

Ortal's Deep Dive Series

Topic: Safety Barriers & Double Glass Fan Air Intake

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 sealed 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

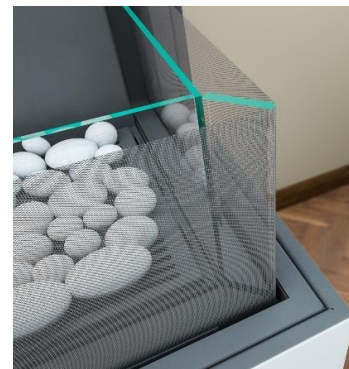
Ortal offers two different safety barrier options for most models that meet requirements: Screen and Double Glass.

- **Screen Barrier**

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

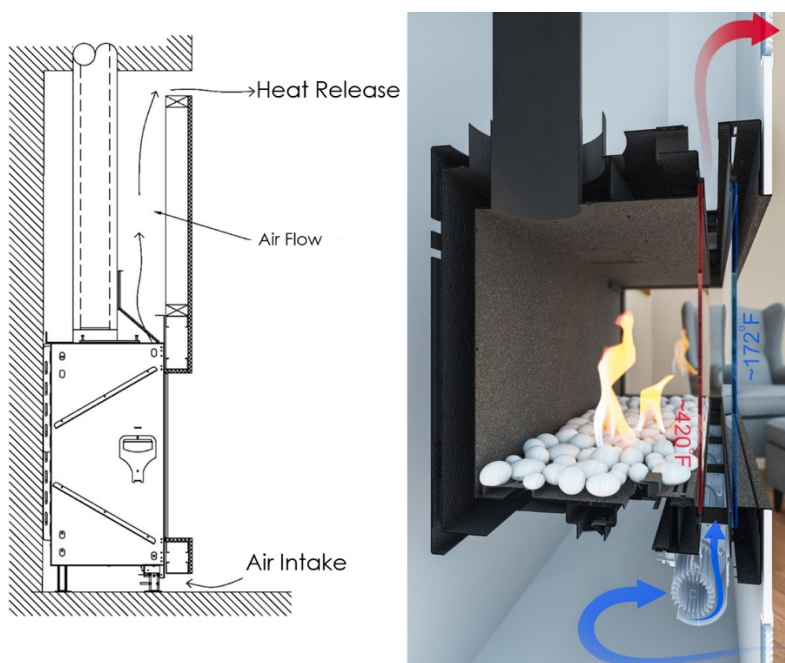


Screen barriers are also available on multisided fireplace using our patented frameless screen technology avoiding frames or supports at the corners.



- **Double Glass Safety Barrier**

Ortal's double glass safety barrier consists of two layers of glass with an opening/gap space between them. Underneath the opening, 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 safe temperature 172°F or lower.



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.

| Fireplace Model Numbers | Air Intake Size |
|--------------------------------------|---------------------------------------|
| 25,31,40h70,6080,75 44,51,110,130 | Minimum 124 sq. in. of free air space |
| 60,68,77 150,170,200 | Minimum 200 sq. in. of free air space |
| 98 250 | Minimum 250 sq. in. of free air space |

- Curve series 7565 | minimum 124 sq.in.of free air space

The air from the fans travels between the glass up through openings on the top of the firebox into the fireplace chase mixing with the additional air inside the chase. The heat radiating from the top, back and sides of the fireplace also combine with the air in the chase and continues moving through to the heat release then and out into the room.

***For More information on Heat Release – See Heat Release Deep Dive.*

Double glass, while providing less radiant heat, does provide 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 |
| Fan 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 |

Double Glass Fan 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.

****** If intake will be at a level below the legs of the fireplace, it is highly recommended to cut hole(s) through the platform for air to reach fans with less obstruction.

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 Fan Air Intake Designs

Air intake options that are not visible from the room the Fireplace is in can be utilized – air can come from room behind the unit or even from below if space is conditioned.



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)

