

ISO 9001
COMPANY



SERIES 3000 COOLING TOWERS

COOLING
TOWERS



EVAPORATIVE
CONDENSERS



CLOSED CIRCUIT
COOLING



THERMAL
STORAGE



Baltimore Aircoil



Thermal Performance Certified by the Cooling Technology Institute

BAC Series 3000 Cooling Towers

Proven Total Performance

BAC Series 3000 Cooling Towers meet the demands of today's industrial cooling, air conditioning, and refrigeration systems. Constructed with energy efficient components, these cooling towers deliver independently verified, fully rated thermal performance over a wide range of flow and temperature requirements. Years of operating experience and extensive research and development have resulted in standard design features that satisfy today's environmental concerns, minimize installation costs, maximize year-round operating reliability, and simplify maintenance requirements. Innovative performance-enhancing options and alternate corrosion-resistant materials of construction allow each unit to be customized to meet specific project requirements.



Series 3000 Cooling Towers

- Proven total performance
- Low energy consumption
- Long service life
- Low installed cost
- Reliable year-round operation
- Easy maintenance
- Five-year warranty on mechanical equipment

JE PREMIER SERIES® Construction

Where the ultimate in corrosion protection and long life is desired, Series 3000 Cooling Towers, provided with JE PREMIER SERIES® Construction, have all the benefits of the standard Series 3000, plus:

- Stainless steel components provide the ultimate in corrosion protection:
 - structural frame
 - welded cold water basin
 - mechanical equipment support
 - fan deck and cylinder
 - hot water basin and distribution covers
 - louver supports
- Exclusive BAC five-year Louver-to-LouverSM warranty on the entire unit



Proven Advantages

Low Energy Consumption

With increased environmental concerns and utility deregulation, low energy consumption is an important social issue as well as a significant economic consideration. Series 3000 Cooling Towers feature energy-efficient components that minimize power requirements. High efficiency BACross® Wet Deck Surface with integral eliminators provides maximum air/water contact time and low air pressure drop. Additionally, axial flow fans allow the fan horsepower to be approximately half that required by comparably sized centrifugal fan units. In addition, alternative low-horsepower models can be selected to further reduce fan power consumption.

The BALTIDRIVE® Power Train fan drive system, featured as standard on most Series 3000 Cooling Towers, allows fan energy consumption to be further reduced with the exclusive ENERGY-MISER® Fan System option. The ENERGY-MISER® Fan System employs two independent motors sized to provide energy savings superior to conventional two-speed motors and afford stand-by protection in the event of a motor failure (see page 10 for details).



Long Service Life



The high quality, heavy-duty steel frame construction of the Series 3000 Cooling Tower is designed to meet anchorage requirements for UBC 1997, Importance Factor 1.0, Seismic Zone 2B installations and wind loads up to 30 psf. Frame construction enables standard casing panels and air inlet louvers, which are critical links for long service life, to be constructed of corrosion-resistant, fiberglass reinforced polyester (FRP).

For applications where abnormally corrosive conditions exist, or extended equipment life is desired, Series 3000 Cooling Towers are available in a wide range of construction alternatives. Galvanized, BALTIBOND® Corrosion Protection System, or Type 304 Stainless Steel are available to meet the corrosion resistance, unit operating life, and budgetary requirements of any project (see page 8 for construction alternatives).

Low Installed Cost

All models mount directly to two parallel I-beams and ship complete with motors and drives factory-installed and aligned. Models 3728A through 31056A and 31132A through 31301A ship in two sections to minimize rigging requirements.

The modular concept of the Series 3000 Cooling Tower enables units to be easily multiplexed for larger installations, to provide a cost-effective alternative to field-erected products by eliminating the time and expense associated with site erection.

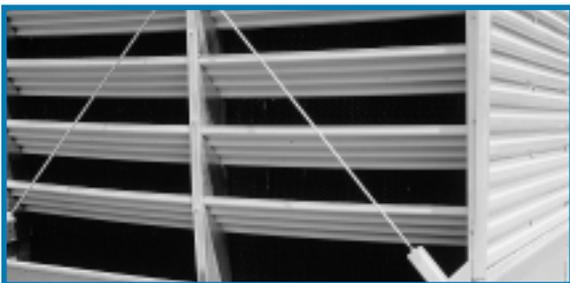
The optional EASY CONNECT® Piping Arrangement with BALANCE CLEAN® Chamber further reduces field maintenance and installation costs by eliminating overhead piping and piping support requirements.

Reliable Year-Round Operation



Series 3000 Cooling Towers provide reliable, trouble-free operation in all climates. The exclusive BALTIDRIVE® Power Train fan drive system is the result of over 60 years experience with cooling tower drive systems and has been proven in tens of thousands of installations in a wide variety of applications and operating conditions around the globe. Backed by a five-year fan drive and motor warranty, the BALTIDRIVE® Power Train utilizes special corrosion resistant materials of construction and state-of-the-art technology to ensure ease of maintenance and reliable year-round performance.

Separate air inlet louvers, a standard feature on all Series 3000 Cooling Towers, provide a critical function for reliable year-round cooling tower operation. In addition to ensuring uniform air distribution through BAC's patented BACross® Wet Deck Surface, separate air inlet louvers reduce the potential for excessive scale build-up and damaging ice formations at the air/water interface.



Easy Maintenance

To obtain optimum performance and maximum service life, it is important that cooling towers be designed to simplify routine cleaning and maintenance requirements. Crossflow cooling

towers provide a spacious plenum with easy access for visual inspections and maintenance. Oversized access doors in both end walls provide easy access to the unit interior to adjust the make-up float valve, clean the cold water basin and strainer, and service the fan drive system. The wet deck surface is elevated above a sloped cold water basin to facilitate flushing of dirt and debris from this critical area.

The water distribution system consists of gravity distribution basins with large orifice nozzles, which greatly reduce clogging and assure constant performance between maintenance intervals. When nozzle cleaning is required, each nozzle can be cleaned in place, or easily removed. Steel distribution system covers are supplied as standard on all Series 3000 Cooling Towers. This feature eliminates exposure of the water to airborne debris which reduces dirt accumulation in the distribution basins. The distribution basin covers are designed for a maximum concentrated live load of 200 pounds.



Maintenance of the water distribution system is further simplified with the optional EASY CONNECT® Piping Arrangement with BALANCE CLEAN® Chamber. This innovative option allows all routine maintenance of the water distribution system to be performed from the unit interior eliminating the need to use the cooling tower fan deck as a working surface to perform routine maintenance. If access to the top of the unit is desired, the purchaser/end-user is cautioned to use appropriate means, complying with applicable safety standards of governmental authorities.

