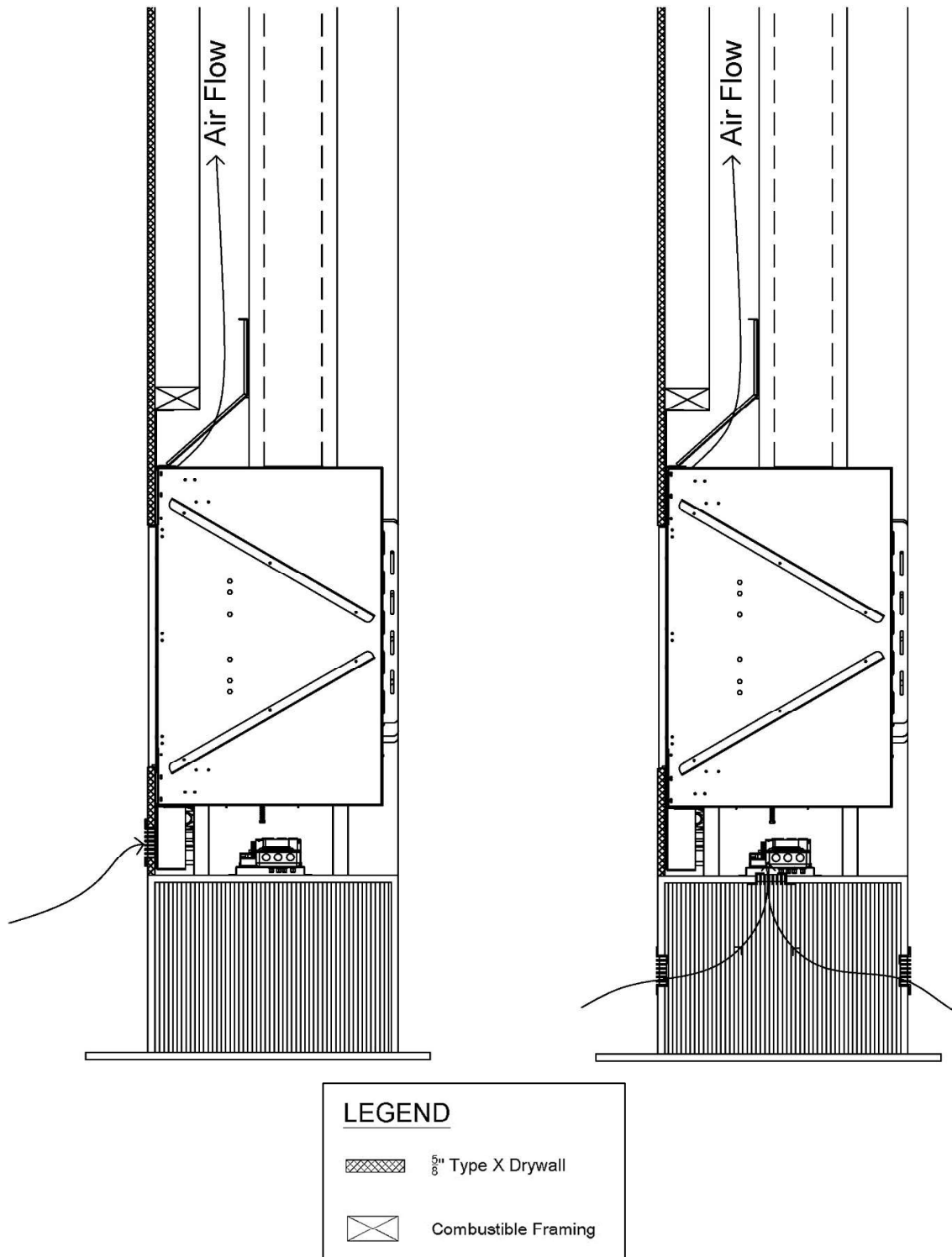
Fireplace Series	Air Intake Opening Size
51	Minimum 124 sq. in. of free air space

The air intake opening can be finished in the form of a louvered 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 opening 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 flow must be able to get to the double glass fans through the air intake slots in the protective cover(s) at the bottom of the fireplace.**



Air Intake for a Platform



NOTE: Please refer to the “Chase Floor/Platform” section on page 11 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:

