



Cooling Towers



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BAC offers the most complete line of factory assembled cooling towers in the world. With over 70 years of experience designing and manufacturing cooling towers, we have a unit to meet your application.



THE BEST STOP FOR...

- ✓ Over 70 years of experience
- ✓ Capacities ranging from 42 - 6,538 kW in a single unit
- ✓ Factory assembled accessories that reduce field labor
- ✓ A large variety of footprints and air inlet configurations

THE ONE STOP FOR...

- ✓ Shake table tested units, guaranteeing operability after a seismic event
- ✓ Units that meet wind and seismic requirements of 2009 International Building Code as well as have OSHPD approval
- ✓ Rugged material of construction
- ✓ CTI Certified peace of mind

Unique Features

	SERIES 3000	PCT
Model		
Flow and Fan System	Crossflow, Induced Draft, Axial Fan	Counterflow, Induced Draft, Axial Fan
Cataloged Capacity Range	868 - 6,538 kW*	256 - 5,497 kW*
UNIQUE FEATURES	<ul style="list-style-type: none"> • Shake table tested up to a S_{DS} of 3.50g at grade • Meets wind and seismic requirements for the 2009 International Building Code (IBC) • IBC compliant for critical buildings • Piping flexibility • Redundancy using the BALTIguard™ Fan System • Reliable year-round operation • Low sound options 	<ul style="list-style-type: none"> • Unparalleled access • Reduced footprint for small to medium applications • Reliable year-round operation • Low sound options • Piping flexibility • Easy maintenance with motors and drives located outside of discharge air stream • High efficiency, low kW axial fans

*kW defined as cooling water from 35°C to 29.5°C at a 24°C EWB

SERIES V	LOW PROFILE VTL	
		Model
Counterflow, Forced Draft, Centrifugal Fan	Counterflow, Forced Draft, Centrifugal Fan	Flow and Fan System
70 - 7,114 kW*	42 - 1,000 kW*	Catalogued Capacity Range
<ul style="list-style-type: none"> • Indoor applications • High temperature industrial applications • Suitable for sound sensitive applications • Redundancy using the BALTIGUARD™ Fan System • Split fan housing eases replacement of fan or fan shaft • Easy maintenance with motors and drives located outside of discharge air stream 	<ul style="list-style-type: none"> • Installations with low height requirements • Indoor applications • High temperature industrial applications • Redundancy using the BALTIGUARD™ Fan System • Suitable for sound sensitive applications • Single piece shipping and rigging 	UNIQUE FEATURES

*kW defined as cooling water from 35°C to 29.5°C at a 24°C EWB



Series 3000



The Series 3000 Cooling Tower is the industry standard for factory assembled cooling tower jobs, both large and small. With its low environmental impact design and a capacity range of 868 - 6,538 kW in a single cell, the Series 3000 is the solution for all of your project needs. Featuring reliable year-round operation, durable construction, ease of maintenance, and low energy consumption, the Series 3000 is the right choice for all of your cooling tower applications.



Two-cell Series 3000 with Single Inlet Connection

LOW ENVIRONMENTAL IMPACT

- ✓ Energy efficient
 - Fan motors meet MEPS2 2006 efficiency requirements as per AS1359.5.
 - Gravity distribution system with low pump head requirements
 - BALTIGUARD™ Fan System provides redundancy and energy savings by providing a pony motor (optional)
- ✓ Sound Reduction Options
 - Standard fan is high efficiency and low sound
 - For further reduced sound levels, Low Sound Fans, Whisper Quiet Fans, and sound attenuation are available (optional)

RELIABLE YEAR-ROUND OPERATION

- ✓ Separate air inlet louvres allow for easy visual inspection of air-water interface
- ✓ BALTIDRIVE® Power Train fan system:
 - No minimum fan speed is required
 - No gear oil heaters are needed
- ✓ Cooling tower duty motors designed for hostile environments

DURABLE CONSTRUCTION

- ✓ Casing panels constructed of corrosion resistant FRP with rigid frame construction
- ✓ Seismically verified through dynamic shake table testing up to a S_{DS} of 3.50g at grade
- ✓ Meets wind and seismic requirements of the 2009 International Building Code (IBC)
- ✓ Enhanced longevity with a variety of durable materials of construction (see page 15 for details)

