# New COUNTERFLOW Air-to-Air heat exchangers ...

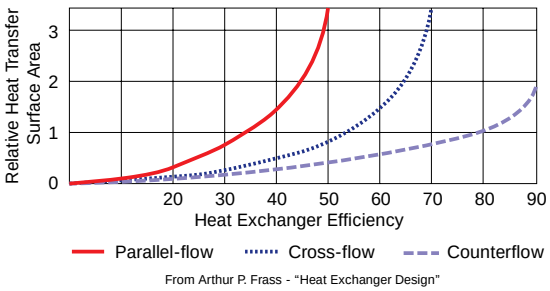
## the fresh air approach to IAQ problems

The ECO AIR heat exchanger is an innovative, internationally patented, counterflow air-to-air, plate heat exchanger, a breakthrough in heating, cooling, air conditioning and ventilation.

The heat exchanger enables the introduction of up to 100% fresh air, which improves IAQ, provides major health benefits and combats sick building syndrome. Stale odour laden air is expelled with continuous fresh air, while the energy in the expelled air is recovered through the heat exchanger.

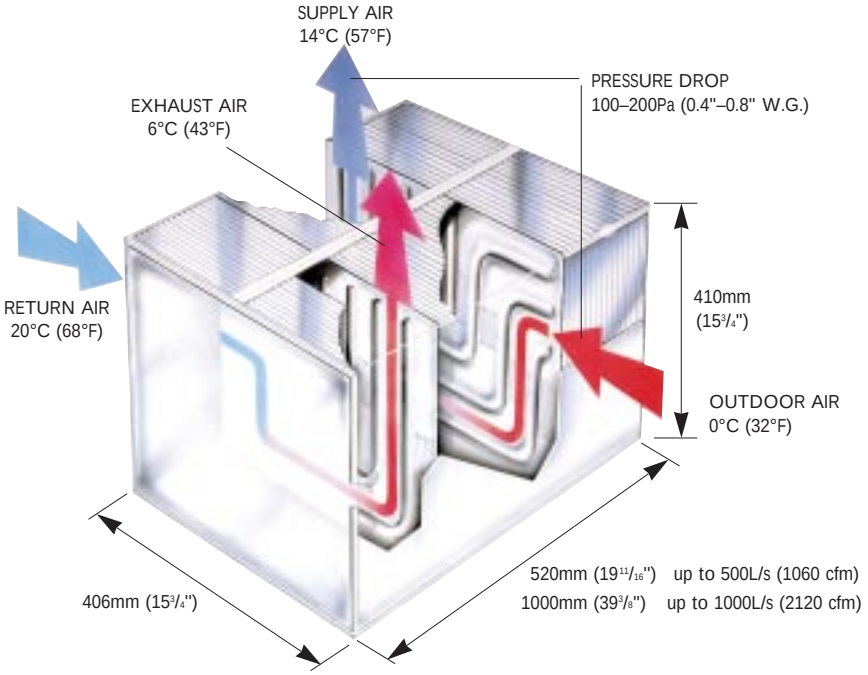
The ECO AIR Heat exchanger has been incorporated into the following applications:

- Rooftop package units
- Gas heating and cooling unit
- Coolroom ventilation units
- HRV for ducted systems
- HRV for wall applications
- Reverse cycle fancoils
- Gas log fireplaces




From Arthur P. Frass - "Heat Exchanger Design"

The ECO AIR heat exchanger is unique because it combines a counterflow design, high air flows and high thermal efficiency. Incoming fresh air exchanges energy with the outgoing stale air through thin metal plates. Its small, compact size means it can be used in many applications to reclaim energy and provide fresh air.




ECO AIR counterflow air-to air-heat exchangers have major advantages over cross flow heat exchangers. Counterflow heat exchangers have the airstreams in contact for the entire air path length, which exchanges more energy over the maximum temperature difference.

Crossflow heat exchangers have a major practical problem in that the structure occupies a large amount of available airspace between the plates, creating a resistance to air flow, increasing the pressure drop and limiting the amount of air able to flow through the heat exchanger.

The structure of the ECO AIR heat exchanger is also the heat exchange medium, allowing the air to flow through unrestricted, reducing pressure drop and significantly increasing air flow. The heat exchanger has been specifically designed to operate efficiently at high airflows for high fresh air loads.