Construction Details

Heavy Duty Construction

- Heavy gauge steel frame
- Alternate materials of construction available
- Designed to meet anchorage requirements of UBC 1997, Importance Factor 1.0, Seismic Zone 2B conditions and 30 psf wind loads

Low HP Axial Flow Fans

- Quiet operation
- Corrosion resistant aluminum
- Optional low sound fans available

FRP Casing Panels

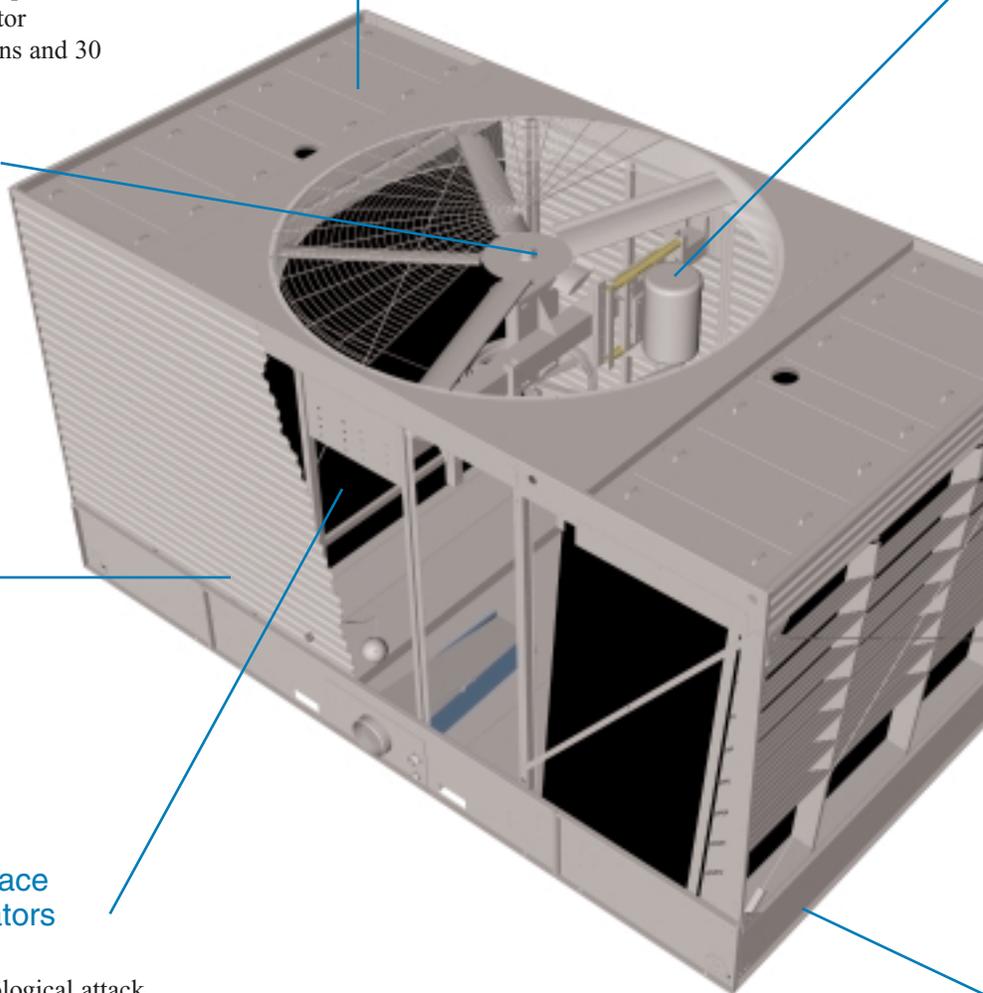
- Corrosion resistant
- Maintenance free
- UV resistant finish

BACross® Wet Deck Surface with Integral Drift Eliminators

- Polyvinyl chloride (PVC)
- Impervious to rot, decay or biological attack
- Flame spread rating of 5 per ASTM E84-77e
- Elevated above the cold water basin for easy maintenance

Water Distribution System

- Sturdy steel covers in easy to remove sections
- Low pump head gravity distribution basins
- Large orifice, non-clog nozzles



Oversized Access Door

- Inward swinging doors on each end wall with easy latch handles

BALTIDRIVE® Power Train

- Premium quality, solid backed, multi-groove belt
- Corrosion resistant cast aluminum sheaves
- Heavy duty bearings (280,000 hour average life)
- Proven, totally enclosed air-over (TEAO) fan motor
- Five-year motor and drive warranty



FRP Air Inlet Louvers

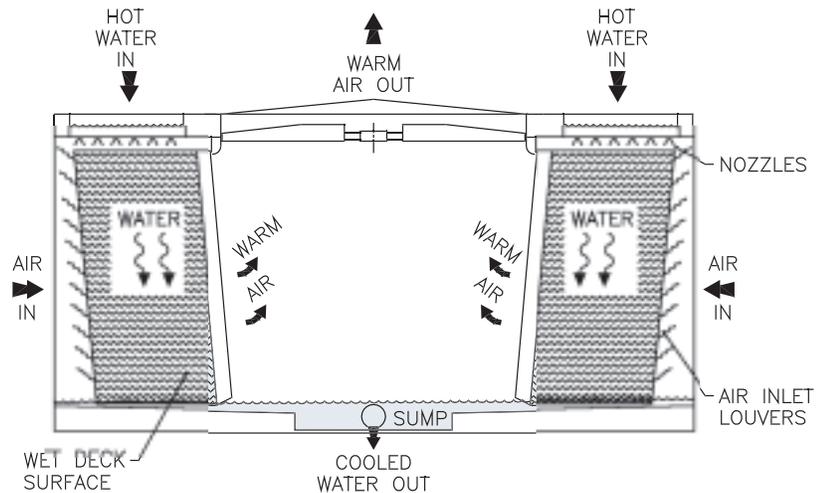
- Corrosion resistant
- UV resistant finish
- Prevent water splash-out
- Maintenance free
- Minimize scaling potential on face of wet deck

Cold Water Basin

- Sloped cold water basin below wet deck sections for easy cleaning
- Suction strainer with anti-vortex hood
- Adjustable water make-up assembly
- Lifting ears for easy installation

Principle of Operation

Water from the system heat source enters the Series 3000 Cooling Tower through two inlet connections located on the top of the unit. The water circulates through the hot water basins, where non-clog diffuser nozzles distribute the water uniformly over the wet deck surface. Simultaneously, air is drawn through air inlet louvers and across the wet deck surface, causing a small portion of the water to evaporate. Evaporation removes the heat from the remaining water. The cooled water then flows into the cold water basin and returns to the heat source.



Construction Alternatives

Standard Corrosion Resistant Construction

All steel panels and structural elements of the Series 3000 Cooling Tower are constructed of heavy gauge G-235 (Z700 metric) hot-dip galvanized steel. The ASTM designation G-235 (Z700 metric) means that the weight of protective zinc coating is 2.35 ounces per square foot of steel surface, as verified by the ASTM A525 Triple-Spot Test. A zinc-rich primer is applied to the cut edges of all hot-dip galvanized components prior to assembly. Casing panels and air inlet louvers, which are critical links in the life expectancy of a cooling tower, are constructed of UV-resistant, fiberglass reinforced polyester (FRP). This standard construction will provide reliable corrosion protection and long life for most industrial cooling, air conditioning, and refrigeration applications.

Optional BALTIBOND® Corrosion Protection System

The BALTIBOND® Corrosion Protection System is an advancement in materials engineering developed by BAC specifically for increased protection from adverse operating conditions. The manufacturing process fuse bonds a special hybrid polymer to all hot-dipped galvanized steel components of the cooling tower, extending the life of the base material. Tens of thousands of BAC installations worldwide prove the effectiveness and durability of the BALTIBOND® Corrosion Protection System. (For further details, see BAC Bulletin S650/1-0).

BALTIBOND® Corrosion Protection System Manufacturing Facility



Optional Stainless Steel Cold Water Basin

A welded, Type 304 stainless steel basin is available to increase leak protection and corrosion protection of this critical component. All seams between panels inside the cold water basin are welded. The basin is leak tested at the factory and is provided with a five-year leakproof guarantee. The steel panels and structural members above the cold water basin can be constructed of the standard G-235 (Z700 metric) hot-dipped galvanized steel or the optional BALTIBOND® Corrosion Protection System.

Optional JE PREMIER SERIES® Construction

Series 3000 Cooling Towers provided with JE PREMIER SERIES® Construction are designed for applications exposed to extremely corrosive conditions or where the ultimate in corrosion protection and long life are desired. All steel panels and structural elements, including the structural frames, louver supports, cold water basin, hot water basins and covers, fan deck, fan cylinder, and mechanical equipment supports are constructed of Type 304 Stainless Steel. All seams between panels inside the cold water basin are welded. The basin is leak tested at the factory and is provided with a five-year leakproof guarantee. Casing panels and air inlet louvers are constructed of corrosion and UV resistant fiberglass reinforced polyester (FRP).