EASY MAINTENANCE

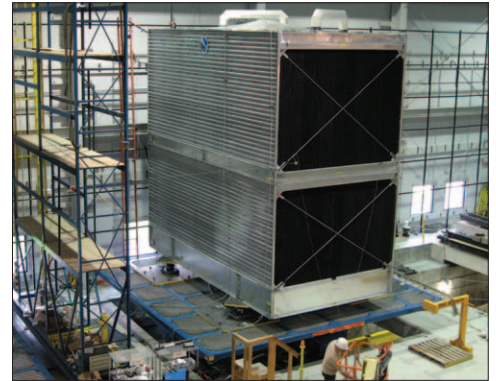
- ✓ Crossflow configuration provides direct access for easy maintenance to the cold water basin, hot water basin, and drive system
- ✓ BALTIDRIVE® Power Train uses state-of-the-art technology to ease maintenance
- ✓ Patented hygienic cold water basin is sloped at the air inlets to eliminate stagnant water and reduce biological growth
- ✓ The fill surface is elevated above the sloped cold water basin floor to facilitate flushing of dirt and debris from this critical area
- ✓ Combined inlet shields minimise sunlight, helping to reduce the potential for algae growth in the cold water basin
- ✓ Louvre face platforms, internal service platforms, and internal walkways facilitate maintenance (optional)

EASY INSTALLATION

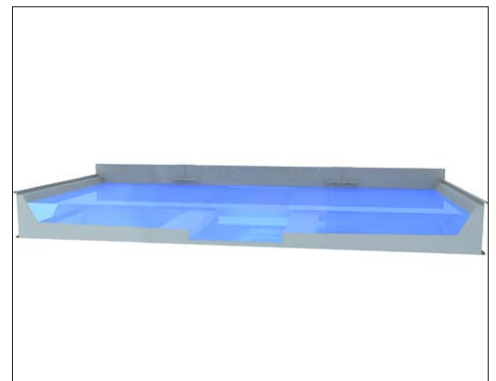
- ✓ Basinless construction ability (optional)
- ✓ Simple steel design and layout flexibility
- ✓ Inlet and outlet piping flexibility
- ✓ EASY CONNECT® Piping Arrangement reduces installation costs by eliminating overhead piping and piping support requirements (optional)



Note: Series 3000 has basinless construction ability and serves as a great replacement for field erected towers.



Shake Table Tested Series 3000 with Combined Inlet Shields



Patented Hygienic Cold Water Basin



Optional Louvre Face Platforms



PCT



The PCT brings you the most respected counterflow, induced draft cooling tower in the industry. Being CTI certified and engineered with input from end users, the PCT's design highlights BAC's commitment to performance, ease of maintenance, low installation costs, reduced energy consumption and durable corrosion resistant construction. Offering a compact footprint for low to medium tonnage requirements, the PCT provides an efficient solution for installations with space constraints. With unparalleled access to the complete unit interior, the PCT makes routine inspection and maintenance easier than ever before.



Customised Access

LOW ENVIRONMENTAL IMPACT

- ✓ Energy Efficient
 - Fan motors meet MEPS2 2006 efficiency requirements as per AS1359.5.
 - High efficiency axial fans as standard.
- ✓ Sound Reduction Options
 - Standard fan optimises sound and thermal performance.
 - For further reduced sound levels, Low Sound Fans, and splash water silencers are available.
- ✓ AS3666 Compliance
 - Sloping cooling tower basin allows for free draining.
 - Smooth internal surfaces to facilitate cleaning.
 - Quick fill connection for easy and fast refilling after cleaning.



Standard High Efficiency Fan

EASY MAINTENANCE

- ✓ Access to complete unit interior through the large access panel.
 - Fill
 - Spray system (branches and nozzles)
 - Eliminators
- ✓ On belt drive units the motor is fitted outside the airstream for easy access and adjustment.
Externally mounted shaft bearing grease nipples are also provided in this location for easy access.
- ✓ Hinged belt guard.
- ✓ Basin accessible from all sides via removal of the air intake louvres requiring no tools.
- ✓ Easy access to float valve and strainer for inspection.
- ✓ Sloped cold water basin for easy cleaning.
- ✓ External platforms and ladders improve accessibility (option).
- ✓ Basin sweeper piping to facilitate sediment removal (option).



Easy Access

RELIABLE AND DURABLE CONSTRUCTION

- ✓ Belt drive power train fan system
(Except direct drive for PCT0505, PCT0606, PCT0707, PCT0710).
- ✓ Automatic bearing greasers (option).
- ✓ Enhanced longevity with a variety of materials of construction (see page 11 for details).
- ✓ Superior pultruded composite construction.



Eliminator Removal

LOW INSTALLED COST

- ✓ Highly configurable.
- ✓ Models ship in multiple sections to optimise the size and weight of the heaviest lift, allowing for use of smaller, less costly cranes.
- ✓ Fully assembled, containerisable units.
- ✓ Factory pre-assembled platforms reduce installation time (option).
- ✓ Knockdown units available for field assembly.