The ECO AIR research team are available for consultation on how to utilise heat exchangers. Manufacturers and distributors are welcome to discuss rights available for various applications.

ECO AIR
ENERGY EFFICIENT SOLUTIONS

# ECO AIR COUNTERFLOW HEAT EXCHANGERS

## Construction

- Patented core made from continuous Aluminium plates - with an outer protective casing.

## Warranty

- The heat exchanger core has a 5-year conditional warranty.

## Maintenance

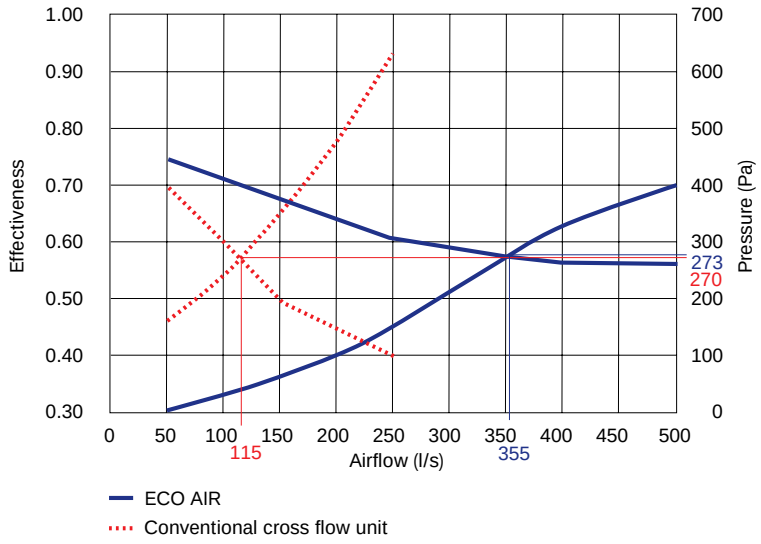
- Minimal cleaning required if filters are correctly installed. Core is easily washed, if found necessary.

## Model 4040

- Used for domestic and small commercial packaged roof-top units, ventilation and other small fresh air applications.
- Plate size 400x400mm (16″x16″). Lengths from 100mm (4″) to 1000mm (40″) for airflows of 50 1/s (105cfm) to 700 l/s (1470 cfm). Multiple modules for higher airflows.

## Model 1245

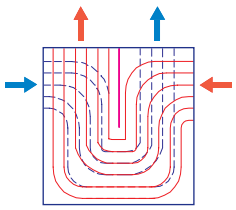
- Used for large commercial and industrial air conditioning, ventilation and other large fresh air applications.
- Plate size 1250x450mm (50″x18″). Lengths from 200mm (8″) to 600mm (24″) for airflows of 300 l/s (635 cfm) to 1350 l/s (2860 cfm). Multiple modules for higher airflows.




Comparison of ECO AIR Heat Exchanger and a typical competitor's crossflow heat exchanger highlights that the ECO AIR heat exchanger allows 3 times the airflow at the optimum operating range.

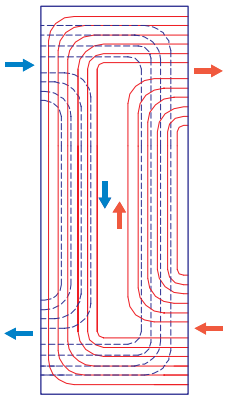
Available from

- Reclaims energy from waste air
- Compact size suits many new applications
- High airflows and efficiency
- High thermal capacity
- Low pressure drop
- Competitively priced
- Air flows:
  Small Heat Exchanger: from 50 l/s (105 cfm) to 700 l/s (1470 cfm)
  Large Heat Exchanger: from 300 l/s (635 cfm) to 1350 l/s (2860 cfm)
- Available in heat recovery ventilation units in variety of sizes
- ECO AIR research engineers can assist in utilisation applications



### Model 4040

Small heat exchanger showing its counterflow air flow pattern and the similar inlet/outlet characteristics to conventional crossflow.



### Model 1245

This is the large heat exchanger showing its counterflow airflow pattern.

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Patent granted or pending in most countries.

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