Each cooling tower provided with the JE PREMIER SERIES® Construction is backed by a comprehensive five-year Louver-to-LouverSM warranty to ensure many years of outstanding performance. Included in this warranty are ALL components from the fan to the cold water basin, from Louver-to-LouverSM, including the motor.

Selection Software

Easy-To-Use Selection Software

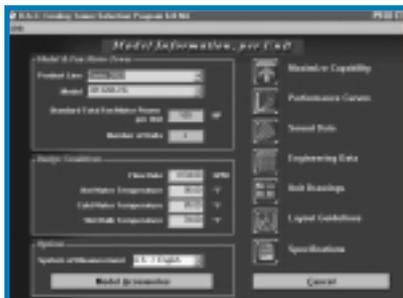
BAC offers easy-to-use selection software to assist customers in the selection and evaluation of Series 3000 Cooling Towers. In addition to the catalog models, CTI-certified alternate low horsepower selections and units with velocity recovery stacks are available in the selection software. The program provides equipment specifications, engineering data, performance curves, layout recommendations, sound data and other information to aid in selecting the best BAC Cooling Tower for your application.



Cooling Tower Selections

All cooling tower models selected with the selection program are included in CTI's thermal performance certification program. The selection program also provides the ability to make selections outside the scope of CTI's thermal performance selection program. BAC guarantees the thermal performance of all cooling towers made by the selection program.

Cooling tower selections often contain reserve capacity at the design conditions. The selection program gives you the ability to optimize the performance of the tower at specified conditions. Select the unit and maximize flow rate, hot water temperature, cold water temperature, wet bulb temperature or approach.



Accessories

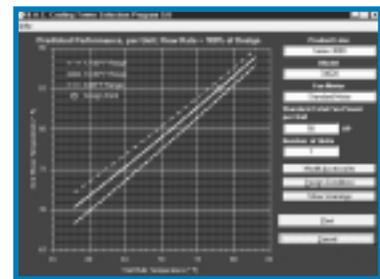
The selection program for Series 3000 Cooling Towers considers the use of low sound fans and sound attenuation. Units supplied with low sound fans include a 3% thermal derate while units supplied with intake sound attenuation include a 5% thermal derate. The use of discharge attenuation does not require a thermal derate.

Alternative Motors

Standard selections utilize a standard horsepower motor to meet the full load performance required for the project. Alternative selections based on using the ENERGY-MISER® Fan System, motors at half speed or inverter duty motors, used for variable frequency drive applications, are also available.

Performance Curves

The selection program generates performance curves, based on flow rates ranging from 80% to 120% of the design flow rate.



Sound Data

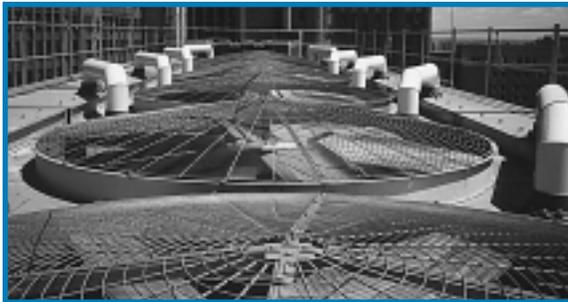
For sound-sensitive applications, the selection program provides sound ratings at 5 and 50-foot distances for your reference. Sound ratings are available for standard selections as well as for units provided with low sound fans.

Website

The BAC selection software is available from our website, www.BaltimoreAircoil.com. Direct links to the website, provide users of the selection program to additional information pertaining to Unit Engineering Data, Certified Unit Drawings, Layout Guidelines and specifications. Consult your local BAC Representative for additional application assistance.



Custom Features and Options



Low Sound Operation

As society becomes increasingly concerned over the quality of its environment, sound is an important consideration in the selection and location of sound generating equipment. The mechanical equipment on Series 3000 Cooling Towers is carefully selected to produce optimum cooling tower thermal performance with minimal sound levels. The low sound levels generated by Series 3000 Cooling Towers make them suitable for installation in most environments.

For very sound sensitive installations, Series 3000 Cooling Towers are available with a low-sound fan option which significantly reduces the sound levels generated from the tower with minimal impact on thermal performance. The cooling tower thermal performance with the low-sound fan has been certified by the Cooling Technology Institute in accordance with CTI Standard STD-201.

For extremely sound sensitive installations, factory designed, tested and rated sound attenuation is available for both the air inlet and discharge of Series 3000 Cooling Towers. Consult your local BAC Sales Representative for selection and application information on this unique optional feature.

BAC selection software includes complete sound data for all BAC Cooling Towers. Please visit us at www.BaltimoreAircoil.com for selection and application assistance.

ENERGY-MISER® Fan System

Reduced operating costs can be achieved during off-peak operation by taking advantage of BAC's ENERGY-MISER® Fan System option. The ENERGY-MISER® Fan System is an energy-saving, capacity control alternative to two-speed motors. It consists of two standard, single-speed fan motors and drive assemblies. One drive assembly is sized for full speed and load, and the other is sized approximately 2/3 speed and consumes only 1/3 the design horsepower. This configuration allows the system to be operated like a two-speed motor, but with the reserve capacity of a standby motor in the event of a failure. Controls and wiring are the same as those required for a two-speed, two-winding motor. Significant energy savings are achieved when operating at low speed during periods of reduced load and/or low wet bulb temperatures.



ENERGY-MISER® Fan System



Series 3000 Cooling Towers with discharge sound attenuation.

Basinless Unit Construction

The basinless unit construction option enables Series 3000 Cooling Towers to be directly applied to projects utilizing new or existing concrete cold water basins. This custom feature, available exclusively on BAC Series 3000 Cooling Towers, reduces maintenance costs by eliminating the redundant integral basin from traditional units. It simplifies piping and pumping requirements of multi-cell installations, enhances stringent equipment wind and seismic requirements and provides a cost-effective solution for many field-erected cooling tower replacement projects.



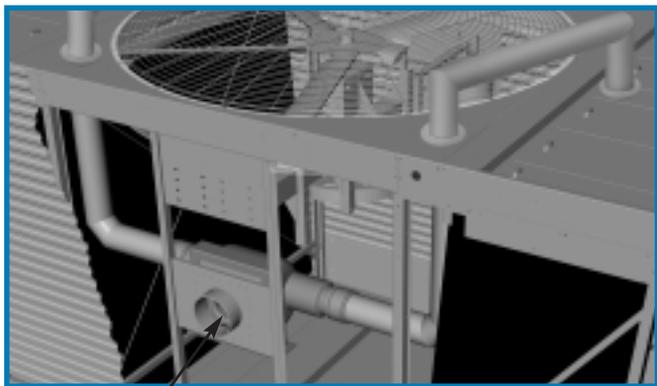
Basinless Series 3000 Cooling Tower on a concrete basin.

Velocity Recovery Stacks

Velocity recovery stacks, previously used primarily on large field-erected cooling tower applications, are available on Series 3000 Cooling Towers, for incremental thermal performance increases. The unit maintains CTI certification with the optional velocity recovery stack. This accessory can be used to gain extra capacity in tight layouts, while maintaining the same footprint and unit horsepower. The velocity recovery stack height is five feet and can be constructed of either G-235 (Z700 metric) hot-dip galvanized steel, the BALTIBOND® Corrosion Protection System, or Type 304 stainless steel. Field assembly is required. Selections with this option can be made with the BAC Selection Software. Your local BAC Representative can provide additional application assistance.