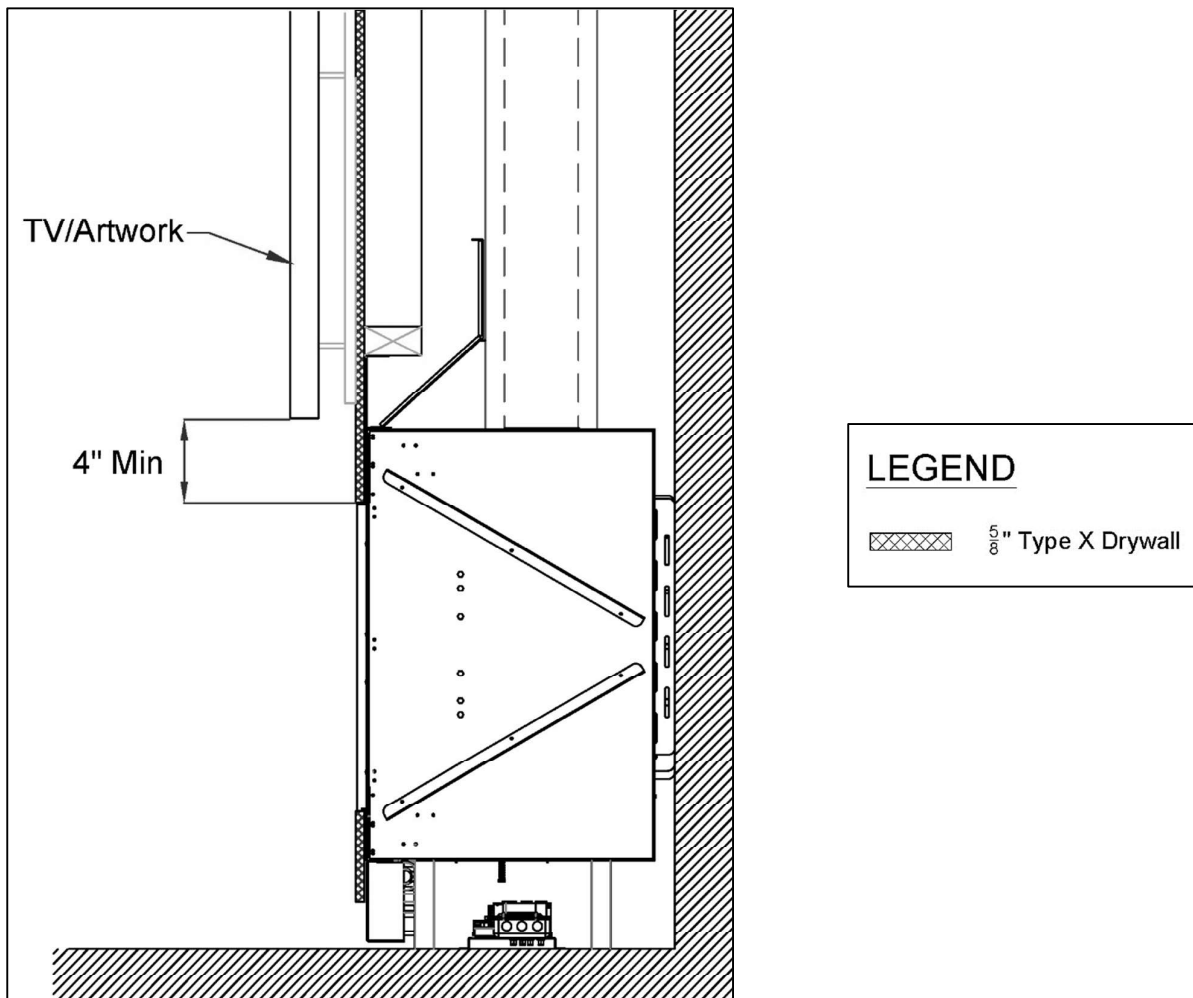
- Mount the TV or artwork at the minimum clearance above the top of the fireplace viewing area. Minimum clearance amount depends on flush or recessed installation. See sections below for more information.
- Wires inside the chase are not permitted to cross over the fireplace. Wires must be installed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

The decision to install a television above an Ortal 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 Ortal 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 Ortal fireplace. These drawings illustrate ways of reducing the amount of heat impact to the area surrounding the fireplace.

Flush Mounted TV/Artwork

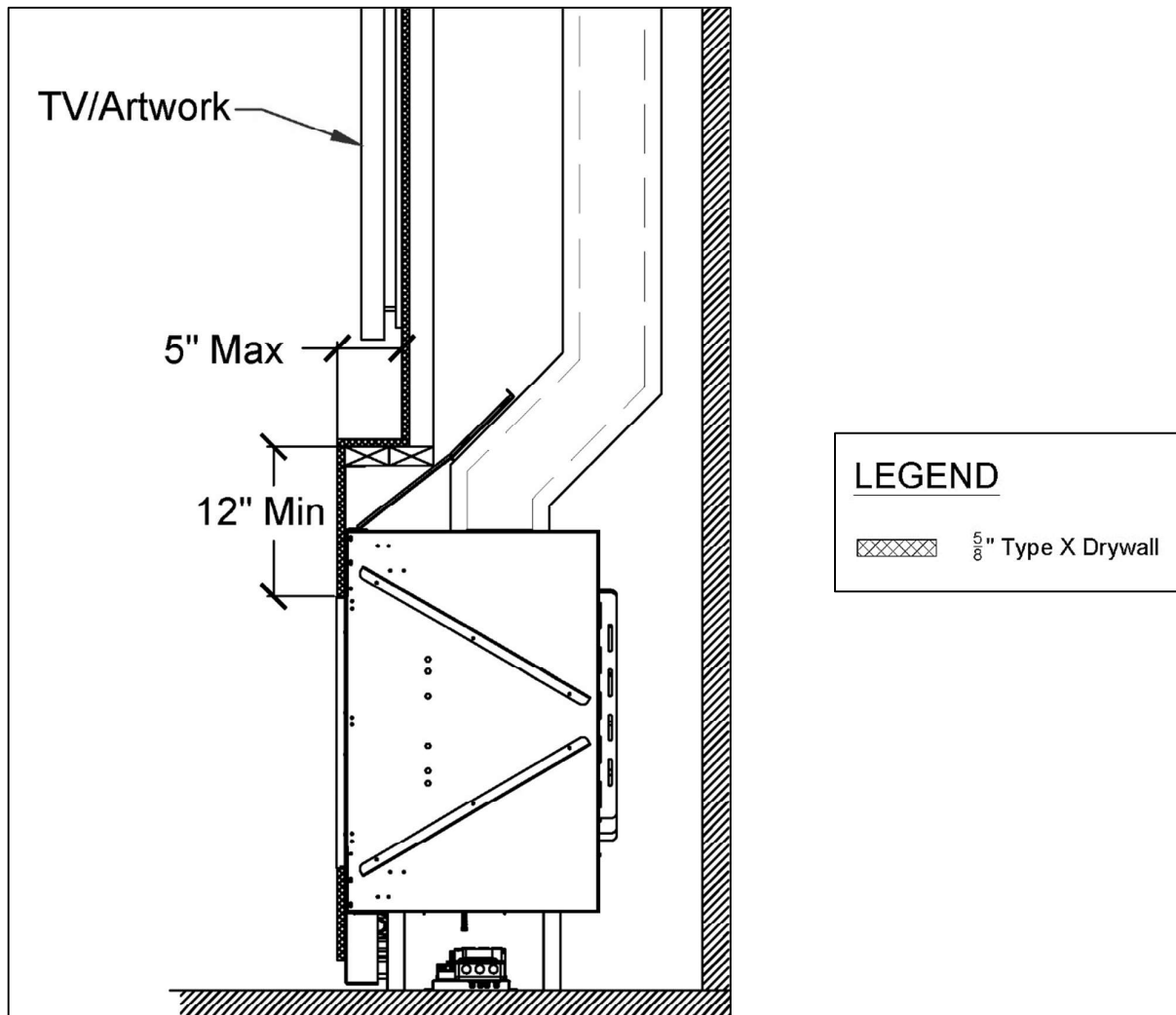
When the TV is mounted on a wall that is flush to the fireplace, the TV must be at least **4 inches** from the top of the fireplace glass viewing area. Ensure all clearances are maintained. See diagram below for details.



