

Warmington's CAITEC Replacement Air

Open Fire - Wood Burner

There are three components needed to start and maintain a fire:

1. Fuel
2. Oxygen
3. Heat

When all three parts are present in the correct ratio, a fire will burn well and can be maintained. When any one of these components are removed or restricted, the fire can either be controlled, or will go out.



Homes today are built to high standards, and by insulating the home, energy costs are greatly reduced. Sealing the home from outside cold and drafts using insulation and double glazing, are some of the practices now used.

When a fire in a home is first lit, the fire takes its air (oxygen) from the room. As the fire continues to burn, combustion air needs to be provided to the fire. As the chimney pulls air through the fireplace, negative air pressure can be created in the house, this negative pressure fights against the chimney draft and can actually draw smoke backward down the chimney. This is called "BACK VENTING".

ELIMINATING NEGATIVE PRESSURE AND BACK VENTING IN THE HOME

Common methods are :

- Mechanically pumping air into, or out of the home.
- Installing vents from outside into the home, allowing air to be drawn to the fire place opening.

OR Purchase a **Warmington** fire with inbuilt **CAITEC** system, which allows outside air to enter the home as the fire needs it, eliminating cold air and drafts, and the need for unsightly internal vents. This is not only the easiest method, but also the most efficient as the air entering the home is pre-heated through the heat exchanger.

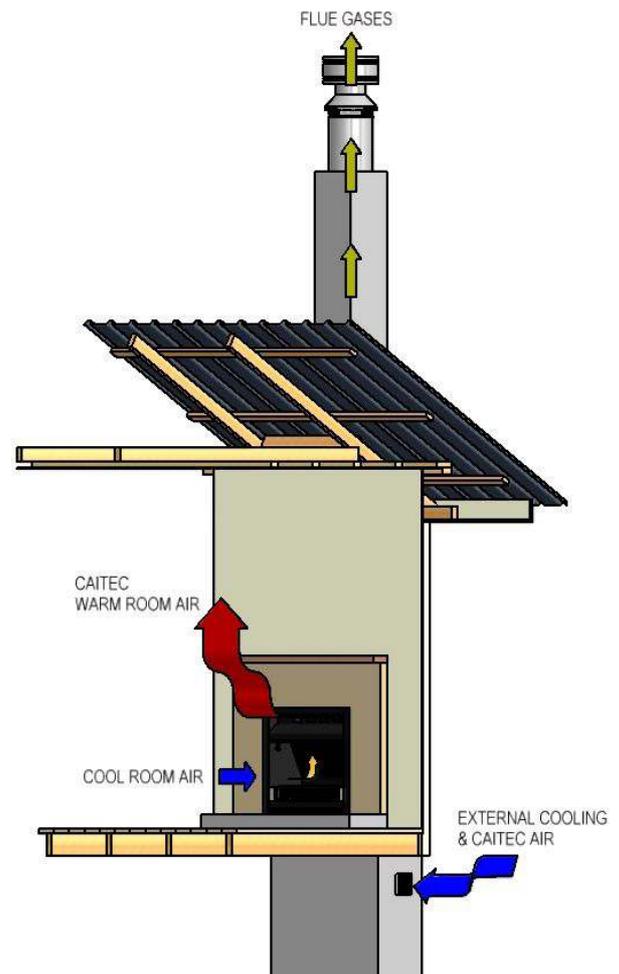
Caitec Venting Design:

The placement of vents and/or design advice can be sort from your Warmington agent.

Installation points to consider:

- The cavity air vent also supplies air for **Caitec**. One Vent to look after all the fires air needs.
- The intake vent for the fire cavity and **Caitec** air is to be below the top opening of the fire to work correctly.
- Installing the vents on a slight angle away from the cavity to the intake will ensure any moisture drains out of the vents, and away from the home.
- Ensure that the intake vent is fitted with a grill to protect against birds or vermin entering from the outside.

NOISE of air entering the home. Because the vent is in the cavity, the noise induced by the air coming into the home is some distance from the heat exchange. Thus the noise is greatly reduced.



