



Trillium™ Adiabatic Cooler TRFS



Maximize compute. Minimize water. Deploy with certainty.



For the most up to date information, visit
www.BaltimoreAircoil.com/TRFS

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Trillium™ Adiabatic Cooler TRFS



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The Trillium™ Adiabatic Cooler TRFS combines BAC's proven adiabatic design with patented intelligent controls to deliver an added performance boost when dry cooling alone may not be enough. Backed by thousands of adiabatic installations worldwide, the TRFS helps data center operators achieve lower fluid temperatures, reduce peak power demand and PUE, minimize water consumption, and increase free cooling opportunities.

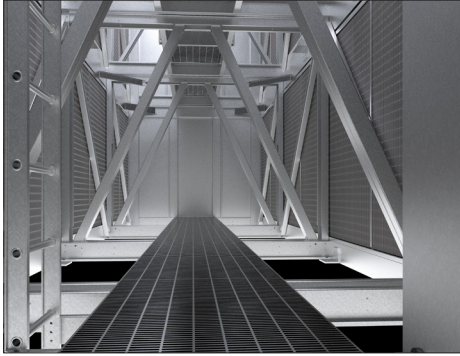
Why Adiabatic?

- Meet design day requirements without oversizing chillers or infrastructure
- Enable lower fluid temperatures required for high-density chips
- Reduce peak power demand by minimizing compressor reliance and maximizing free cooling
- Mitigate air recirculation impacts and preserve cooling capacity in large deployments

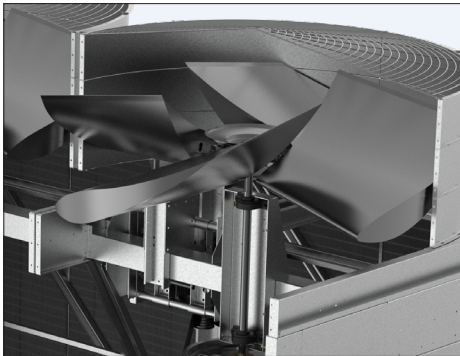
Adiabatic // Axial Fan // Controls



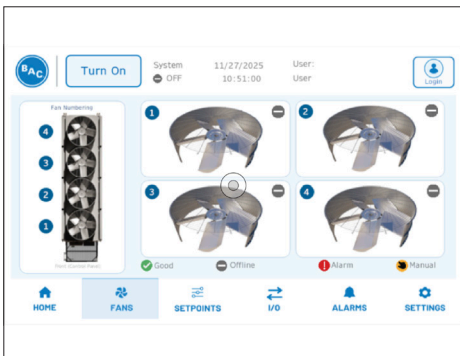
Trillium™ Adiabatic Cooler TRFS Benefits



Upper and lower internal service platforms for ease of maintenance



Whisper Quiet™ fans reduce sound by up to 13 dBA



Intuitive and intelligent controls with troubleshooting

Accelerate Deployment

- Proven ability to meet aggressive build schedules
- Global manufacturing and redundancy
- Reliable lead times and delivery execution
- Pre-configured design reduces engineering cycles
- In operation at multiple hyperscale and colocation data centers

Minimize Water Use

- Designed for low annual water consumption
- Configurable to meet application priorities
- Helps address key site considerations such as: water-constrained locations, permitting challenges, and sustainability commitments