Recessed TV/Artwork

When the TV is mounted on a wall that recesses over 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 5 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 "Vent Clearances" section on page 31 for details.

Access Panel

An access panel is not required (see note 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 at the fireplace is **required** for fireplaces with a power vent to allow access to the power vent control box for servicing.

Access Panel Size and Location Recommendations:

- Size: as large as possible depending on application. Minimum is 10"x10".
- 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) to the side or back of the fireplace.

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.

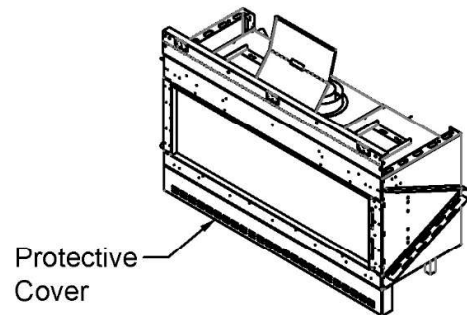
If an access panel cannot be incorporated, the alternative method of servicing the gas and electrical components is through the fireplace. This procedure requires removing the glass panel(s) and interior design media, and lifting the grill, burner, and bottom pressure release valve. This will increase 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.

Protective Cover for Double Glass Fans

Fireplaces with the double glass heat barrier comes equipped with a bottom cover to protect the fans from damage. This protective cover blocks service access to gas and electrical components. The protective cover is installed under the front and sides of the fireplace.

The gas and electrical components are accessible in the following locations on each model (as shown in the table below).



Double Glass Model	Access Location			
	Right	Left	Back	Front
Front	✓	✓	✓	
Left Side (LS)	✓		✓	
Right Side (RS)		✓	✓	
Three Side (TS)			✓	

NOTE: Access location is referenced from a front elevation viewpoint.

Chase Area Minimum

The narrowest part of your fireplace chase cannot be smaller than the minimum required heat release size (see **"Error! Reference source not found."** on page **Error! Bookmark not defined.**). This ensures the convective heat within the chase passively moves to the heat release at an optimal rate. To determine if your chase meets this requirement, use the following equation at the narrowest part of the chase.

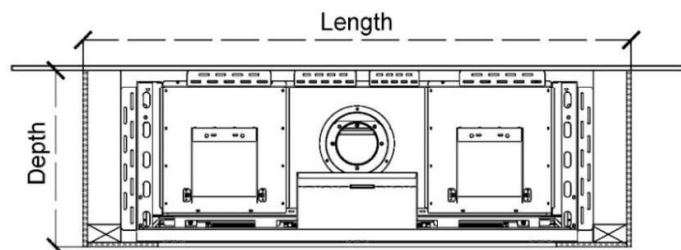
$$\text{Chase Area} = (\text{Chase Length} \times \text{Chase Depth}) - (\text{Area of the Pipe})$$

Area of the Pipe:

5"x8" venting = 50.27 in²

3"x5" venting* = 19.63 in²

*Used for Power Venting only

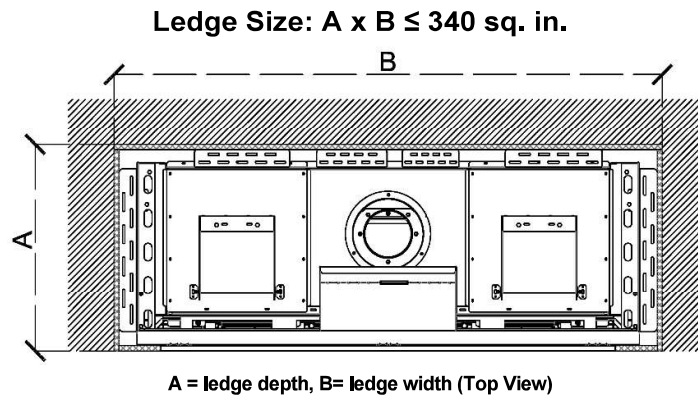


Fireplace Chase (Top View)

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 "Recessed Ledge Detail" section on page 23 for details.)

