

MatrixAir™

Solar Air Heating System

What is MatrixAir™?

A wall or roof mounted fresh air solar heating system.

MatrixAir™ system*:

Components of the MatrixAir™ collector (from outside to inside)

- ① MatrixAir™ perforated cladding
- ② Horizontal Z-bar
- ③ Perforated vertical Z-bar
- ④ Foil liner
- ⑤ Top, bottom and side wall flashing
- ⑥ Bypass damper (optional)

Interior wall elements (by others)

- Semi-rigid glass fibre or foam insulation
- Z-bar sub-girt
- U-channel sub-girt
- Interior liner sheet
- Structural wall support

*Typical metal wall sandwich construction shown

How the MatrixAir™ system works:

1. Heat is transferred to the MatrixAir™ perforated cladding by solar radiation,
2. Negative pressure within the collector creates an air flow that draws exterior air through the tiny perforations in the cladding,
3. Solar heat is transferred from the cladding to the air flow in three phases:
 - a. A thin warm air layer develops on the front and rear of the cladding,
 - b. The heated air on the outside of the cladding is drawn through the perforations into the collector,
 - c. This heated air travels downwards toward the building air intake gaining heat from the back of the cladding thereby increasing its temperature,
4. Heat loss from the exterior building wall within the collector is recuperated by the downward air movement,
5. The pre-heated air flows into the building's air ductwork via the MatrixAir™ fans or building HVAC system.

MatrixAir™ system benefits:

- Energy Savings,
- Aesthetic building integration,
- Suitable for new and existing commercial, industrial or institutional buildings,
- Air filtration,
- Green Building certification.

Patent pending.

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