Scale Efficiently

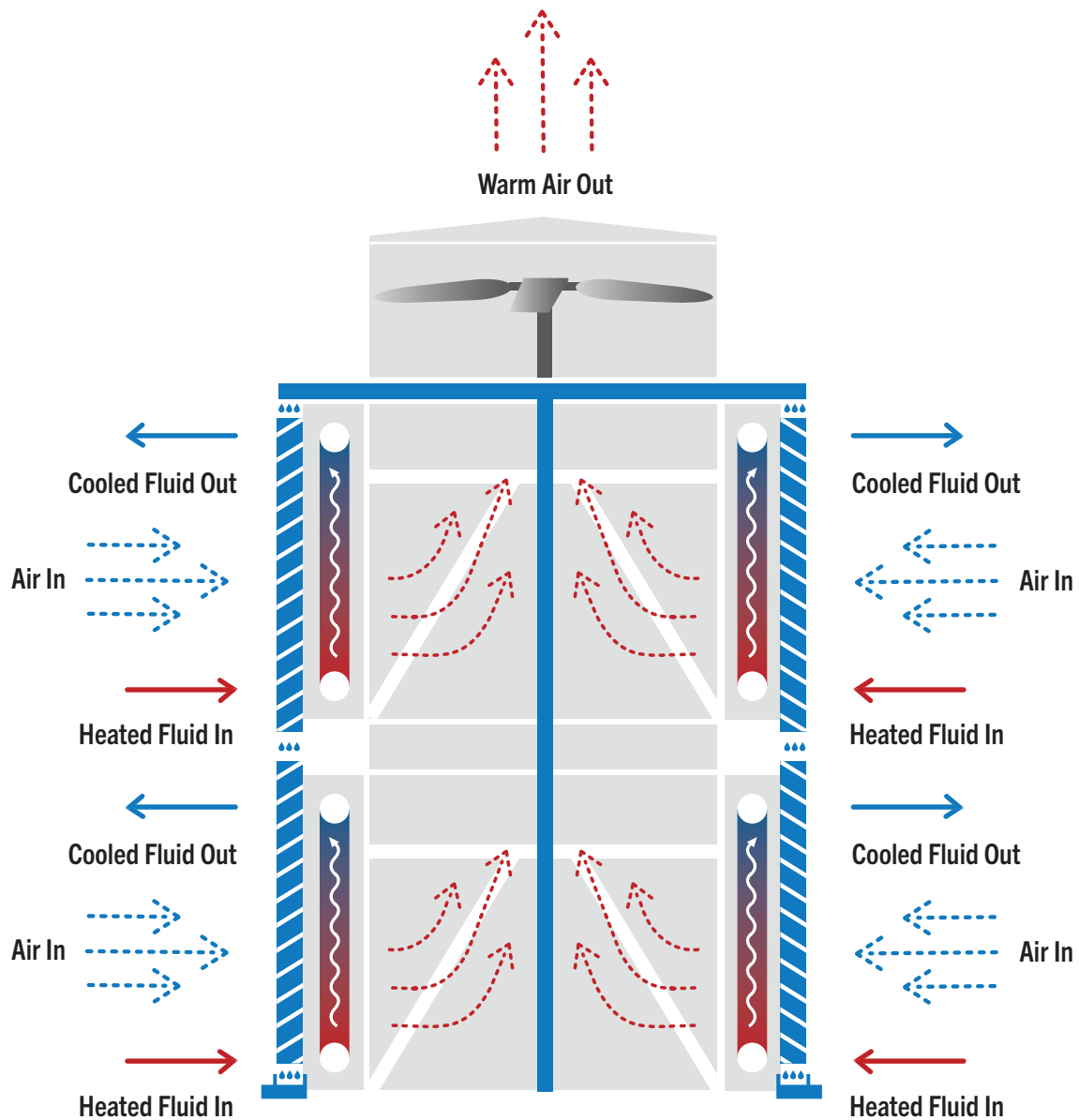
- Larger capacity per unit vs. dry coolers
- Fewer units mean fewer electrical, piping, and structural connections
- Optimized for modular central utility plant (MCUP) deployments (10-20 MW blocks)
- Better capacity per footprint and per HP
- Lower layout complexity and installation time

Increase System Flexibility

- Supports water-cooled chiller and chiller-less designs
- Enables chiller downsizing or elimination
- Integrates with direct-to-CDU cooling strategies
- Extends free cooling and reduces compressor dependence