Recessed Ledge Detail

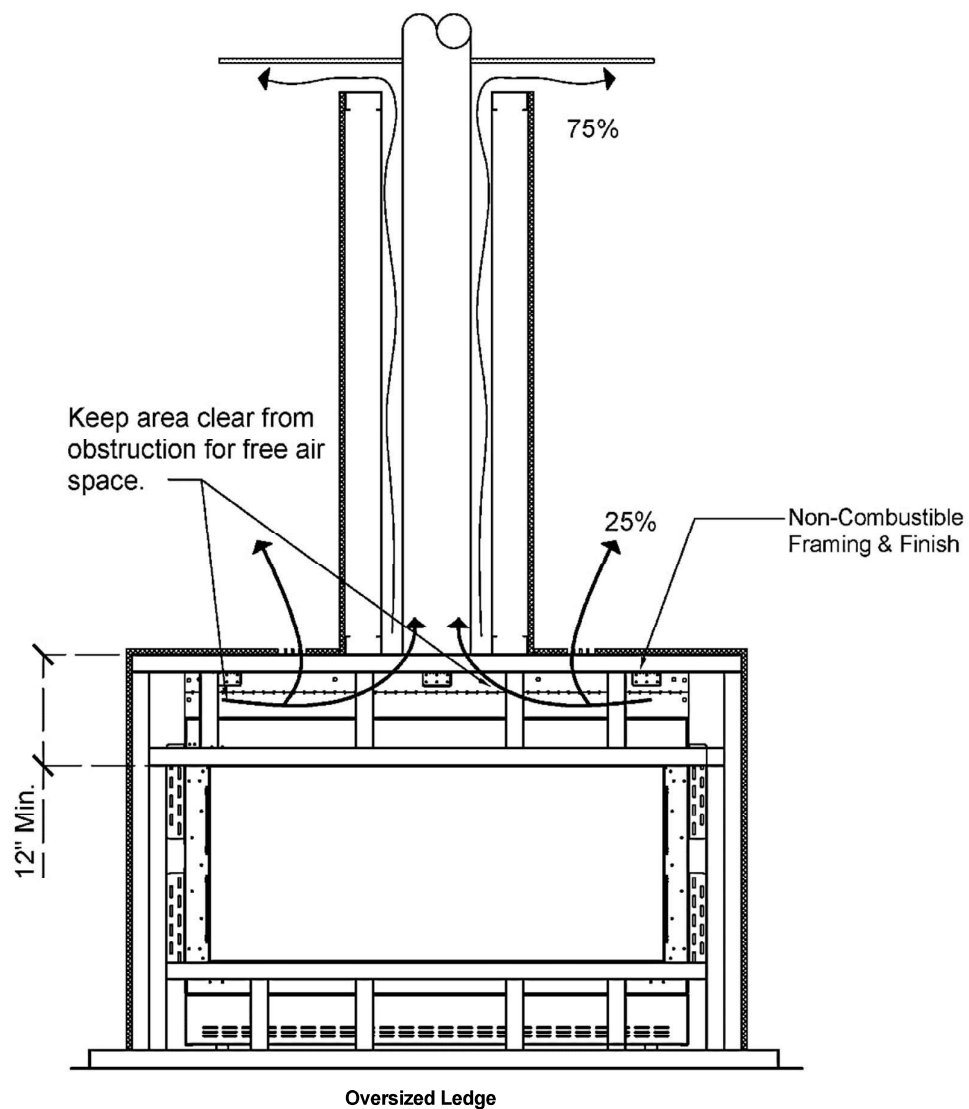
A ledge over the top of a fireplace that is less than 24 inches from the top of the fireplace viewing area must maintain a minimum of 12 inches from the top of the viewing area to the top of the framing. Entire structure must be non-combustible (framing and finish).



Oversized Ledge

If ledge surface area exceeds 340 sq. in., the heat release must be divided between the ledge and the chase ceiling: 25% at the ledge and 75% at the chase ceiling.

