TrilliumSeries™

Condensers & Fluid Coolers

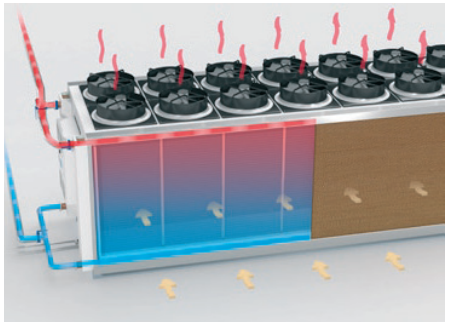
BAC AUSTRALIA

TrilliumSeries™ Products

Delivering the smartest heat rejection solution available today through the use of:

- ✓ Whisper quiet fans
- ✓ On-demand adiabatic precooling system
- ✓ EcoFlex Controls
- ✓ State of the art high efficiency (VSEC) drives

On-Demand Adiabatic Precooling System



Dry Mode

When operating in Dry Mode, warm condenser water (or refrigerant) enters the heat exchanger. Fresh air is drawn through the pads and heat exchanger coils to effectively reject heat from the system.

Wet Mode

When the ambient temperature is too high to sufficiently reject the required heat load, the unit automatically switches to Wet Mode.
The evaporative pads are wetted via the water distribution system to pre-cool the air before it passes through the heat exchanger coils. This increases the amount of heat the air can extract from the coil and in turn increases the capacity of the unit.

Ecoflex Controls

The TrilliumSeries™ is furnished standard with state of the art EcoFlex Controls that provide efficient year round performance. Each unit is shipped with custom controls logic that reduces energy consumption and optimizes water usage. The system is pre-programmed and ready to operate upon arrival from the factory.

Optional energy monitoring and alarm packages are available as described below:

Energy Monitoring - Measures the energy use of the TrilliumSeries™ Condenser and verifies efficient operation over the life of the equipment.

Water Monitoring - Measures the water use and maintains efficient operation of the unit.

Alarms - Signals provided for fans, pumps, or valves to reduce instances of high leaving water temperature (or system head pressure).

Communications Cards - Allows for seamless integration over Modbus and BACnet to monitor all system components in a single location.

TrilliumSeries™ Condenser

The TrilliumSeries™ Condenser uses a patented Dry-Coil Adiabatic™ Design that saves energy, reduces refrigerant charge, and lowers operating costs. With the use of proprietary logic and EcoFlex controls, the On-Demand Adiabatic™ Pre-Cooler uses water only on the hottest days to maintain condensing temperatures that typical air cooled technology cannot achieve.

Because of this, the TrilliumSeries™ Condenser is the lowest total cost of ownership product for supermarket refrigeration systems.

REDUCES SYSTEM ENERGY

- Up to 35% annual system energy reduction
- Up to 42.9% peak energy reduction
- Direct drive VSEC motors minimize fan energy required

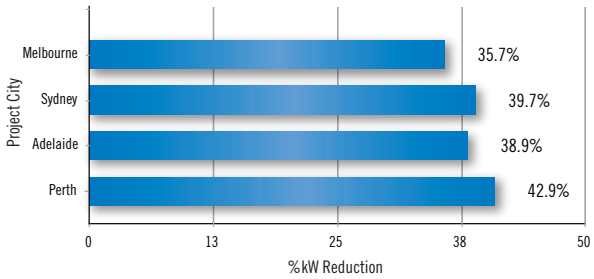
REDUCES INSTALLATION COST

- 60% lower refrigerant charge
- Reduces overall system size by operating at lower condensing temperatures

PROVIDES LONG TERM RELIABILITY

- UL Approved Unit
- Coated Microchannel coils tested per ASTM G85-A4 for 3000+ hours
- Industrial grade Type 304 Stainless Steel and an exclusive Thermosetting Hybrid Polymer coating on all structural panels

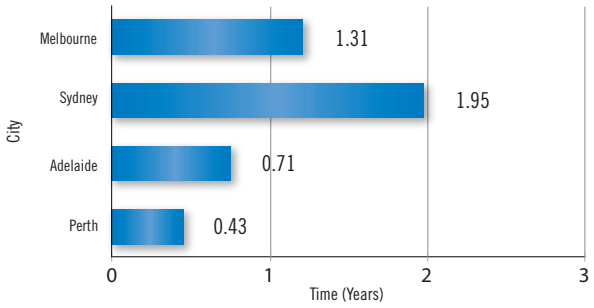
Average Peak Energy Reduction in %kW by City



Friendly on the pocket and the environment

Not only does a system using the TrilliumSeries™ Condenser use significantly less energy, it also requires only 60% of the refrigerant charge of system using a standard air cooled condenser. This lower refrigerant charge translates to lower greenhouse gas emissions. With the increasing prices of refrigerant this is also an area of significant up front and ongoing cost saving.

Average Payback Period by City vs. EC Dry Condenser



CO_2 Suitable

The TrilliumSeries™ Condenser empowers transcritical CO_2 applications throughout Australia by significantly reducing the achievable coil air on temperature.

Climate Limitation of CO_2 Systems with Air Cooled Condensers

TrilliumSeries™ Condenser Expands CO_2 Applications

TrilliumSeries™ Fluid Cooler

The TrilliumSeries™ Fluid Cooler features a Dry-Coil Adiabatic™ Design coupled with proprietary logic and customised Ecoflex controls. These features save water and prevent the need for any water treatment by minimising the risk of Legionella. In addition they also boost thermal performance compared to standard dry-coil products.

Because of this the TrilliumSeries™ Fluid Cooler is ideal for small to medium HVAC and industrial applications or where limited water or space is available.

The TrilliumSeries™ Fluid Cooler offers a range of environmental benefits.

- Minimising the risk of Legionella
- Significantly reduced water consumption (up to 70%)
- No chemical water treatment required
- Removing the issues of compliancy (RMPs and regular audits)

Boosting thermal performance

- Pads in front of the finned coil pre-cool the air close to wet bulb temperature with up to 40% improved capacity compared to dry cooling.
- TrilliumSeries™ coolers consume less energy and achieve lower process temperatures.

Water Savings

Due to the patented design, water is only used when it is absolutely necessary, resulting in water savings of up to 70% compared to conventional cooling towers. Operating as a closed circuit system also ensures the condensing loop stays clean as well as helping to ensure fine mists that could pose a health risk to others are limited.

Top Hygiene Control

- Featuring a water recirculation system and controls to eliminate stagnation of water.
- No aerosol formation, TrilliumSeries Coolers minimize the Legionella risk.
- TrilliumSeries™ Coolers cool incoming air without transferring water to the dry coil, preventing premature coil corrosion.

Typical Applications

- Data Centres
- Health Care
- Process Cooling