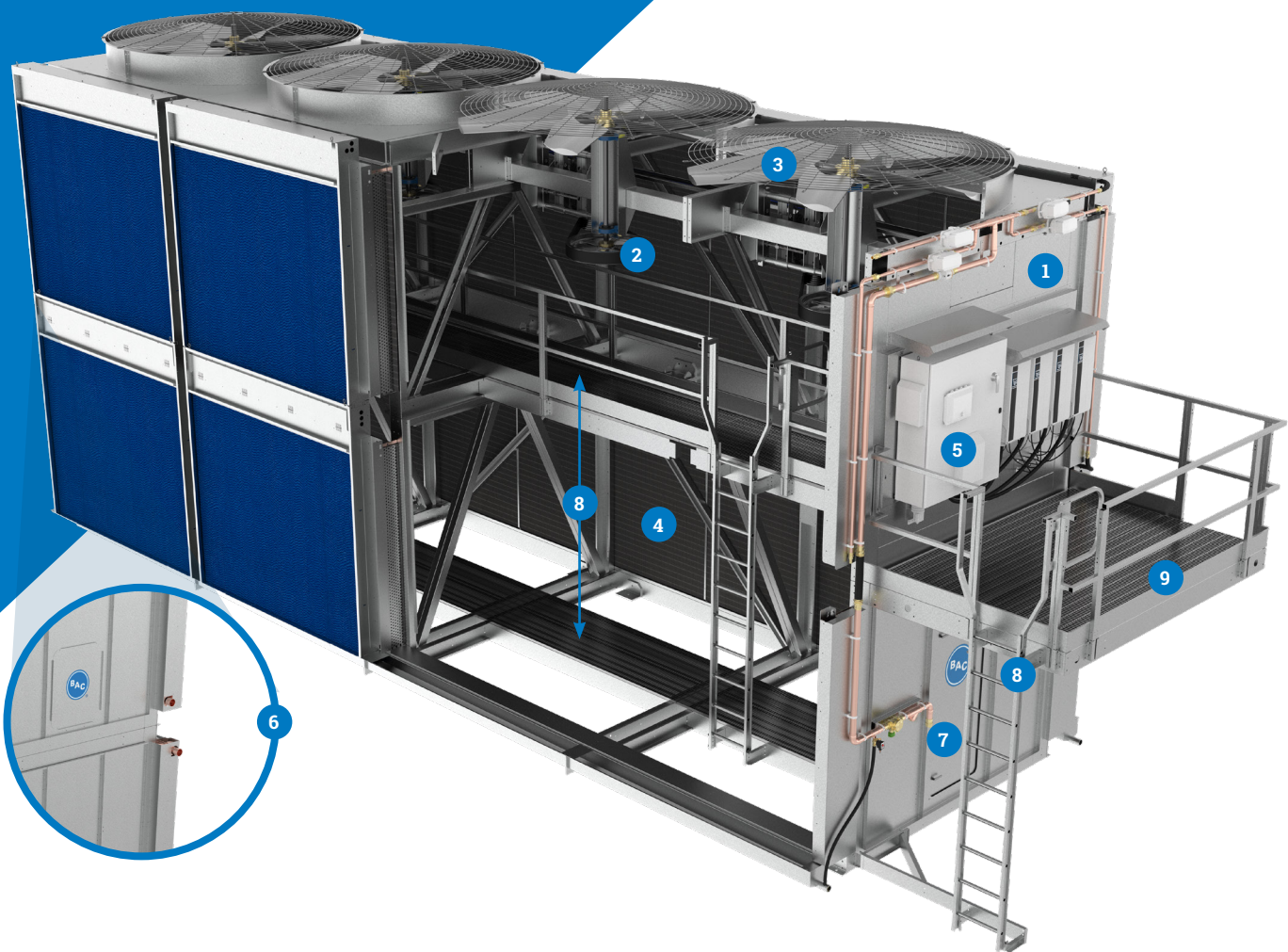
Fit Real-World Sites

- Meet strict sound requirements with optional Whisper Quiet™ fans
- Automatic night-quiet operation
- Lower steel support requirements
- Supports dense site layouts without compromising performance



