ABSOLUTAIRE

Pure and Simple Solutions

Energy Recovery

Energy-Saving Heat Recovery for Make-Up Air Systems

- *Capture sensible energy from the exhaust air stream*
- *Reduce energy costs by pre-heating fresh outside air*
- *Maximize results with high-efficiency heat exchangers*

Energy recovery adds even more value to AbsolutAire® direct-fired heating, ventilating and make-up air systems. Already considered top solutions for low cost and high efficiency, AbsolutAire's AA-Series and R-Series systems can be built with heat exchangers that recover waste heat from facility processes to pre-heat fresh outside air for the building supply air. This helps cut energy costs by reducing the heating load and both fuel and electrical usage. Based on specific application and performance requirements, plate-to-plate heat exchangers, heat pipes or run-around recovery coils may be used.

Plate Heat Exchangers

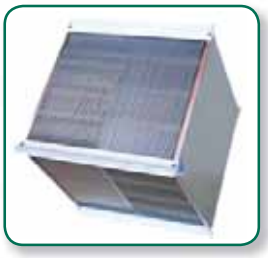
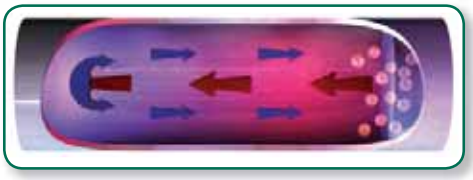


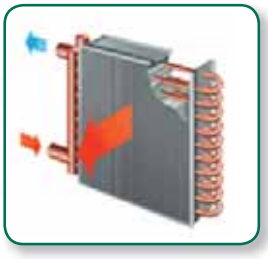
Plate-to-plate heat exchangers prevent cross-contamination of exhaust and supply air streams, and provide 60 to 65% efficient energy recovery. They work by transferring sensible heat (dry bulb only) from the warmer exhaust air to the cooler make-up air for the space. These are typically aluminum, but epoxy coatings and stainless or aluminized steel are available for extreme temperatures or corrosive conditions. This heat-recovery option has no moving parts.

Heat Pipes



Heat pipes allow very little cross contamination of the exhaust and supply air streams, and provide heat-recovery efficiencies up to 75%. They work by using a phase change of environmentally friendly refrigerants to transfer sensible-heat energy from the exhaust air to the incoming make-up air. As with plate heat exchangers, this option does not require additional moving parts.

Run-Around Recovery Coils



Heat-recovery coils also prevent cross contamination of the exhaust and supply air, but they provide less efficiency depending on the distance between the two air streams and the amount of glycol in the system. Exhaust heat is transferred through coil fins to the glycol solution that is pumped between the exhaust and pre-heat coils. This option requires a pump and field piping between the exhaust-air coil and the make-up air pre-heat coil.

Heat Recovery Installations

High-efficiency energy recovery is available on all AbsolutAire AA-Series and R-Series models used in heating, ventilating and make-up air systems. Available options include:

- ▲ By-Pass Dampers for Seasonal Operation
- ▲ Electronic or DDC Temperature Controls
- ▲ Supply-Air Fan and Exhaust-Air Fan in a Single Unit

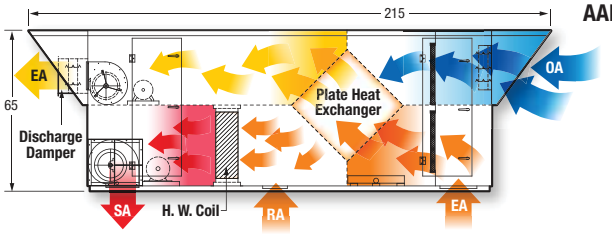
Actual AbsolutAire heat-recovery installations are shown here. AbsolutAire customer service and engineering support can provide system performance and dimensional information on specific project requirements.

Plate Heat Exchanger

Praxair – *St. Louis, Missouri*

- ▲ AA-Series Unit
- ▲ Hot-Water Coil for Primary Heat
- ▲ 5,000 CFM Supply Air
- ▲ 3,000 CFM Exhaust Air
- ▲ 2,000 CFM Return Air

AAI #23470

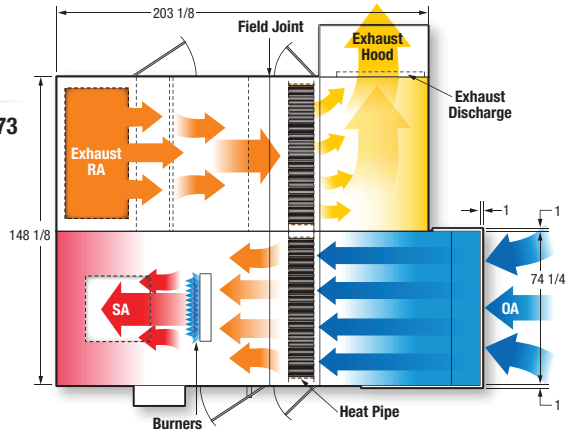


Heat Pipe

Hershey Foods – *Edvardsville, Illinois*

- ▲ AA-Series Unit
- ▲ Direct Gas-Fired Burner for Primary Heat
- ▲ Two-Speed Fan Operation
- ▲ 24,000/7,200 CFM Supply Air
- ▲ 24,000/12,000 CFM Exhaust Air

AAI #19373

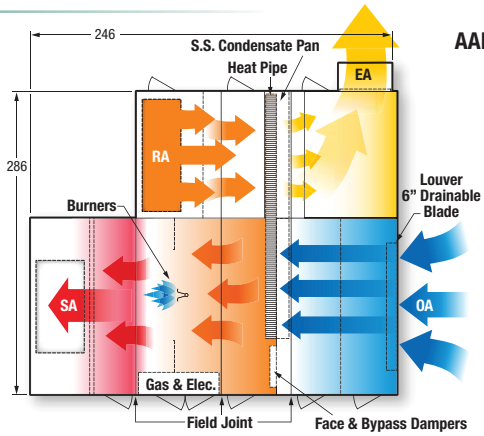


Heat Pipe

Continental Tire – *Mount Vernon, Illinois*

- ▲ R-Series Unit
- ▲ Direct Gas-Fired Burner for Primary Heat
- ▲ 40,000 CFM Supply Air
- ▲ 40,000 CFM Exhaust Air

AAI #21894



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Represented By:

5496 North Riverview Drive • Kalamazoo, MI 49004
Phone: (800) 804-4000 • Fax: (269) 382-5291
www.absolutaire.com

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