Modular Construction



Series V



Series V Cooling Towers provide solutions to some of the most challenging cooling scenarios. Suitable for applications where external duct work and other sources of external static pressure exist, the Series V units can be used in indoor and outdoor applications.



VT1 Installation



VTL Installation

FLEXIBLE INSTALLATION

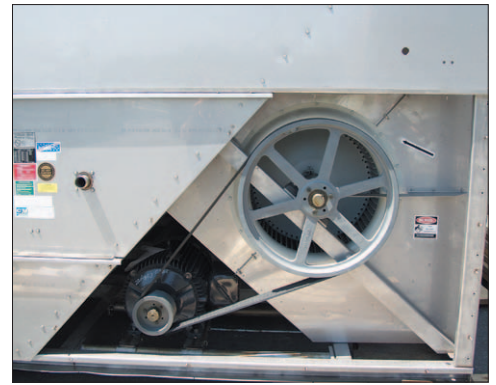
- ✓ Centrifugal fans are suitable for applications where external duct work and other sources of external static pressure exist
- ✓ Can be located indoors
- ✓ Low profile VTL fits well into mechanical equipment rooms with low ceilings and is easily hidden behind louvred walls on buildings

LOW ENVIRONMENTAL IMPACT

- ✓ Energy efficient
 - Fan motors meet MEPS2 2006 efficiency requirements as per AS1359.5.
 - BALTIGUARD™ Fan System provides redundancy and energy savings by providing a pony motor (optional)
- ✓ Sound Reduction Options
 - Centrifugal fans have inherently low sound characteristics
 - Factory designed sound attenuation is available for both the air intake and discharge (optional)
 - Particularly sound sensitive areas can be accommodated by facing the quiet blank-off panel to the sound sensitive direction

EASY MAINTENANCE

- ✓ Fans, motors, and drive system are located outside of the moist discharge air stream, protecting them from moisture, condensation, and icing while facilitating maintenance
- ✓ All moving parts are located near the base of the unit within easy reach for cleaning, lubrication, or adjustments
- ✓ Nozzles are non-clogging, reducing maintenance costs and ensuring efficient equipment operation
- ✓ Split fan housing for easy air moving component replacement



External Drive Access



BALTIGUARD™ Fan System (Optional)



Intake Sound Attenuation (Optional)