EASY CONNECT® Piping Arrangement with BALANCE CLEAN® Chamber

This exclusive BAC option simplifies water inlet piping and reduces routine maintenance on Series 3000 Cooling Towers. A single water inlet connection, located on the side or bottom of each unit, eliminates the need for overhead piping and piping supports. The BALANCE CLEAN® Chamber features an integral strainer which prevents large debris from being carried to the hot water distribution basins. The BALANCE CLEAN® Chamber automatically balances flow within each cell, eliminating the need for flow balancing valves. The unique design of the water distribution system enables all routine maintenance to be performed from the unit interior thereby eliminating the need to use the cooling tower fan deck as a working surface to perform routine maintenance of the water distribution system.



Optional EASY CONNECT® Piping Arrangement with BALANCE CLEAN® Chamber

Optional Accessories

Vibration Cutout Switch

A factory-mounted vibration cutout switch is available to effectively protect against equipment failure due to excessive vibration of the mechanical equipment system. BAC can provide either a mechanical or solid-state electronic vibration cut-out switch in a NEMA 4 enclosure to ensure reliable protection and trouble-free operation in the moist cooling tower environment. Additional contacts can be provided to either switch to activate an alarm or initiate equipment shutdown.

Ladder, Safety Cage, Gate and Handrails

If the installation owner desires access to the cooling tower fan deck using ladders, BAC equipment can be provided with ladders extending from the top of the unit to the base, as well as safety cages, safety gates and handrail packages to meet OSHA requirements. All access to the top of the equipment must be made in accordance with applicable governmental occupational safety standards.

Internal Walkway and Service Platforms, and External Service Platforms

A galvanized steel internal walkway located between the two access doors of the cooling tower provides a permanent working surface for easy access to the strainer, outlet, and make-up water assembly. For access options to the motor and drive assemblies on two-piece units, an internal ladder and upper service platform with handrail is available.

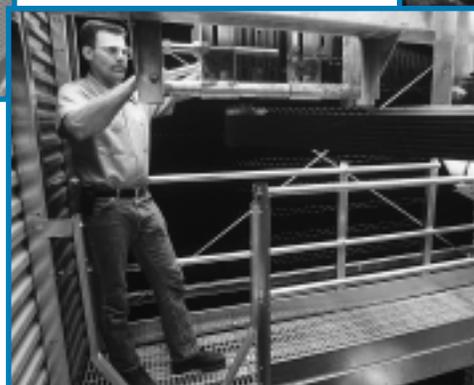
For external service, louver face platforms, access door platforms and fan deck extensions are other options that can be added to the cooling tower either when the unit is purchased or as an aftermarket item. Safety gates are available for all handrail openings supplied by BAC. CTI Certification is maintained when internal and external platforms are provided.



External platform at louver face



Internal walkway



Internal ladder and service platform

Basin Heaters

Cooling towers exposed to below freezing ambient temperatures require protection to prevent freezing of the water in the cold water basin when the unit is idle. Factory-installed heaters, which maintain +40°F water temperature at 0°F, are a simple and inexpensive way of providing such protection.

Heater Sizing Data

Model Numbers	Standard Heaters 1		Canadian Heaters 2	
	No. of Heaters	kW per Heater	No. of Heaters	kW per Heater
3240A thru 3379A	2	6	2	9
3412A thru 3527A	2	8	2	12
3473A thru 3672A	2	10	2	14
3728A thru 31056A	2	12	2	15
3583A thru 3725A	2	14	2	18
31132A thru 31301A	2	14	2	20

1 Standard heaters sized for 0° F ambient.

2 Canadian heaters sized for -20° F ambient and based on size availability from Canadian suppliers.

Electric Water Level Control Package

The electric water level control replaces the standard mechanical makeup valve when a more accurate water level control is required. This package consists of a conductance-actuated level control mounted in the basin and a slow-closing solenoid in the make-up water line. For water supply pressure greater than 40 psig, a surge suppressor may be required (by others).

Extended Lubrication Lines

Extended lubrication lines with standard grease fittings are available for lubrication of the fan shaft bearings. Fittings are located inside the plenum area next to the access door.

Air Inlet and Basin Debris Screens

Hot-dip galvanized wire mesh screens can be factory-installed over the inlet louvers to prevent debris from entering the tower.

As an alternative to air inlet screens, HDG wire mesh screens are factory-installed over exposed portions of cold water basin to keep out airborne debris.

Basin Sweeper Piping

Basin sweeper piping provides an effective method of eliminating debris which may collect in the cold water basin of the tower. A complete piping system including nozzles is provided in the tower basin for connection to side stream filtration equipment (by others).

Side Outlet Depressed Sump

Available for field installation below the base of tower to facilitate job site piping. The outlet connection is designed to mate with ASME Class 150 flat face flanges.

High Temperature Wet Deck

Optional high temperature wet deck material is available for entering water temperatures up to 135°F.

IOBIO® Bacteria, Slime, and Algae Control

The IOBIO® Bacteria, Slime, and Algae Control is available to control the growth of microorganisms associated with open recirculating cooling water by automatically dispensing a precise and very low concentration of elemental iodine into the recirculating water.

Engineering Data



Do not use for construction. Refer to factory certified dimensions. This brochure includes data current at time of publication which should be reconfirmed at the time of purchase. Additionally, this engineering data can be found at www.BaltimoreAircoil.com.

Single Cell Unit

MODEL NUMBER	NOMINAL TONS (1)	MOTOR HP	FAN CFM	WEIGHTS (lbs)			DIMENSIONS			
				OPER. (2)	SHIPPING	HEAVIEST SECTION	L	W	H	A
3240A	240	10	62790	14770	6790	6790	8'-5 3/4"	18'-0 1/2"	9'-3 5/8"	8'-7 3/4"
3272A	272	15	71340	14900	6920	6920				
3299A	299	20	78110	14960	6980	6980				
3333A	333	20	85720	15750	7260	7260	8'-5 3/4"	18'-0 1/2"	10'-7 5/8"	9'-11 3/4"
3358A	358	25	91960	15780	7290	7290				
3379A	379	30	97400	15830	7340	7340				
3412A	412	25	103700	18580	8420	8420				
3436A	436	30	109830	18630	8470	8470	9'-9 1/4"	20'-0 1/2"	10'-9 1/8"	9'-11 3/4"
3455A	455	25	112250	19480	8740	8740				
3482A	482	30	118880	19530	8790	8790	9'-9 1/4"	20'-0 1/2"	12'-1 1/8"	11'-3 3/4"
3527A	527	40	130160	19690	8950	8950				
3473A	473	25	118870	23090	10190	10190				
3501A	501	30	125900	23140	10240	10240	11'-9 3/4"	21'-6 1/2"	10'-10 1/8"	9'-11 3/4"
3552A	552	30	136170	25690	10800	10800				
3604A	604	40	149090	25850	10960	10960	11'-9 3/4"	21'-6 1/2"	12'-2 1/8"	11'-3 3/4"
3648A	648	50	159950	25860	10970	10970				
3672A	672	60	166020	27060	12180	12180				
3728A	728	40	178860	32060	13770	8720				
3781A	781	50	191890	32070	13780	8730	11'-9 3/4"	21'-6 1/2"	16'-4 7/8"	15'-5 1/2"
3828A	828	60	203230	32290	13990	8940				
3872A	872	50	206630	35030	14500	8800	11'-9 3/4"	21'-6 1/2"	19'-0 7/8"	18'-1 1/2"
3923A	923	60	218840	35250	14710	9010				
3970A	970	75	230080	36530	16000	10300				
3985A	985	60	229950	40240	15560	9460	11'-9 3/4"	21'-6 1/2"	21'-8 7/8"	20'-9 1/2"
31056A	1056	75	246700	40330	15650	9550				
3583A	583	25	143950	30300	12070	12070	13'-11 1/8"	24'-0 1/2"	12'-3 1/8"	11'-3 3/4"
3618A	618	30	152460	30350	12120	12120				
3676A	676	40	166920	30510	12280	12280				
3725A	725	50	179080	30520	12290	12290				
31132A	1132	75	267880	41290	16610	10230	13'-11 1/8"	24'-0 1/2"	19'-2 7/8"	18'-1 1/2"
31213A	1213	75	282010	44300	17550	10720	13'-11 1/8"	24'-0 1/2"	21'-10 7/8"	20'-9 1/2"
31301A	1301	100	302580	46590	19840	13010				

Notes: 1. A nominal ton is defined as 3 GPM of water cooled from 95°F to 85°F with a 78° F entering wet bulb.
 2. Operating weight is for tower with the water level in the cold water basin at overflow. If a lower operating weight is needed to meet design requirements, your local BAC sales representative can provide additional assistance.

