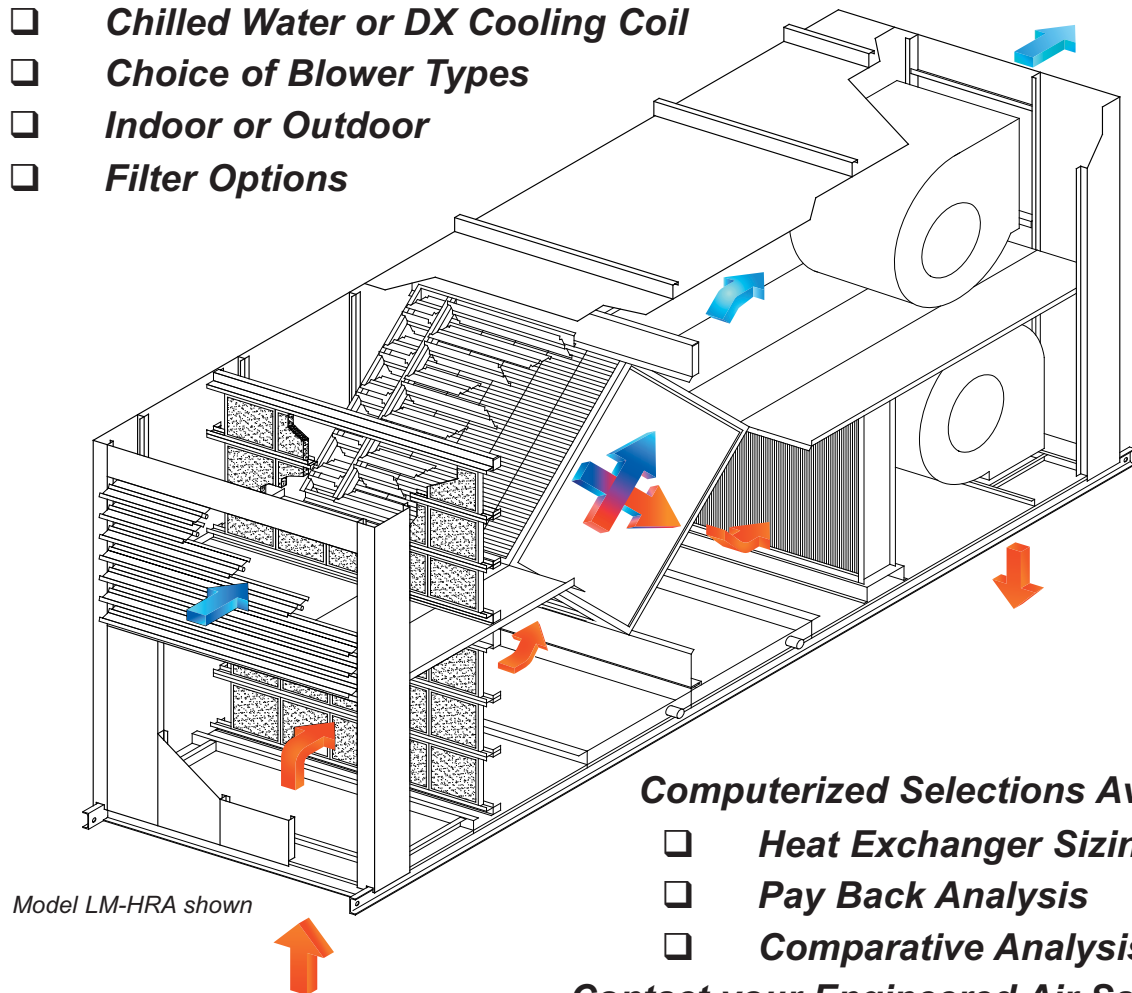


SERIES HRA **PACKAGED HEAT RECOVERY**

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TRP Air to Air Heat Exchanger**

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AIR TO AIR HEAT EXCHANGERS

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ENGINEERED AIR

TRP
 AIR TO AIR HEAT EXCHANGERS

What is an air to air heat exchanger ?

