

# VENTILATION WITH YOUR HOMECRAFT HEATER



## THE WHY'S

Proper ventilation is essential for both the comfort and performance of your sauna. For many, ventilation is an afterthought, not understanding that Heat, Steam & Ventilation are 3 keys to a great sauna experience. Having a well ventilated sauna room can make an immense difference in the overall sauna experience and we encourage every sauna user to explore how to improve the ventilation in their sauna.

With many great resources available this is not meant to be an all encompassing article but rather a baseline guide to improving your sauna experience and what works well with our sauna heaters.

### The Why's...

#### 1. Fresh Air In, Stale Air Out

A properly ventilated sauna allows fresh air to enter and stale air to exit, creating a healthier and more enjoyable environment. A well-designed sauna with good ventilation should ensure that you never feel dizzy, lightheaded, or difficulty breathing during a sauna session. Instead, the air should feel fresh, and comfortable. Stale air, leads to a less than quality sauna experience.

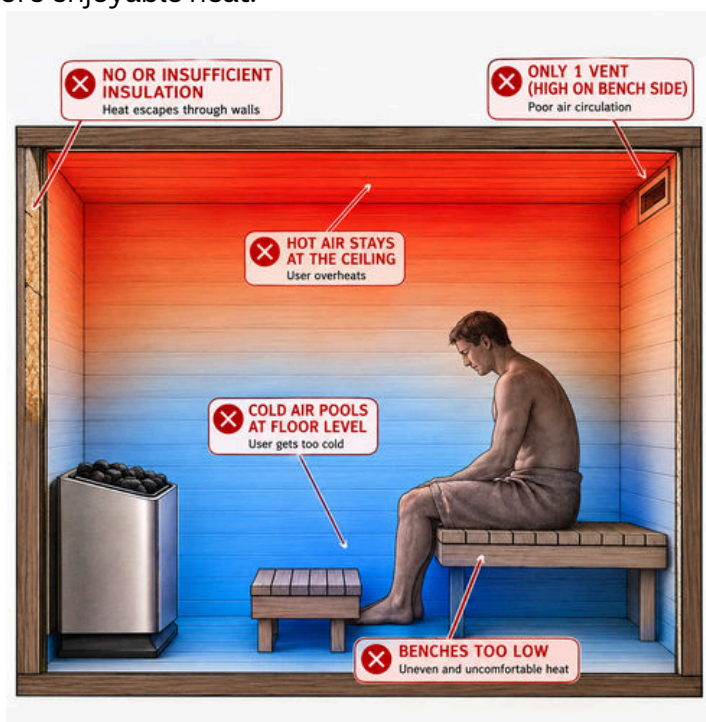
#### 2. Even Heat Distribution

The second purpose of ventilation is to improve heat circulation throughout the sauna room.

Without proper airflow, hot air can become trapped near the ceiling while cooler air settles near the floor, creating uncomfortable temperature differences. Good ventilation works with the natural movement of rising warm air, helping circulate heat more evenly throughout the sauna.

The result is a more balanced sauna experience with consistent temperatures from head to toe, rather than excessive heat around your head and much cooler temperatures around your feet.

When fresh air enters the sauna and warm air is allowed to exit in the proper locations, the entire room becomes more comfortable, the heater operates more efficiently, and bathers experience a smoother, more enjoyable heat.



## BUYER BEWARE

A poorly constructed sauna room will highly impact the quality of your sauna experience. Areas to consider.

- Insulation value
- Bench height
- Ceiling height
- Uninsulated areas (Glass, rock, tile)
- Number & Position of vents
- What size vents are used?