3. 31301A is supplied with gear drive as standard.
 4. Models 3240A–3672A and 3583A–3725A, when shipped with a gear drive, will have increased unit height by 10 1/2".
 5. Refer to page 17 for dimensional reference drawings.

Double Cell Unit

MODEL NUMBER	NOMINAL TONS (1)	MOTOR HP	FAN CFM	WEIGHTS (lbs)			DIMENSIONS			
				OPER. (2)	SHIPPING	HEAVIEST SECTION	L	W	H	A
3240A-2	480	(2) 10	125580	29540	13580	6790	17'-2"	18'-0 1/2"	9'-3 5/8"	8'-7 3/4"
3272A-2	544	(2) 15	142680	29800	13840	6920				
3299A-2	598	(2) 20	156220	29920	13960	6980				
3333A-2	666	(2) 20	171440	31500	14520	7260	17'-2"	18'-0 1/2"	10'-7 5/8"	9'-11 3/4"
3358A-2	716	(2) 25	183920	31560	14580	7290				
3379A-2	758	(2) 30	194800	31660	14680	7340				
3412A-2	824	(2) 25	207400	37160	16840	8420	19'-9"	20'-0 1/2"	10'-9 1/8"	9'-11 3/4"
3436A-2	872	(2) 30	219660	37260	16940	8470				
3455A-2	910	(2) 25	224500	38960	17480	8740	19'-9"	20'-0 1/2"	12'-1 1/8"	11'-3 3/4"
3482A-2	964	(2) 30	237760	39060	17580	8790				
3527A-2	1054	(2) 40	260320	39380	17900	8950				
3473A-2	946	(2) 25	237740	46180	20380	10190	23'-10"	21'-6 1/2"	10'-10 1/8"	9'-11 3/4"
3501A-2	1002	(2) 30	251800	46280	20480	10240				
3552A-2	1104	(2) 30	272340	51380	21600	10800	23'-10"	21'-6 1/2"	12'-2 1/8"	11'-3 3/4"
3604A-2	1208	(2) 40	298180	51700	21920	10960				
3648A-2	1296	(2) 50	319900	51720	21940	10970				
3672A-2	1344	(2) 60	332040	54120	24360	12180				
3728A-2	1456	(2) 40	357720	64120	27540	8720	23'-10"	21'-6 1/2"	16'-4 7/8"	15'-5 1/2"
3781A-2	1562	(2) 50	383780	64140	27560	8730				
3828A-2	1656	(2) 60	406460	64580	27980	8940				
3872A-2	1744	(2) 50	413260	70060	29000	8800	23'-10"	21'-6 1/2"	19'-0 7/8"	18'-1 1/2"
3923A-2	1846	(2) 60	437680	70500	29420	9010				
3970A-2	1940	(2) 75	460160	73060	32000	10300				
3985A-2	1970	(2) 60	459900	80480	31120	9460	23'-10"	21'-6 1/2"	21'-8 7/8"	20'-9 1/2"
31056A-2	2112	(2) 75	493400	80660	31300	9550				
3583A-2	1166	(2) 25	287900	60600	24140	12070	28'-0 3/4"	24'-0 1/2'	12'-3 1/8"	11'-3 3/4"
3618A-2	1236	(2) 30	304920	60700	24240	12120				
3676A-2	1352	(2) 40	333840	61020	24560	12280				
3725A-2	1450	(2) 50	358160	61040	24580	12290				
31132A-2	2264	(2) 75	535760	82580	33220	10230	28'-0 3/4"	24'-0 1/2"	19'-2 7/8"	18'-1 1/2"
31213A-2	2426	(2) 75	564020	88600	35100	10720	28'-0 3/4"	24'-0 1/2"	21'-10 7/8"	20'-9 1/2"
31301A-2	2602	(2) 100	605160	93180	39680	13010				

Engineering Data



Do not use for construction. Refer to factory certified dimensions. This brochure includes data current at time of publication which should be reconfirmed at the time of purchase. Additionally, this engineering data can be found at www.BaltimoreAircoil.com.

MODEL NUMBER	DIMENSIONS							CONNECTION SIZES (1.3)			
	B	C	D	E	F	G	J	MAKE-UP WATER CONN.	TOP INLET CONN.	SINGLE INLET CONN.	OUTLET CONN.
3240A	8 1/16"	5'-8 1/4"	10'-4 1/2"	7'-1 1/4"	1/4"	4'-2 7/8"	8'-8 1/4"	1-0"	(2) 6"	8"	8"
3272A											
3299A											
3333A	8 1/16"	6'-1 1/4"	10'-4 1/2"	7'-1 1/4"	1/4"	4'-2 7/8"	8'-8 1/4"	1-0"	(2) 6"	8"	8"
3358A											
3379A											
3412A	8 1/16"	6'-1 1/4"	11'-4 1/2"	8'-1 1/4"	1-1/4"	4'-10 5/8"	9'-11 3/4"	1-1/2"	(2) 6"	8"	8"
3436A											
3455A	9 1/8"	6'-6 3/4"	11'-4 1/2"	8'-1 1/4"	1-1/4"	4'-10 5/8"	9'-11 3/4"	1-1/2"	(2) 6"	10"	10"
3482A											
3527A											
3473A	9 1/8"	6'-6 3/4"	12'-1 1/2"	8'-10 1/4"	1-1/4"	5'-10 7/8"	12'-0 1/4"	1-1/2"	(2) 8"	10"	10"
3501A											
3552A	9 1/8"	6'-6 3/4"	12'-1 1/2"	8'-10 1/4"	1-1/4"	5'-10 7/8"	12'-0 1/4"	1-1/2"	(2) 8"	10"	10"
3604A											
3648A											
3672A											
3728A	9 1/8"	10'-4 1/2"	12'-1 1/2"	8'-10 1/4"	1-1/4"	5'-10 7/8"	12'-0 1/4"	1-1/2"	(2) 8"	12"	12"
3781A											
3828A											
3872A	9 1/8"	13'-0 1/2"	12'-1 1/2"	8'-10 1/4"	1-1/4"	5'-10 7/8"	12'-0 1/4"	1-1/2"	(2) 8"	12"	12"
3923A											
3970A											
3985A	9 1/8"	15'-8 1/2"	12'-1 1/2"	8'-10 1/4"	1-1/4"	5'-10 7/8"	12'-0 1/4"	1-1/2"	(2) 8"	12"	12"
31056A											
3583A	9 1/8"	6'-6 3/4"	13'-4 1/2"	10'-1 1/4"	5/8"	6'-11 5/16"	14'-1 5/8"	1-1/2"	(2) 8"	10"	10"
3618A											
3676A											
3725A											
31132A	9 5/8"	13'-0 1/2"	13'-4 1/2"	10'-1 1/4"	5/8"	6'-11 5/16"	14'-1 5/8"	2"	(2) 10"	14"	14"
31213A	9 5/8"	15'-8 1/2"	13'-4 1/2"	10'-1 1/4"	5/8"	6'-11 9/16"	14'-1 5/8"	2"	(2) 10"	14"	14"
31301A											

- Notes: 1. The actual size of the inlet and outlet connection may vary with the design flow rate.
 2. Unless otherwise indicated, all connections 3" and smaller are MPT and connections 4" and larger are beveled for welding and grooved to suit a mechanical coupling.