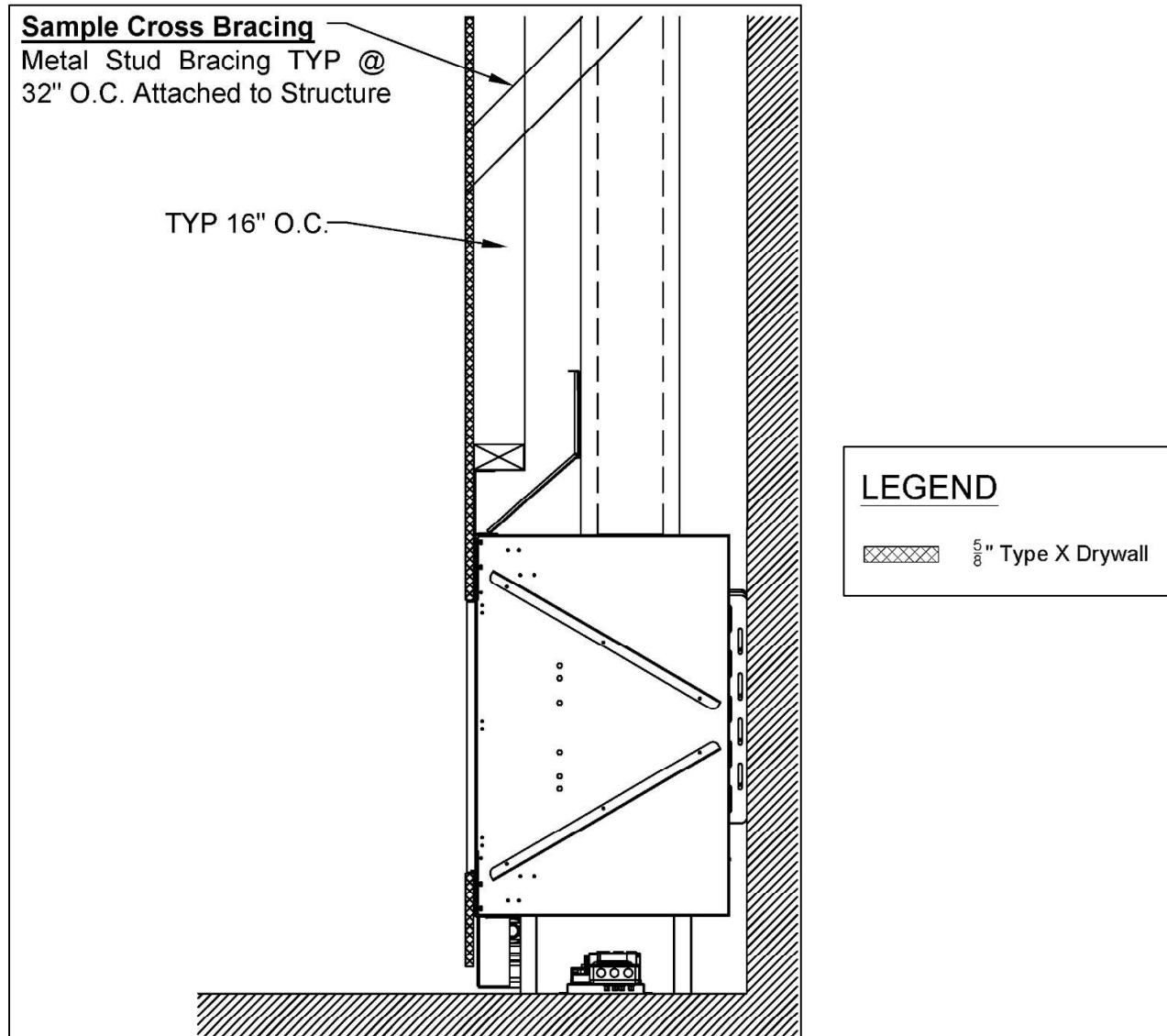
NOTE: Chase area minimum requirements must be met throughout the entire fireplace chase. See "Chase Area Minimum" section above for details.



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 Ortal website.



Finishing

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



IMPORTANT NOTES:

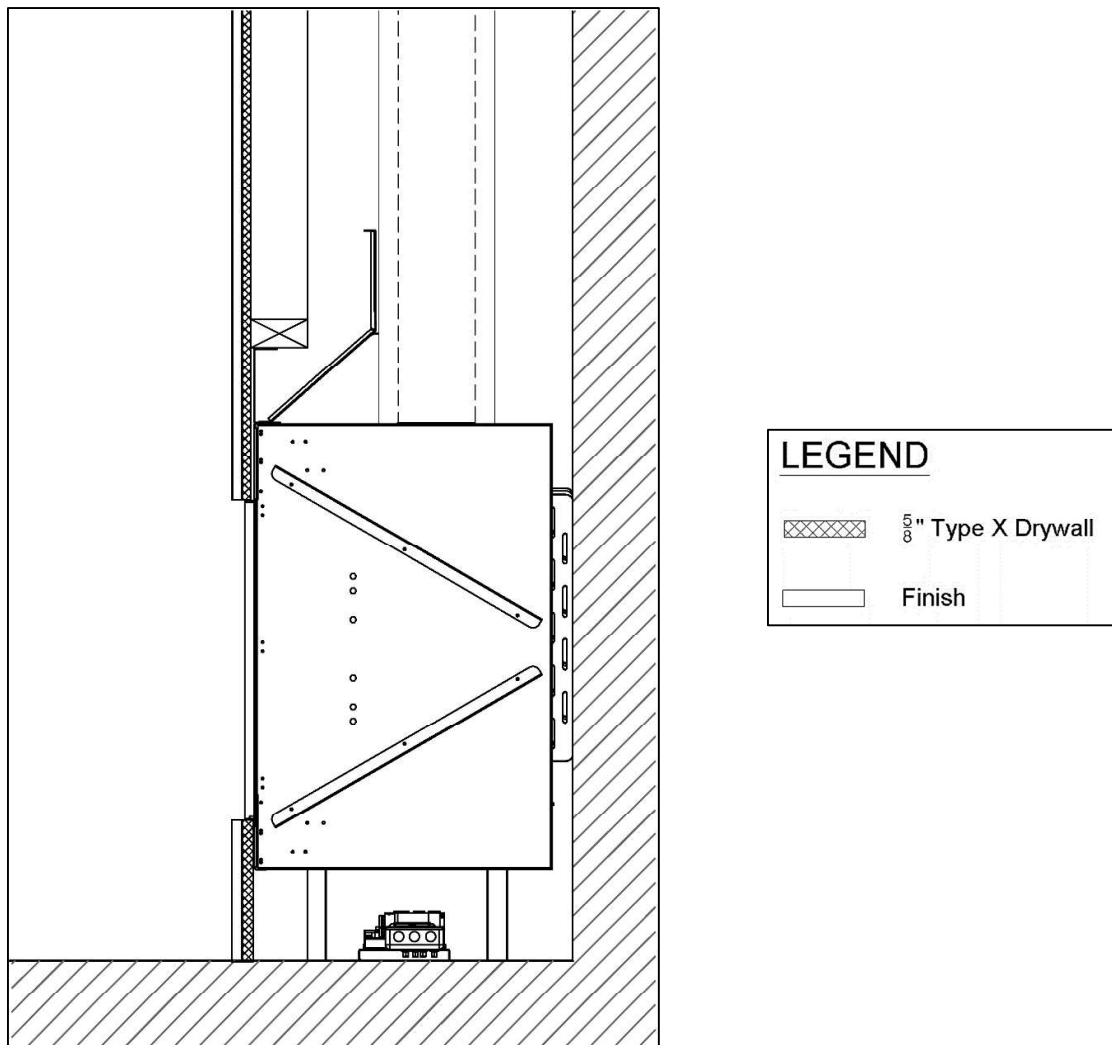
- All recessed installations must comply with applicable maximum overhang limit and side wall clearances. See “Maximum Overhang Depth” and “Clearance to a Side Wall” sections on page 15 for details.
- No material is permitted to extend past the metal lip surrounding the fireplace viewing area. This area 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.
- $\frac{5}{8}$ " DensGlass® Fireguard® Sheathing is an approved $\frac{5}{8}$ " 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.