Trillium™ Adiabatic Cooler TRFS Principle of Operation

Trillium™ Adiabatic Cooler TRFS



1 Heavy-Duty Construction

- G-235 mill galvanized steel panels
- Meets seismic and wind requirements for International Building Code

2 BALTIDRIVE® Power Train

- Premium quality, solid-backed, multi-groove belt
- Corrosion-resistant materials of construction
- Heavy-duty bearings L₁₀ 100,000 hours
- Premium efficient/inverter duty motors are standard 7-year motor warranty⁽¹⁾; 5-year warranty on drive components

3 Axial Fans

- Multiple fans for reliability, consistent cooling, and limited downtime
- Quiet operation
- High efficiency
- Corrosion-resistant aluminum
- For sound sensitive sites, optional Whisper Quiet™ fans provide superior performance with up to 13 dBA reduction

4 Adiabatic Pre-Cooling System

- Factory-installed pads with protective coating for longevity
- Wetted pads provide high-efficiency pre-cooling when needed
- No recirculation pump required

5 Intuitive and Intelligent Controls

- Optimizes unit operation by balancing energy and water use
- Easy access for maintenance and troubleshooting

6 Single-End Coil Connections

- Reduce installation time

7 Convenient Access Door

- An inward hinged access door allows easy access to the interior of the unit under the fans

8 Upper and Lower Internal Service Platforms

- Easy access to all drive components for maintenance

9 External Control Platform

- Pre-assembled, provides access to control panel HMI components



NOTE:

1. Motors are warranted for 7 years from date of shipment when space heaters are field wired at time of initial installation

Trillium™ Adiabatic Cooler TRFS

Up to 10,000 MBH^[1] // Adiabatic // Axial Fans // Controls

Features & Options	Description
MATERIALS OF CONSTRUCTION	
G-235 Galvanized Steel	Universally recognized for its strength and durability
COILS	
Dry Coils	Dry coils constructed of copper tubes with aluminum fins, available in different configurations available to optimize pressure drop and performance
Coated Fins	Coated fin stock provides additional protection when required for harsh environments
DRIVE SYSTEM	
BALTDRIIVE® Power Train	Belt-driven system with a multi-groove and cast aluminum sheaves; reliable and easy to maintain
Electronic Vibration Cutout Switch	Protects against rotating equipment failure, 1 for each fan
FANS & SOUND	
Axial Fans	The axial fans optimize low sound levels and maximize thermal performance; models have multiple fans for redundancy
Whisper Quiet™ Fans	Reduces sound up to 13 dBA
CONTROLS	
Intuitive and Intelligent Controls	- Automatically balance water and energy use - Multiple communication protocols including BACnet and Modbus allow for quick and easy systems integration for network compatibility and security - Reduce on-site labor requirements and ensure on-time commissioning with simple plug-and-play comprehensive smart controls - NEMA 4 UL controls panel and VFDs are ready to install with single point wiring, HMI guided menu and push button start up - Night quiet operation automatically optimizes performance and sound during overnight hours - Instant troubleshooting directly from the control panel
ANCHORAGE	
Installation on Concrete Slab	The unit is designed to be placed directly on the concrete slab
Installation on Steel Supports	For units installed on structural steel, a steel floor is available to prevent air bypass when the unit is raised
ACCESS	
Large Internal Plenum Area for Access	A 6' H x 2.5' W hinged access door provides instant access to the interior of the unit for maintenance and inspection.
Upper and Lower Internal Service Platforms	The lower platform is a walkway that provides access to inspect the coils. There is also a ladder from the lower walkway to the upper platform for easy entry to all drive components for maintenance.
External Control Platform^[2]	Pre-assembled, provides access to control panel and HMI components
Door Access Platform	If the unit is installed on structural steel, the door to the interior of the unit is equipped with an access platform
ADIABATIC MODULES	
Adiabatic Modules	Different configurations are available to meet customer needs