Engineered Air's HRA Series is an energy recovery package specifically designed to reduce the high costs of conditioning ventilation air by recovering a significant portion of the thermal energy from the exhaust air.

How the heat exchanger works

The TRP heat exchanger is a cross-flow fixed plate heat exchanger. Alternate layers of plates are used to form separate exhaust and supply air stream passages (see Figure 1).

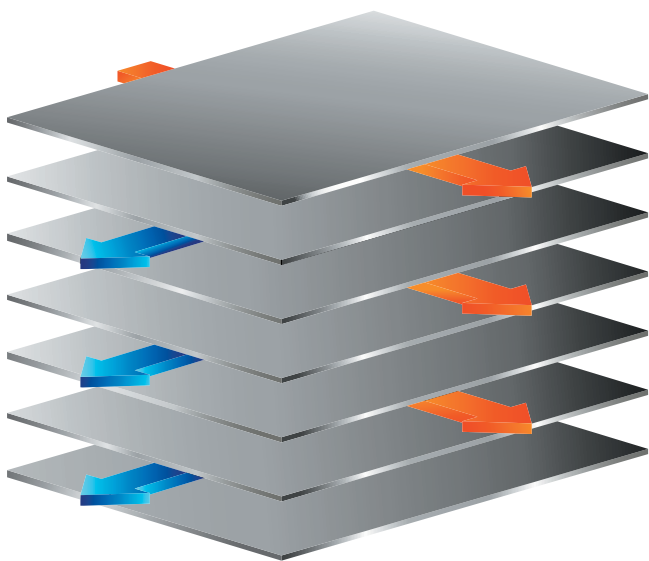


Figure 1

Sensible heat is transferred from the warm air-streams through the separating plates into the cool air streams. Any moisture in the exhaust air stream will increase the heat exchanger's performance. As the entering outside air begins and continues to cool, the exhaust air temperature will reach its dew point temperature. When the exhaust air temperature is at or lower than the dew point, the moisture in the exhaust air will condense on the surface of the plates giving up energy

in the form of latent heat and is transferred to the supply air stream.

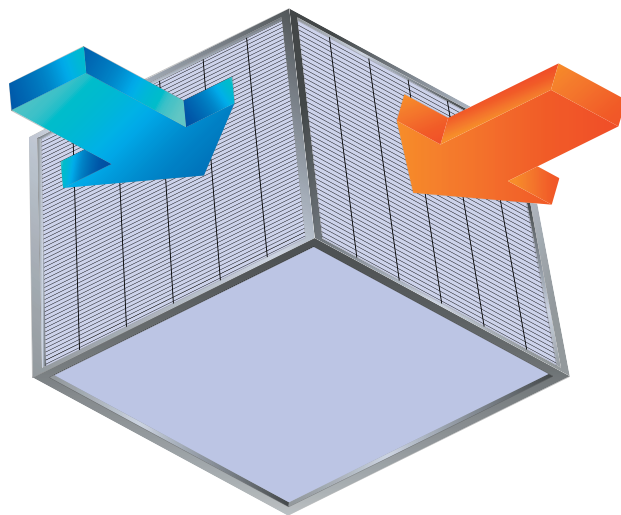


Figure 2

Incoming supply air enters at a right angle to the return air stream (see Figure 2). The outside air is either heated or cooled depending on the relative temperatures of the air streams. The Engineered Air TRP heat exchanger is capable of recovering up to 75% or more of the available energy in the exhaust air stream. This high rate of recovery is due to the heat exchanger having only one heat transfer surface of high quality aluminum between the two air streams.

There are no moving parts providing an extremely reliable heat recovery device. Because this is a static device, there is virtually no leakage between air streams. The edges of each plate are folded and sealed with a silicone based sealant. Ribbed, high quality aluminum plates are used providing straight-through air flows minimizing the air pressure drop and thereby minimizing electrical costs of the fans.