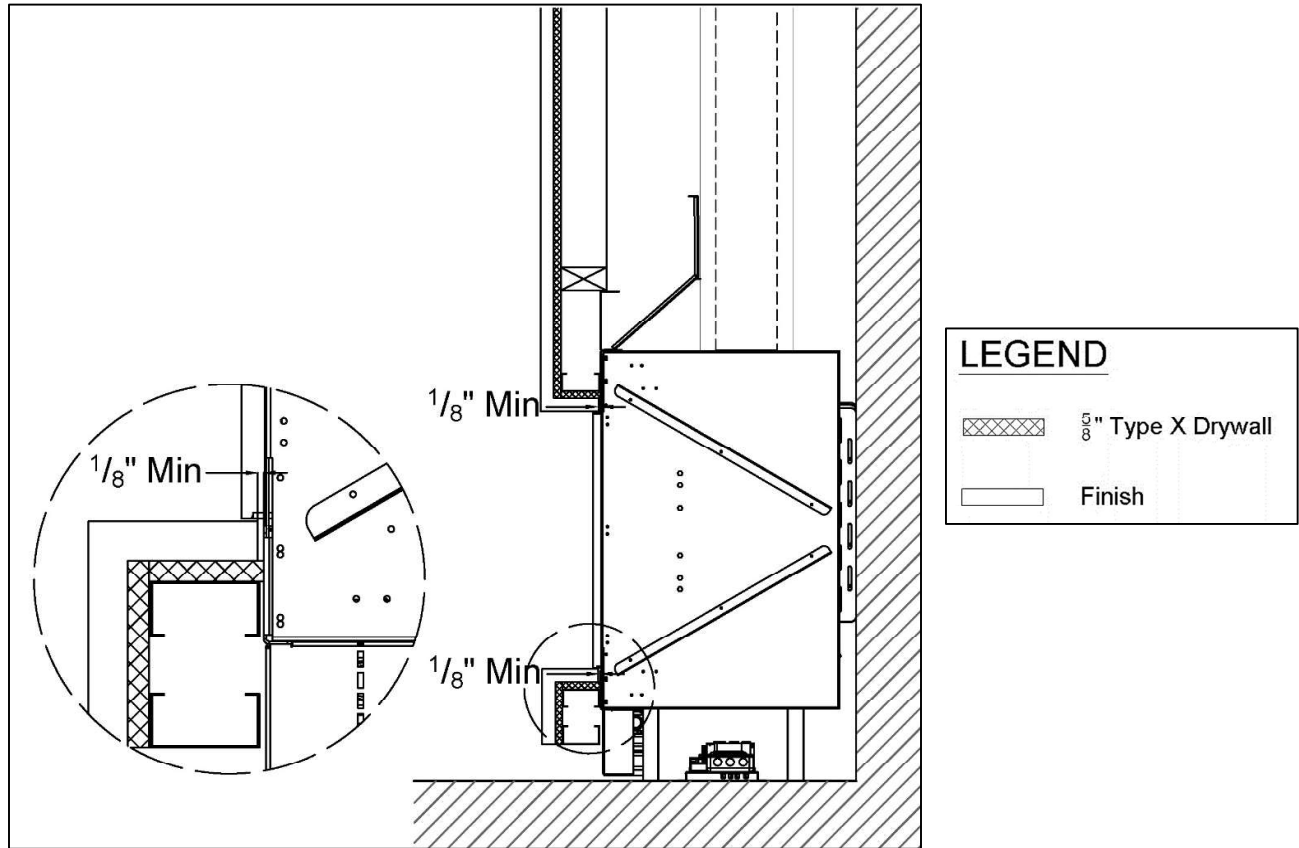
Flush Installation

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



Recessed Installation

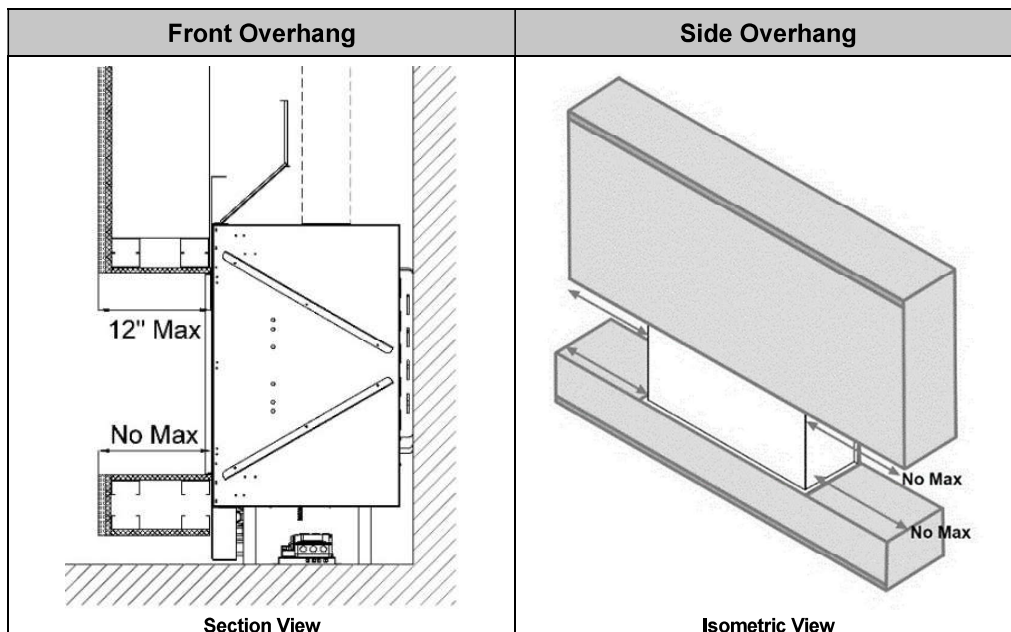
Diagram applies to both combustible and non-combustible finish material. The finish must maintain at least a $\frac{1}{8}$ " clearance to the fireplace to both the top and bottom recesses.