3. Connections same both ends on double cell units.

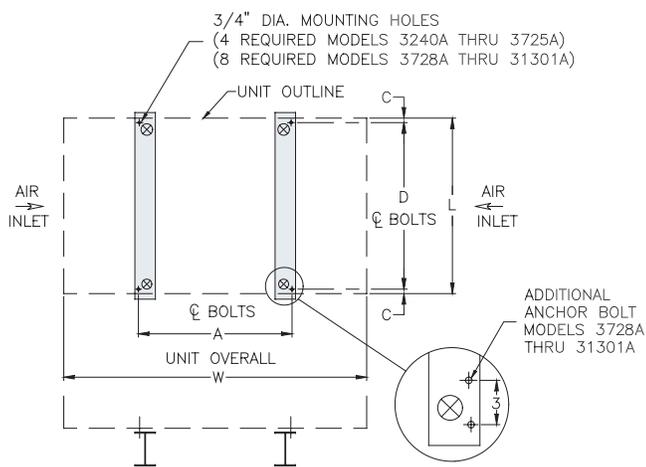
Support Details

The recommended support arrangement for the Series 3000 Cooling Tower consists of parallel I-beams positioned as shown in the drawings. Besides providing adequate support, the steel also serves to raise the unit above any solid foundation to assure access to the bottom of the tower. Series 3000 Cooling Towers may also be supported on

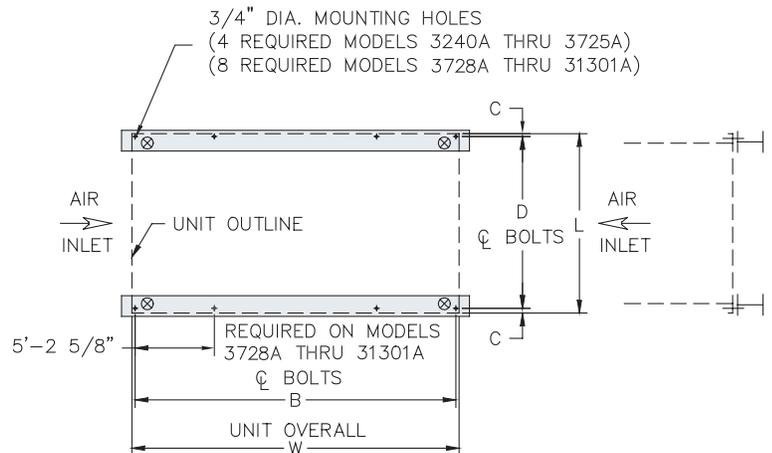
columns at the anchor bolt locations shown in Plan A or Plan C. To support a Series 3000 Cooling Tower on columns, or in an alternate steel support arrangement, consult your BAC Representative. A minimum bearing surface of twelve inches square must be provided under each of the concentrated load points (See Note 7).

MODEL NUMBER	WEIGHTS (LBS.)			DIMENSIONS							
	SHIPPING (1)	OPER. (1&2)	WT. AT \oplus	L1	L2	W	A	B	C	D	E
3240A	6790	14770	3693	8'-5 3/4"	17'-2"	18'-0 1/2"	9'-4"	16'-4 1/2"	1 1/8"	8'-3 1/2"	4 3/4"
3272A	6920	14900	3725								
3299A	6980	14960	3740								
3333A	7260	15750	3938	8'-5 3/4"	17'-2"	18'-0 1/2"	9'-4"	16'-4 1/2"	1 1/8"	8'-3 1/2"	4 3/4"
3358A	7290	15780	3945								
3379A	7340	15830	3958								
3412A	8420	18580	4645	9'-9 1/4"	19'-9"	20'-0 1/2"	11'-4"	18'-4 1/2"	1 1/8"	9'-7"	4 3/4"
3436A	8470	18630	4658								
3455A	8740	19480	4870	9'-9 1/4"	19'-9"	20'-0 1/2"	11'-4"	18'-4 1/2"	1 1/8"	9'-7"	4 3/4"
3482A	8790	19530	4883								
3527A	8950	19690	4923								
3473A	10190	23090	5773	11'-9 3/4"	23'-10"	21'-6 1/2"	12'-10"	19'-10 1/2"	1 1/8"	11'-7 1/2"	4 3/4"
3501A	10240	23140	5785								
3552A	10800	25690	6423	11'-9 3/4"	23'-10"	21'-6 1/2"	12'-10"	19'-10 1/2"	1 1/8"	11'-7 1/2"	4 3/4"
3604A	10960	25850	6463								
3648A	10970	25860	6465								
3672A	12180	27060	6765								
3728A	13770	32060	8015	11'-9 3/4"	23'-10"	21'-6 1/2"	12'-10"	19'-10 1/2"	1 1/8"	11'-7 1/2"	4 3/4"
3781A	13780	32070	8018								
3828A	13990	32290	8073								
3872A	14500	35030	8758	11'-9 3/4"	23'-10"	21'-6 1/2"	12'-10"	19'-10 1/2"	1 1/8"	11'-7 1/2"	4 3/4"
3923A	14710	35250	8813								
3970A	16000	36530	9133								
3985A	15560	40240	9258	11'-9 3/4"	23'-10"	21'-6 1/2"	12'-10"	19'-10 1/2"	1 1/8"	11'-7 1/2"	4 3/4"
31056A	15650	40330	9298								
3583A	12070	30300	7575	13'-11 1/8"	28'-0 3/4"	24'-0 1/2"	15'-4"	22'-4 1/2"	1 7/16"	13'-8 1/4"	5 3/8"
3618A	12120	30350	7588								
3676A	12280	30510	7628								
3725A	12290	30520	7630								
31132A	16610	41290	10323								
31213A	17550	44300	11075	13'-11 1/8"	28'-0 3/4"	24'-0 1/2"	15'-4"	22'-4 1/2"	1 7/16"	13'-8 1/4"	5 3/8"
31301A	19840	46590	11648								

Single Cell Units



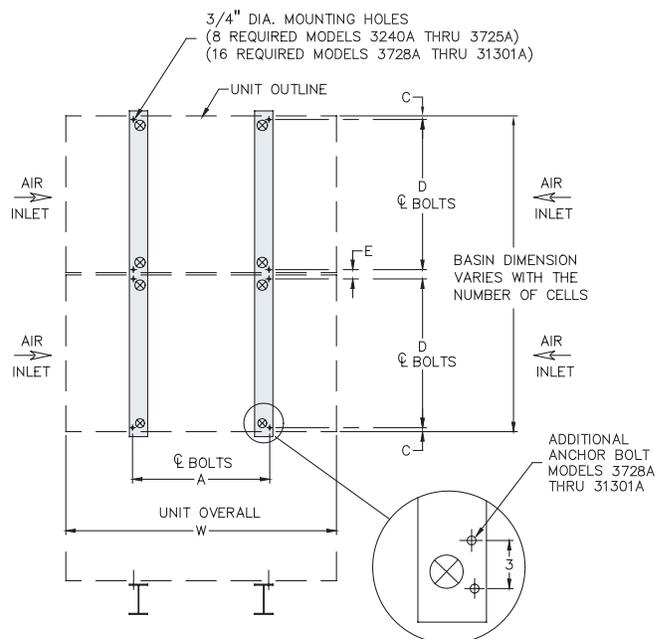
Plan A



Plan B

Double Cell Units

- Note:
- Shipping and operating weight are for a single cell. To obtain weights for multi-cell units, multiply by number of cells.
 - Operating weight and weight loading are for a single cell tower with water at overflow level in the cold water basin.
 - Support beams and anchor bolts to be selected and installed by others.
 - All support steel must be level at the top.
 - Beams must be selected in accordance with accepted structural practice. Maximum deflection of beam under unit to be $1/360$ of span, not to exceed $1/2$ inch.
 - All single and double cell units can be furnished with optional vibration isolation rail packages, when required, to be used between the tower and supporting steel. The BAC standard vibration isolation rail package is designed for support Plan A for single cell units and support Plan C for double cell units. Plan B rails are available upon request. When determining the length of the supporting steel, allow for the length of the vibration rails as they are sometimes longer than the cooling tower dimensions shown.
 - If point vibration isolation is used with multi-cell towers, the isolators must be located under the support steel, not between the support steel and the cooling towers.