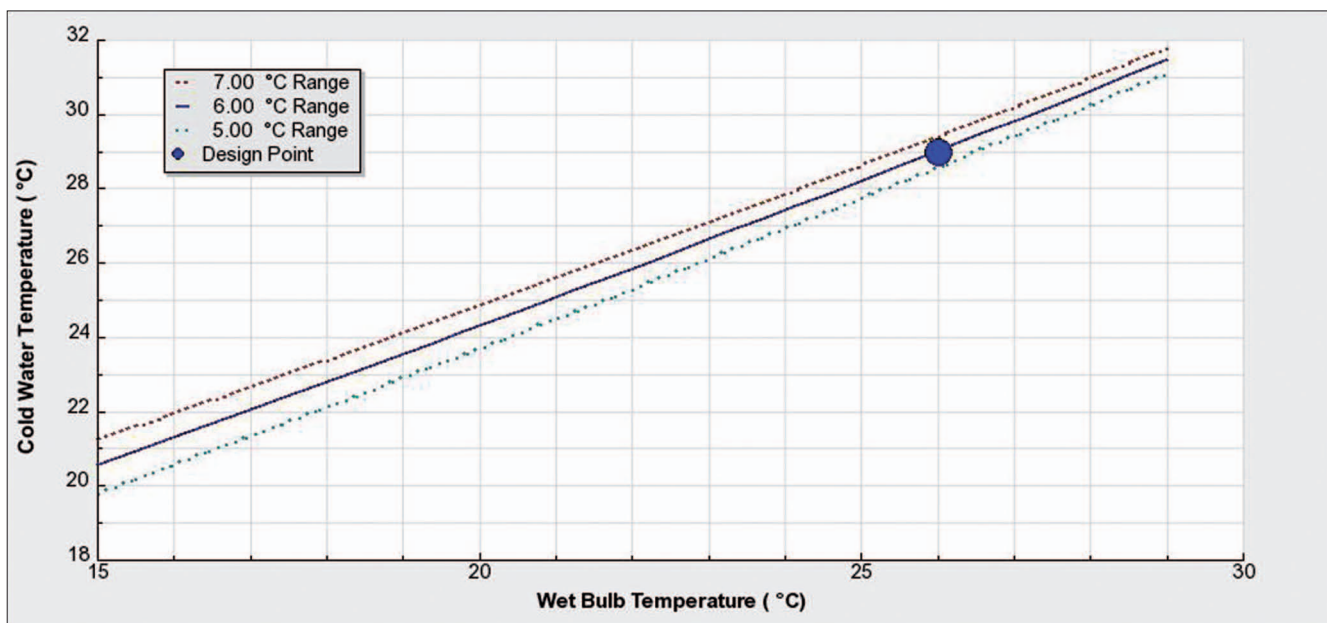


CTI Certification

THROUGH INDEPENDENT TESTING

The Cooling Technology Institute (CTI) is an independent body established in 1950 that provides certification for cooling tower products. CTI certification is recognised in the industry as the benchmark for cooling tower performance evaluation. Worldwide there are over 70 cooling tower lines making available 6,500 CTI certified models.

- To obtain CTI certification, the independent body tests a sample model of the product line and compares the results to published claims. Every year, a re-verification test is performed on another model within the product line to confirm that the as built product is faithful to original expectations.
- CTI certification is the only way to ensure performance claims are accurate without a costly field performance test.
CTI certification enables designers to reduce safety margins, while providing the peace of mind that the equipment will perform as specified.



Performance Graph



BAC Materials of Construction



BAC offers a variety of materials to meet the corrosion resistance, unit operating life, and budgetary requirements of any project.

- ✓ **Standard Construction** — Steel manufactured components are Next Generation Hot dip ZAM coated sheet steel providing superior corrosion protection to standard galvanised sheet. The PCT is constructed primarily of fibreglass reinforced polyester (FRP) and has been designed to be a highly corrosive resistant and durable cooling tower. All wetted steel parts in the PCT are SST304 with non-wetted components ZAM. See Product Spotlight document # MAR606 for more details on ZAM.
- ✓ **Type 304 Stainless Steel Construction** — BAC stainless steel units have panels and structural elements constructed of type 304 stainless steel. BAC testing and experience confirms that, when it comes to stainless steel, Type 304 stainless steel provides the best value for owners and operators. While some manufacturers are offering Type 301L stainless steel as an alternative, BAC has evaluated the lower cost alternative and determined it had a reduced level of corrosion protection, making it an unacceptable risk.
- ✓ **Type 316 Stainless Steel Construction** — For even more corrosion resistance suitable for highly corrosive environments Type 316 stainless steel is also available.



Example Installation

With its variety of material of construction options, BAC delivers units designed for long service life under any budgetary concern. For more information or selection assistance, please contact your local BAC Representative.

Product Comparison

ITEMS SHADED IN BLUE ARE BAC EXCLUSIVE FEATURES AND OPTIONS

Standard Features	Series 3000	PCT	SERIES V	VTL
Axial Fan	•	•		
Centrifugal Fan ^[1]			•	•
Large Plenum Area for Access	•			
Capacity Range (kW)	868 - 6,538	256 - 5,497	70 - 7,114	42 - 1,000
Shake Table Tested	3.50g			
MEPS2 2006 Compliant Fan Motors	•	•	•	•
BALTDRIIVE® Power Train	•			
Separate Air Inlet Louvres	•	•		
Fully Assembled Containerised Units for Export ^[2]		•	•	•
Construction Options				
Stainless Steel Construction	•	•	•	•
Options and Accessories				
Independent Fan Operation			•	
BALTIGUARD™ Fan System	•		•	•
Low Sound Fan	•	•		
Whisper Quiet Fan	•			
Intake Sound Attenuation	•		•	•
Discharge Sound Attenuation	•		•	•
Handrails with Ladder ^[3]	•		•	•
External Access Platform with Ladder ^[3]	•	•		
Internal Ladder and Service Platform	•			
Internal Walkway	•			
Gear Drive	•			
Basinless Unit Construction	•	•		
Indoor Applications			•	•
Low Ceiling Applications				•
Motor Removal System	•	•		
VR Stacks	•			
Codes and Standards				
CTI Standard 201	•	•	•	•
AS3666	•	•	•	•

Note 1: Centrifugal fan units can overcome ESP imposed by duct work or other restrictions. A larger fan motor may be required. Contact your local BAC Representative for selection and application assistance.

Note 2: Please contact your local BAC Representative to discuss containerisation options for certain box sizes.

Note 3: Safety cages are available on ladders when required by local safety standards.

Cooling Tower Solutions?

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