



# Trane Creative Solutions

Waterside Economizers

Air-Cooled Chillers with Waterside Economizer, 20-500 Tons



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## Waterside Economizers

Trane Creative Solutions, located in Grand Rapids, Michigan, has been providing special features for Trane HVAC equipment since 1997. In 2009 we introduced the Waterside Economizer Option and it quickly became a main product. Our integrated design minimizes system footprint, saving valuable real estate at the site. Plus, field piping and wiring is simplified; and maintenance is reduced. It is also architecturally pleasing with optional louvers!

### How A Waterside Economizer Works:

When the ambient air temp is below the chilled water return temperature, the diverting valve opens and allows water to flow through the chilled water coils. After the water has been partially cooled by the cold air, the water will pass through the evaporator where the remaining cooling takes place. As the ambient temperature falls, the compressors will continue to unload, decreasing the amount of mechanical cooling needed until the compressors are no longer needed and full capacity is attained with the chilled water coils alone. Pressure drop from the coils can be removed from the system by replacing the 3-way valve with a small pump placing the waterside economizer coils into a secondary loop configuration. Full or partial capacity options are available. This modification is available on CGAM, RTAC, RTAE, and RTAF.

### Waterside Economizer Benefits:

Full cooling capacity is typically between 15-25°F depending on chiller size and entering water temperatures. Partial capacity is attained any time the ambient temperature is below the chilled water return temperature (custom capacities available). Full capacity is available at low ambient temperatures down to -20°F with no compressors running.

Waterside Economizer (WSE) modifications through Trane CST offer single source responsibility. No additional field piping or controls are required. WSE will reduce compressor wear and tear by not running them in cold weather. WSE offer reduce space requirements versus dry coolers. Factory control over components and quality allows for high product expectations. Customized condenser fans facilitate nominal airflow at reduced noise.

There's a cost-savings any time ambient temp is below chilled water return temp. Customers find that payback is normally one to three years depending on climate and run time.



Waterside Economizer with System Pumps and Load Tank



Waterside Economizer on Underground Data Center Site



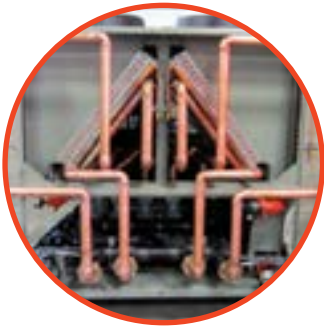
3" Spacing Between Coils for Increased Cleanability

## Quality Components and Custom Features:

- Custom Water Coils
  - Engineered for Each Application Based on Required Performance
  - Standard or High Capacity
  - Balancing Valves on Each Coil
  - Optional Coatings
- 3-Way Diverting Valve or Waterside Coil Pump
- Quiet, High-Airflow Condenser Fans
- Welded Steel & Copper Construction
- Integral Controls LON-BACNET
- Partial or Full Architectural Louvers
- Optional Integral Pump Packages
- Optional Acoustical Attenuation



Balancing Valve per Coil to Ensure Optimal Flow



RTAC with Waterside Economizer



3" Gap for Coil Cleaning



CGAM with Waterside Economizer

Learn more at [trane.com](https://trane.com)



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