Standard

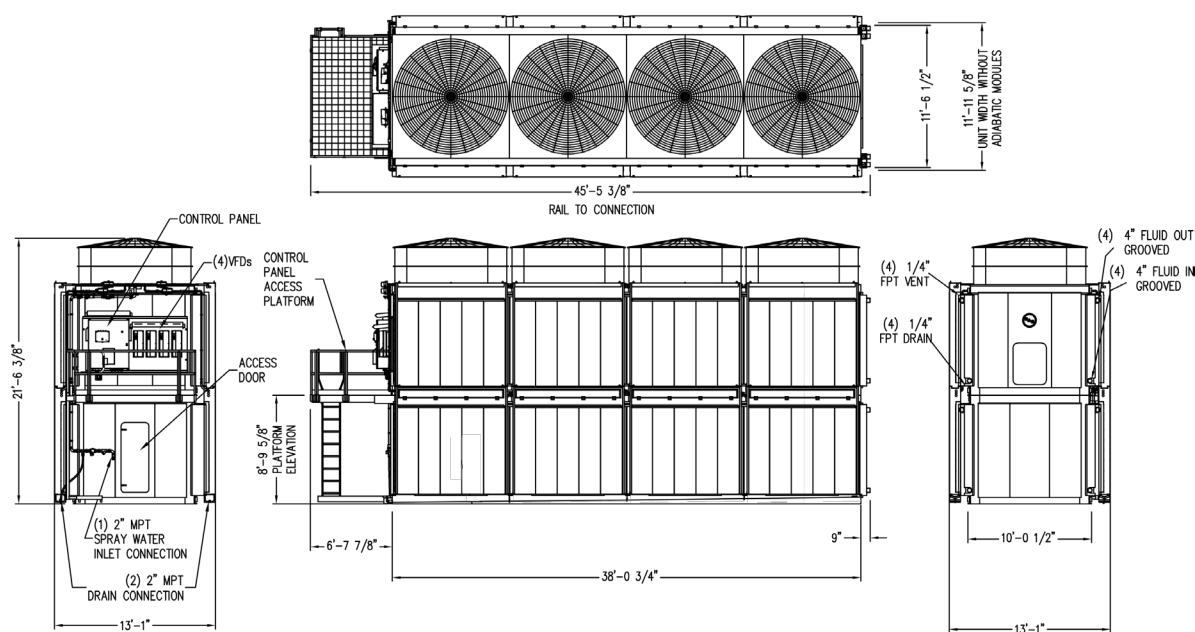


NOTES:

1. Nominal capacity based on a 115° F EWT and 105° F LWT at a 95° F dry bulb temperature.
2. Standard option for units installed on a concrete slab. For units installed on steel supports, there is a structural steel floor and no lower walkway.

Trillium™ Adiabatic Cooler TRFS Engineering Data

Model Number	Fan Qty	Total HP	Shipping Weight (lbs)	Operating Weight (lbs)	Unit Length (L)	Unit Width (W)	Unit Height (H)
TRFS1238N-C80EQ20BAX	4	80	55,208	65,187	45'-6"	13'-1"	19'-6"
TRFS1238N-C80EQ25BAX		100	55,368	65,346			
TRFS1238N-C80EQ30BAX		120	55,645	65,623			
TRFS1238N-C80EQ40BAX		160	56,780	66,758			
TRFS1238N-C80EQ20BWX		80	57,159	67,137			21'-6"
TRFS1238N-C80EQ25BWX		100	57,598	67,577			
TRFS1238N-C80EQ30BWX		120	57,118	67,096			
TRFS1238N-C80EQ40BWX		160	58,137	68,115			



NOTES:

- For specific selections, please contact your local BAC Representative.
- Additional models available with lower water consumption.

Do not use for construction. Refer to factory certified dimensions. This catalog includes data current at the time of publication, which should be reconfirmed at the time of purchase. Up-to-date engineering data, free product selection software, and more can be found at BaltimoreAircoil.com.