Plan C

Engineering Considerations



Location

Series 3000 Cooling Towers must have an adequate supply of fresh air to all air inlets. When units are located adjacent to building walls or in enclosures, care must be taken to ensure that the warm, saturated discharge air is not deflected and drawn back to the air inlets.

CAUTION: Each cooling tower should be located and positioned to prevent the introduction of the warm discharge air and the associated drift, which may contain chemical or biological contaminants, including Legionella, into the ventilation systems of the building on which the tower is located or those of adjacent buildings.

For detailed recommendations on Series 3000 Cooling Tower layout, refer to the BAC Selection Software or consult your local BAC Representative.

Piping and Valves

Piping should be sized and installed in accordance with good piping practice. To prevent basin overflow at shutdown and to ensure satisfactory pump operation at start-up, all heat exchangers and as much tower piping as possible should be installed below the operating level of the tower. All piping should be supported by pipe hangers or other supports, not by the cooling tower.

Series 3000 Cooling Towers may require flow balancing valves (supplied by others) at the hot water basin inlets to balance flow between the hot water basins or, to individual tower cells on multi-cell installations. External shutoff valves (by others) may also be required if the system design necessitates the isolation of individual tower cells.

When multiple tower cells are used on a common system, equalizing lines should be installed between the basins of individual cells to assure balanced water level in all cells.

Capacity Control

Fan cycling is the simplest method of capacity control for Series 3000 Cooling Towers. The number of steps of capacity control can be doubled by using the ENERGY-MISER® Fan System or two-speed fan motors in conjunction with fan cycling. The ENERGY-MISER® Fan System and two-speed fan motors also provide substantial energy savings when compared to simple fan cycling.

WARNING: Rapid on-off cycling can cause the fan motor to overheat. It is recommended that controls be set to allow a maximum of 6 on-off cycles per hour.

Variable Frequency Drives (VFD)

Series 3000 Cooling Towers controlled by Variable Frequency Drives (VFD) require the use of an inverter duty type motor as designed per NEMA Standard MG.1, Section IV, Part 31, which recognizes the increased stresses placed on motors by these drive systems. Inverter duty motors must be furnished on VFD applications in order to maintain the motor warranty.

WARNING: Because of the potential of fan failure and resulting personal injury and/or property damage when the fan speed of a Series 3000 Cooling Tower is to be changed from the factory-set speed, including the use of a variable speed control device, steps must be taken to avoid the hazard of operating at or near the fan's "critical speed." Consult with your local BAC Representative on any application utilizing variable speed control to determine whether any critical speeds may be encountered and if any motor modifications may be required.

System Resonance Frequencies

Units installed on vibration isolation equipment may exhibit unique system resonance frequencies which cannot be anticipated but may create operational problems for the unit. For this reason, a vibration cutout switch for each fan drive is recommended.



Water Treatment

As water evaporates in a cooling tower, the dissolved solids originally present in the water remain in the system. The concentration of these dissolved solids increases rapidly and can cause scale and corrosion. In addition, airborne impurities and biological contaminants, including Legionella, may be introduced into the recirculating water. To control all potential contaminants, a water treatment program must be employed. In many cases, a simple bleed-off will be adequate for control of scale and corrosion. However, biological contamination, including Legionella, can be controlled through the use of biocides. Accordingly, it is strongly recommended a biocide be initiated when the cooling tower system is first filled with water and continued regularly thereafter. For more information, consult the BAC Series 3000 Operating and Maintenance manual.

The water treatment program employed must be compatible with the cooling tower materials of construction. The pH of the circulating water system must be maintained between 7.0 and 9.0. Units constructed primarily of galvanized steel with a circulating water pH of 8.3 or higher will require periodic passivation of the galvanized steel to prevent the accumulation of white, waxy, non-protective zinc corrosion called white rust. Batch feeding of chemicals into the unit is not recommended. If units are constructed with the optional corrosion resistant materials, acid treatment may be considered; however the water quality must be maintained within the guidelines set forth in the Operating and Maintenance Instructions.

For specific recommendations on water treatment, contact a competent water treatment supplier.

Wet Deck Surface Compatibility

BACross® Wet Deck Surface, standard in all Series 3000 Cooling Towers, is constructed of polyvinyl chloride (PVC) and has a flame spread rating of 5 per ASTM Standard E84. The maximum allowable water temperature for a

Series 3000 Cooling Tower with PVC wet deck surface is 120°F.

The PVC wet deck surface is compatible with the water found in most cooling tower applications. For applications where the entering water temperature exceeds 120°F, the optional, high-temperature wet deck must be used (see Series 3000 Optional Accessories, Page 13). For the proper choice of wet deck surface contact your BAC Representative.

Sound Levels

Sound rating data are available for all Series 3000 Cooling Towers which can be used to calculate sound levels generated by the cooling tower. When making such calculations, the designer must take into account the effects of the geometry of the tower installation as well as the distance and direction from the tower to noise-sensitive areas.

Several optional methods can be utilized in order to meet a specific sound code or specification. The ENERGY-MISER® Fan System, two-speed motors, or variable frequency drives can be used to reduce sound during periods of non-peak thermal loads. Other methods include low-sound fans and inlet and discharge sound attenuation to provide more acceptable sound characteristics. For detailed low-sound selections, please consult your local BAC Representative.

Protection Against Basin Water Freezing

When the tower is shut down in freezing weather, the basin water must be protected further by draining to an indoor auxiliary remote sump tank (available from BAC) or by providing supplementary heat to the basin water by means of electric immersion heaters, or steam coils. All exposed water piping and makeup lines that do not drain at shutdown should be traced with electric heater tape and insulated.

Engineering Specifications

1.0 Cooling Tower

1.1 General: Furnish and install _____ factory-assembled, induced draft, crossflow cooling tower(s) with vertical air discharge conforming in all aspects to the specifications, schedules and as shown on the plans. Overall dimensions shall not exceed approximately _____ ft. (mm) long X _____ ft (mm) wide X _____ ft (mm) high. The total connected fan horsepower shall not exceed _____ HP (kW). The cooling tower(s) shall be Baltimore Aircoil Model _____ .

1.2 Thermal Capacity: The cooling tower(s) shall be guaranteed by the manufacturer to cool _____ USGPM (L/S) of water from _____ F(°C) to _____ F(°C) at _____ F(°C) entering wet bulb temperature. Additionally, the thermal performance shall be certified by the Cooling Technology Institute in accordance with CTI Certification Standard STD-201. Lacking such certification, a field acceptance test shall be conducted within the warranty period in accordance with CTI Acceptance Test Code ATC-105, by the Cooling Technology Institute or other qualified independent third party testing agency. Manufacturers' performance guarantees or performance bonds without CTI Certification or independent field thermal performance test shall not be accepted.