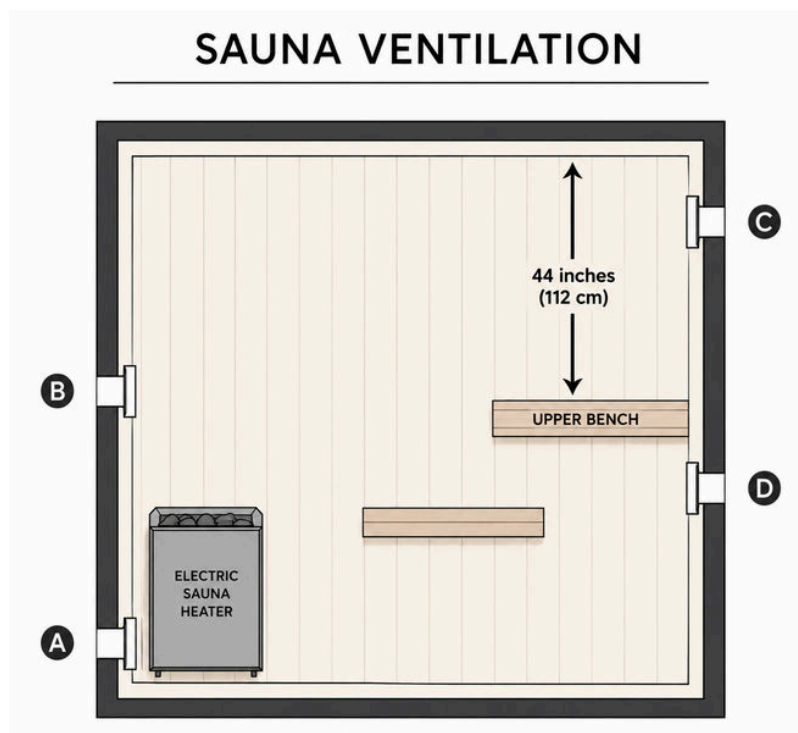
# UNDERSTANDING THE BASICS



There is no single ventilation layout that is perfect for every sauna. Room size, bench positioning, ceiling height, heater location, local building codes, and many others add variables to what will work but as a baseline we recommend the following vent set up.

For most Homecraft residential sauna installations, the combination of: A,B,C,D vents

- Vent-A Air inlet (*recommended on our classic line of H-series sauna heaters*)
- Vent-B Air inlet (*Newer Homecraft heaters perform well with a B-Vent installation*)
- Vent-C Air outlet (*closed during the sauna session and opened after the session*)
- Vent-D Air outlet (*ideally oposite the heater, under the upper bench*)



The diagram above provides the most consistent baseline guide for the sauna room. In certain installations, the “A” vent may still be beneficial (*Classic style sauna heaters that have more sensitive high limit switches*), particularly where additional cooling around the heater helps prevent nuisance high-limit safety trips. Proper ventilation allows your sauna to heat more evenly, keeps the air fresh, helps the room dry efficiently after use, and ultimately creates a more enjoyable sauna experience.

## What vents work?

# UNDERSTANDING THE A, B, C & D VENTS

The diagram has four common ventilation locations found in many electric sauna installations. Each vent serves a different purpose in creating a comfortable and healthy sauna environment.

## A. Traditional North American Air Inlet (*recommended for classic heaters*)

The A vent has traditionally been recommended throughout North America, particularly because UL and CSA-compliant electric sauna heaters are equipped with a high-limit safety switch. In some installations, this safety device can trip prematurely if excessive heat builds up around the base of the heater.

Positioning an air inlet near the floor allows cooler, fresh air to enter beneath the heater, helping keep the lower portion of the heater cooler. This reduces the chance of nuisance high-limit trips while allowing the incoming fresh air to be warmed as it travels upward through the heater and into the sauna's heat pocket.

Although this method has been widely used for many years, it is not always necessary depending on the heater.

## B. Traditional Air Inlet (*Recommended position for our newer heaters*)

The B vent represents the more traditional location for introducing fresh air into the sauna.

Ideally, this inlet should be positioned approximately anywhere halfway up the wall from the top of the sauna heater to the ceiling. Fresh incoming air mixes with the hot air rising from the heater, creating natural circulation that delivers warm, oxygen-rich air into the upper portion of the sauna where bathers are seated. This location generally provides excellent airflow while maintaining consistent temperatures throughout the room.

## C. Moisture / Humidity Release Vent (*the most optional vent*)

During a sauna session, especially one with generous amounts of löyly (water poured onto the sauna stones), humidity levels can become quite high. Rather than operating continuously, this vent is typically kept closed during the sauna session to retain heat and humidity.

Once your sauna session is complete, opening the C vent allows trapped moisture to escape, helping the sauna dry more quickly and releasing unwanted moisture & humidity. This promotes healthier wood, reduces lingering moisture, and helps keep the sauna fresh between uses.

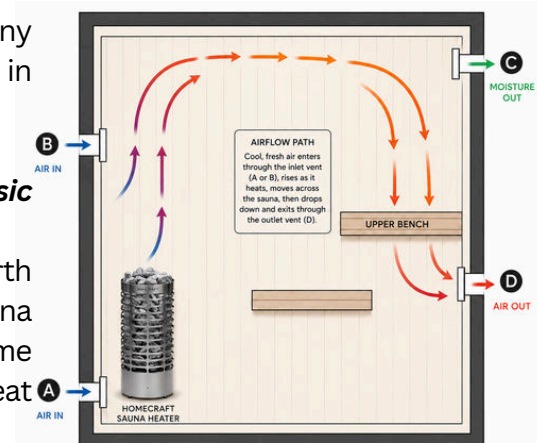
## D. Primary Air Outlet (*Necessary*)

The D vent is arguably the most important vent in the entire system.