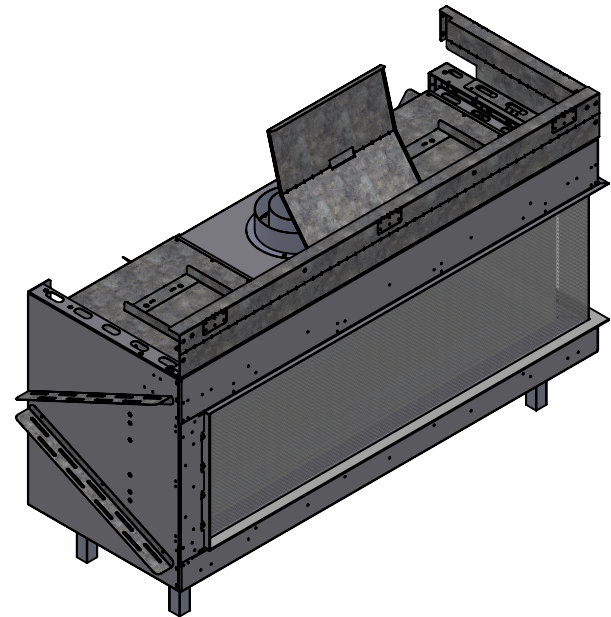
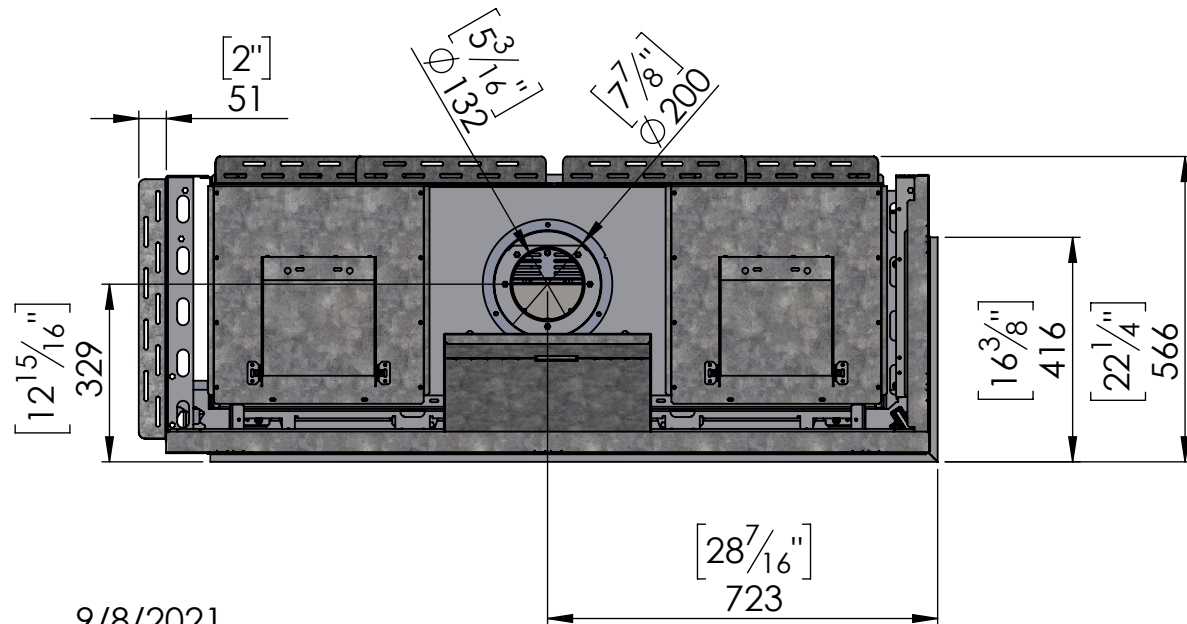
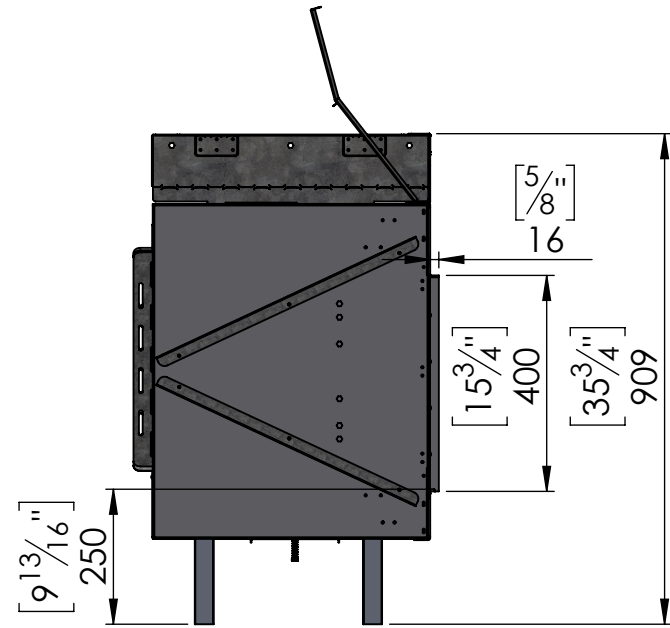
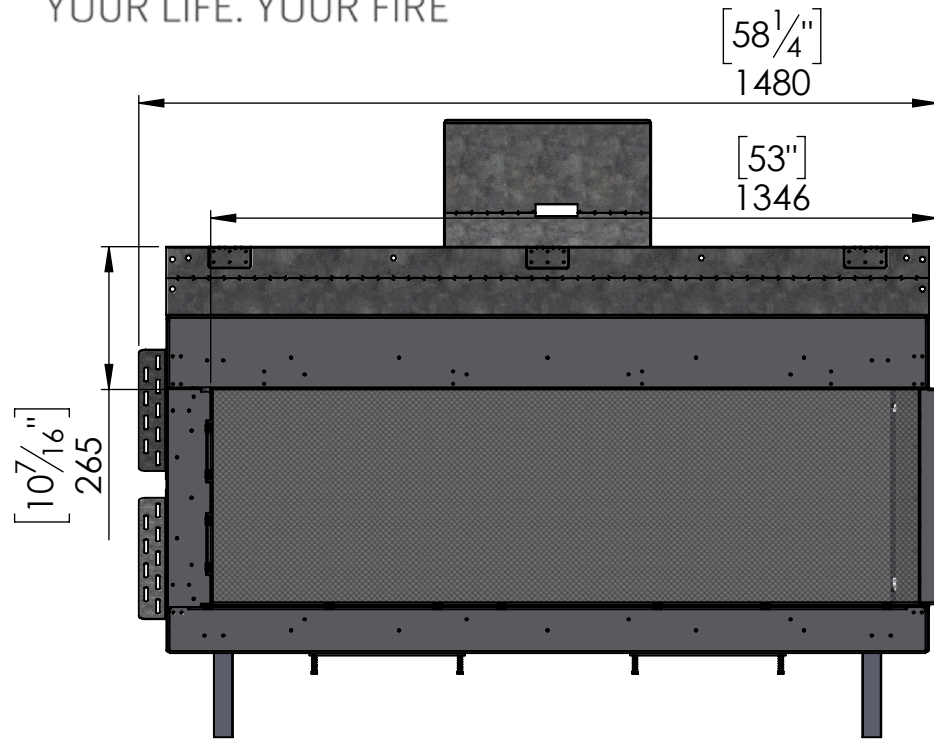
Maximum Overhang Depth

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.



RS51 Screen



LS51 Screen

