Ortal's Deep Dive Series

Topic: Safety Barriers & Air Intakes

Safety Barrier Standards

As of January 1, 2015 through partnership of the gas fireplace industry and the consumer safety commission, requirements for an installed protective barrier or a reduced glass temperature not to exceed 172° were mandated for all sealerd glass fireplaces. This is to protect anyone who could come in contact with the glass from suffering serious burns since the sealed glass temperature can exceed 400°. These regulations are in place for certification listings, including: ANSI Z21.88/CSA 2.33 for Vented Gas Fireplace Heaters and ANSI Z21.50/CSA 2.22 for Vented Decorative Gas Appliances.

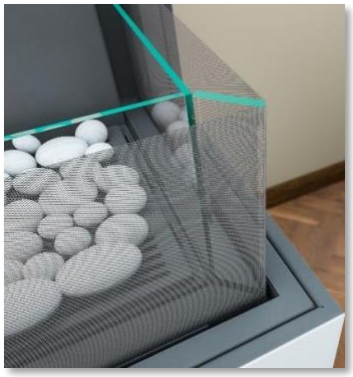
All Ortal fireplaces come with a safety barrier that sits outside the sealed glass of the viewing area(s).

Safety Barrier Options

Ortal offers two different safety barrier options for most models that meet requirements: Screen and Double Glass.

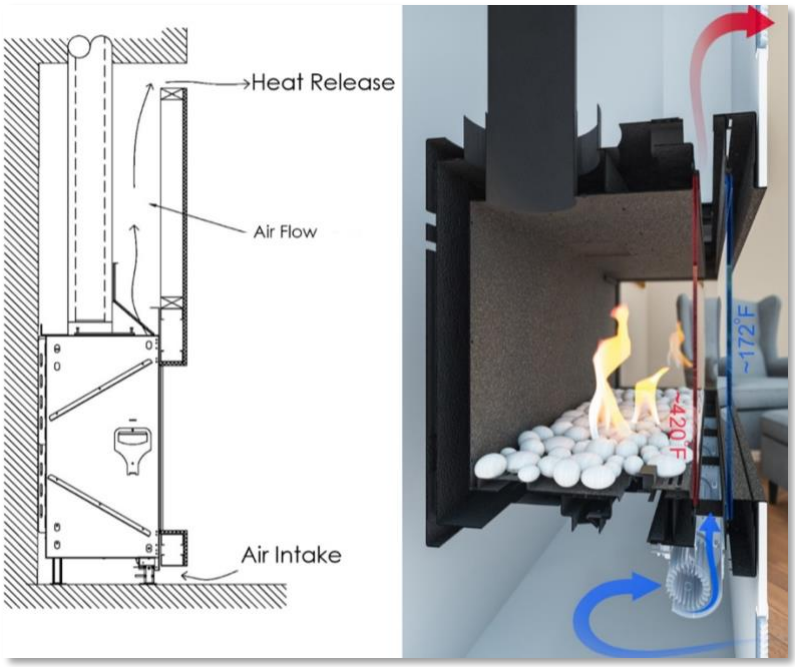
- **Screen Barrier**
  Ortal's micromesh screen offers an open view of the fireplace without affecting heat distrubutiion.. Screens also reduce glare and fingerprints on glass.

Screen barriers are also available on multisided fireplace using our patented frameless screen technology avoiding frames or supports at the corners.



- **Double Glass Barrier**

  Ortal's double glass barrier consists of two layers of glass with a gap space between them. Underneath the gap , are a series of small fans that circulate air from the room between the glass layers. The air assists to cool the outer glass layer to regulation temperature 172˚F or lower.



The heat travels up into the fireplace chase through openings on the top of the firebox, and then moves out into the room through the heat release. The fans need air from the room where the fireplace is located or from an alternate interior space . This requires an air intake, opening, below the fireplace to allow air to the fans.
**Note: Double glass does reduce the radiant heat

Double glass has a classic clean, frameless look for both single and multi-sided fireplace.

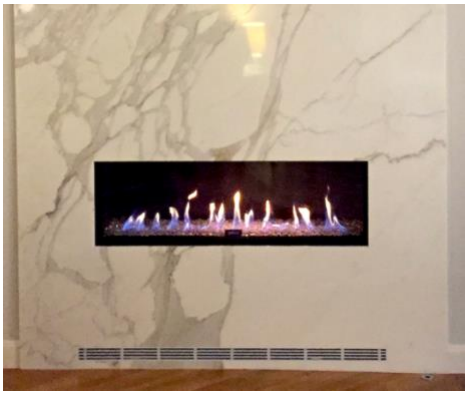
Safety Barrier Comparison		
Aspect	**Screen**	**Double Glass**
Heat Experience	Radiant heat from glass thru screen No impact on heat distribution	Less radiant heat from outer glass Meets CPSC 172° max
Air intake	not applicable / needed	Required
Aesthetic	Frameless (exception: Stand Alones) Slightly darkened view Reduces glare	Clear view of flame Frameless – Glass to glass corners for multisided

Air Intake Design Examples

There are many ways to design the air intake required for all double glass fireplaces.

Important Note: The slotted protective cover for fans on double glass (DG) models (shown on unit drawings below the glass) must be removed to allow required air flow to the DG fans.

Louver / Grille: When determining a location and design for an air intake a louver or grille can provide an easy solution. It can also serve as access panel if made removable.
The clear free space of louver/grille must allow for the required sq inch requirement, This is **not** the same as the overall dimension of the louver/grille.



Gap: A gap is an opening in the wall that would not require a cover. The dimensions of the gap can be calculated exactly to meet square inch size requirement

Toe-Kick /Reveal: A recessed opening at bottom of wall is a popular choice for air intake. It provides the option for the smallest opening. Like a gap, the opening size can be calculated to meet the square inches needed.

Hidden Air Intake Designs

Slotted: The small spaces between the wood slats are left open to the inside of the chase, allowing air to reach the double glass fans.
(slot spaces are 21@ 3/16" x 38" = 152 sq inches)

Note: Many other air intake options can be utilized – air can come from room behind the unit or even from below if space is conditioned.