As the heater warms the room, hot air naturally rises toward the ceiling before flowing across the sauna bathers. The D vent, located beneath the upper bench, allows this air to exit the sauna, creating continuous air movement throughout the room.

This outlet encourages fresh air to be drawn through the inlet vent, replacing stale air with oxygen-rich air while improving temperature consistency. Proper exhaust ventilation also helps remove excess carbon dioxide and creates a more comfortable sauna experience, particularly during longer sessions.

Without an effective outlet vent, air circulation can become stagnant, even if fresh air is entering the sauna. For this reason a mechanical fan is oftentimes used in this vent position.



# VENTILATION RECOMMENDATIONS BY HOMECRAFT



## CONSIDERATIONS FOR MECHANICAL VENTILATION

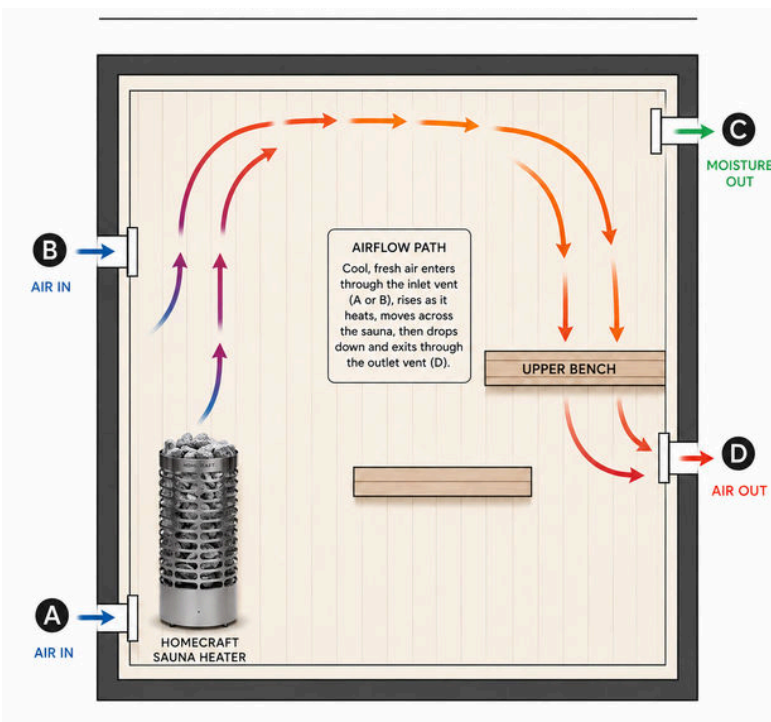
Mechanical ventilation has become increasingly popular in modern sauna design because it provides more consistent airflow than natural ventilation alone, especially with an electric sauna heater. Rather than relying solely on warm air rising, a small exhaust fan (D-Vent) gently pulls air from the sauna while helping draw fresh air in through the intake vent. The result is improved oxygen replenishment, more even temperatures, and better overall air circulation.

When selecting a mechanical ventilation fan, look for one that is:

- Quiet during operation.
- Variable speed or adjustable.
- Suitable for continuous operation
- Sized to provide approximately six air changes per hour rather than excessive airflow
- Keep the airflow away from the temperature sensor.
- The vent should not blow directly onto the sensor, because it can make the heater read artificially cool and run incorrectly.

At Homecraft, we believe that mechanical ventilation should enhance the sauna experience, not dominate it and not hinder the performance of the sauna heater. If you can feel a strong draft while bathing, the fan is likely moving too much air. The ideal ventilation system is one you hardly notice, except that the air feels more consistent, fresh, comfortable, and the temperature remains steady.

## AIR QUALITY & AIR FLOW



We recommend designing the ventilation system to achieve around six air changes per hour (ACH). Instead of choosing the largest fan available, the goal is to select a fan that provides steady, gentle airflow. A fan that is too powerful can remove heat faster than necessary, create noticeable drafts, and reduce the quality of the löly.

For most residential saunas, this generally works out to 20–50 CFM (35–85 m³/h), depending on the room's size. Installing a variable-speed inline fan is often the best solution because the airflow can be adjusted to match the sauna's performance and the bather's preference.