“WARMINGTON UNIQUE CAITEC AIR System”

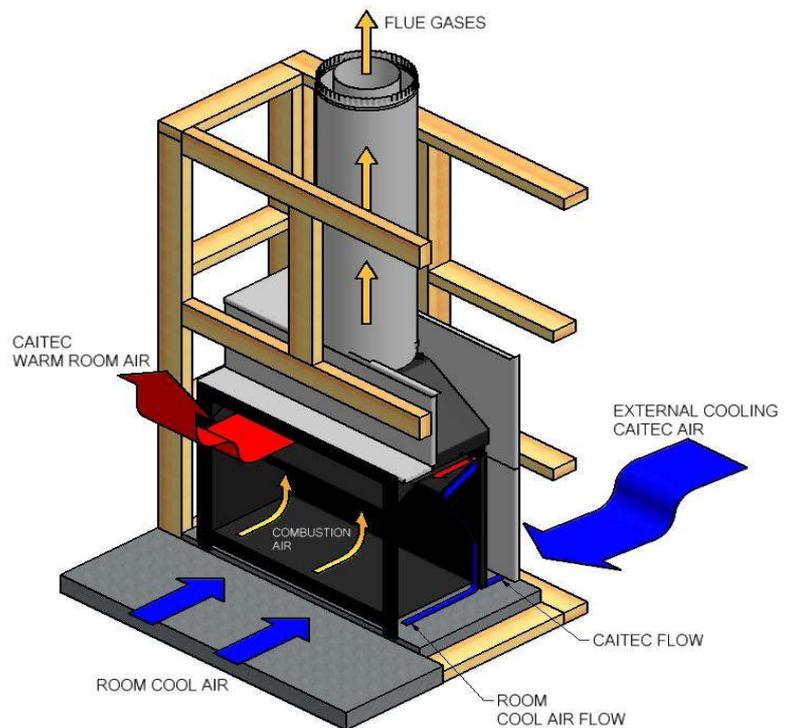
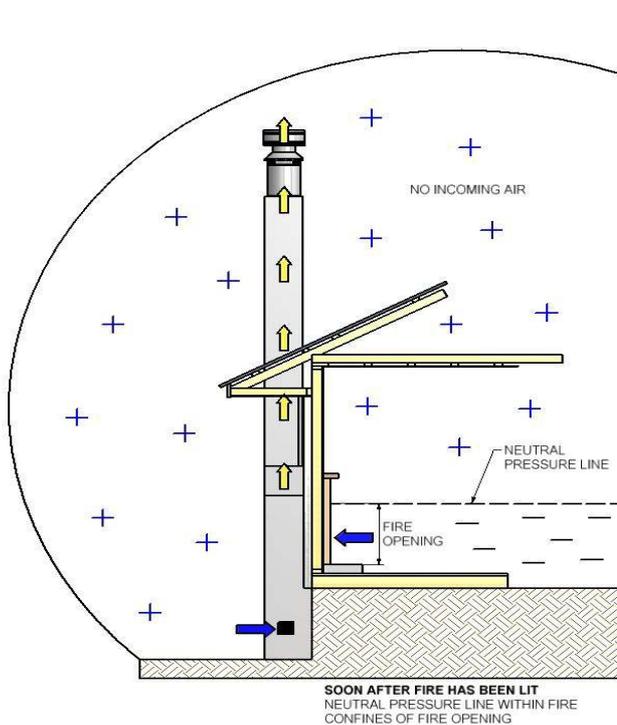
Caitec technology is an innovative solution to introduce replacement combustion air back into the home, via the multi duct heat exchanger.

Air is drawn from an external air source, to ensure the open fire has pre-heated combustion air. This system maximises efficiency and ensures the home maintains a constant pressure equilibrium which reduces the risk of back venting. Because external outside air is used, unsightly room vents are no longer required, giving clean, clear surfaces within the room.

Builder: Ensure that the cavity is vented to *outside* fresh air and the Warmington Air Replacement system will take care of the rest. 2 x 100mm diameter external vents (or equivalent) are required.

How CAITEC works:

1. External air from the cavity is drawn through the base of the fire, through the heat exchanger and into the room, pre heating it along the way.
2. The pre heated air only enters the room if the room pressure is lower than the external air pressure, causing the air to flow from outside when required, or to circulate air in the room when not required.
3. If the room doesn't require Caitec air, the natural circulation of the 'room cool air' at floor level, is drawn into the base of the fire, through the heat exchanger back into the room.
4. Pre heating the air is the most efficient method of introducing outside air into the home.



NOTE: For Operation Instruction download from the website www.warmington.co.nz