1.3 Corrosion Resistant Construction (standard): Unless otherwise noted in this specification, all steel panels and structural members shall be constructed of heavy gauge G-235 (Z700 metric) hot-dip galvanized steel with all edges given a protective coating of zinc-rich compound.

(Alternate) 1.3 Corrosion Resistant Construction (optional): Unless otherwise noted in this specification, all steel panels and structural members shall be constructed with the BALTIBOND® Corrosion Protection System. The system shall consist of G-235 (Z700 metric) hot-dip galvanized steel prepared in a four-step (clean, pre-treat, rinse, dry) process with an electrostatically sprayed, thermosetting, hybrid polymer fuse-bonded to the substrate during a thermally activated curing stage and monitored by a 23-step quality assurance program.

(Alternate) 1.3 JE PREMIER SERIES® Construction (optional): All steel panels and structural members, including the structural frame, hot and cold water basins, distribution covers, fan deck and fan cylinder shall be constructed of Type 304 stainless steel and assembled with Type 304 stainless steel nut and bolt fasteners. All factory seams in the cold water basin shall be welded to ensure watertight assembly and shall be warranted against leaks for five (5) years.

The entire cooling tower, including fan motor, drive system, bearings, structure, etc. shall be backed by a comprehensive Louver-to-LouverSM warranty for a period of not less than five (5) years from the date of installation.

1.4 Quality Assurance: The cooling tower manufacturer shall have a Management System certified by an accredited registrar as complying with the requirements of ISO-9001 to ensure consistent quality of products and services.

1.5 Wind and Seismic Forces: The cooling tower shall be suitable for applications requiring equipment anchorage to resist wind loads of up to 30 psf and seismic forces of Seismic Zone 2B, Importance Factor 1.0, per the 1997 Uniform Building Code.

2.0 Construction Details

2.1 Structure: The cooling tower shall be constructed with a sturdy structural frame designed to transmit all wind, seismic and mechanical loads to the equipment anchorage. The frame shall be constructed of heavy gauge steel angles and channels.

2.2 Casing Panels: Casing panels shall be constructed of corrosion and UV-resistant fiberglass reinforced polyester (FRP) to minimize maintenance requirements and prolong equipment life.

2.3 Cold Water Basin: The cold water basin shall be constructed of heavy-gauge steel panels and structural members. Basin shall include a depressed center section with drain/clean-out connection. The basin area under the wet deck surface shall be sloped toward the depressed center section to facilitate cleaning. Standard basin accessories shall include a brass make-up valve with large diameter plastic float for easy adjustment of the operating water level.

(Alternate) 2.3 Cold Water Basin: The cold water basin shall be constructed of heavy-gauge Type 304 stainless steel panels and structural members. All factory seams shall be welded to ensure watertight construction and warranted against leaks for a period of five (5) years from date of shipment. Basin shall include a depressed center section with drain / clean-out connection. The basin area under the wet deck surface shall be sloped toward the depressed center section to facilitate cleaning. Standard basin accessories shall include a brass make-up valve with large diameter plastic float for easy adjustment of the operating water level.

2.4 Water Outlet: The water outlet connection shall be beveled for welding and grooved for mechanical coupling or bolt hole circle designed to accept an ASME Class 150 flat face flange. The outlet shall be provided with large-area lift out strainers with perforated openings sized smaller than the water distribution nozzles and an anti-vortexing device to prevent air entrainment. The strainer and vortex device shall be constructed of the same materials as the cold water basin to prevent dissimilar metal corrosion.

2.5 Water Distribution System: Hot water distribution basins shall be the open gravity type and constructed of heavy-gauge, G-235 hot dip galvanized steel. Basin weirs and plastic metering orifices shall be provided to assure even distribution of the water over the wet deck surface. Lift-off distribution covers shall be constructed of heavy gauge G-235 hot dip galvanized steel and designed to withstand a 50 psf live load or 200 pound concentrated load.

2.6 EASY CONNECT® Piping Arrangement with BALANCE CLEAN® Chamber (optional): Each tower cell shall be furnished with a single water inlet connection complete with the means to automatically balance flow rates to the hot water basins. Internal piping shall include an integral pre-strainer such that routine maintenance of the hot water distribution system can be performed from the unit interior.

3.0 Mechanical Equipment

3.1 Fan(s): Fan(s) shall be heavy-duty, axial flow with aluminum alloy blades selected to provide optimum cooling tower thermal performance with minimal sound levels. Air shall discharge through a fan cylinder designed for streamlined air entry and minimum tip clearance for maximum fan efficiency. The top of the fan cylinder shall be equipped with a conical, non-sagging removable fan guard.

3.2 Bearings: Fan(s) and shaft(s) shall be supported by heavy-duty, self-aligning, grease-packed ball bearings with moisture proof seals and integral slinger collars, designed for a minimum L10 life of 40,000 hours (280,000 Hr. Avg. Life).

3.3 Fan Drive: The fan(s) shall be driven by a one-piece, multi-groove, solid back V- type powerband with taper lock sheaves designed for 150% of the motor nameplate horsepower. The powerband shall be constructed of neoprene reinforced polyester cord and be specifically designed for cooling tower service.

3.4 Sheaves: Fan and motor sheave(s) shall be fabricated from corrosion-resistant materials to minimize maintenance and ensure maximum drive and powerband operating life.

3.5 Fan Motor: Fan motor(s) shall be totally-enclosed, air-over (TEAO), reversible, squirrel cage, ball bearing type designed specifically for cooling tower service. The motor shall be furnished with special moisture protection on winding, shafts and bearings.

(Alternate) 3.5 Fan Motor: Fan motor(s) shall be totally-enclosed, air-over (TEAO), reversible, squirrel cage, ball bearing type designed specifically for cooling tower service. The motor shall be furnished with special moisture protection on winding, shafts and bearings. Fan Motors shall be inverter duty type designed per NEMA Standard MG1, Section IV, Part 31.

3.6 Mechanical Equipment Warranty: The fan(s), fan shaft(s), sheaves, bearings, mechanical equipment support and fan motor shall be warranted against defects in materials and workmanship for a period of five (5) years from date of shipment.

3.7 ENERGY-MISER® Fan System (optional): Two-single speed fan motors, one sized for full speed and load, the other sized for 2/3 speed and approximately 1/3 the full load horsepower shall be provided in each cell for capacity control and stand-by protection from drive or motor failure. Two-speed motor(s) are not an acceptable alternative.

4.0 Wet Deck Surface and Drift Eliminator

4.1 Wet Deck Surface and Drift Eliminators: The wet deck surface and integral drift eliminators shall be formed from self-extinguishing (per ASTM D-568) polyvinyl chloride (PVC) having a flame spread rating of 5 per ASTM E84 and shall be impervious to rot, decay, and fungus or biological attack. The wet deck surface shall be manufactured, tested and rated by the cooling tower manufacturer and shall be elevated above the cold water basin floor to facilitate cleaning.

5.0 Air Inlet Louvers

5.1 Air Inlet Louvers: Air Inlet louvers shall be separate from the wet deck surface and removable to provide easy access for inspection of the air / water interface at the louver surface. Louvers shall prevent water splash out during fan cycling and be constructed of maintenance free, corrosion and UV resistant, fiberglass reinforced polyester (FRP).

6.0 Access

6.1 Plenum Access: Two access doors shall be provided for access into the plenum section. Access doors limiting access for equipment and personnel shall not be accepted.

7.0 Sound

7.1 Sound Level: To maintain the quality of the local environment, the maximum sound pressure levels (dB) measured 50 ft from the cooling tower operating at full fan speed shall not exceed the sound levels detailed below.

Location	63	125	250	500	1000	2000	4000	8000	dB _A
Discharge									
Air Inlet									
Cased Face									

(Alternate) 7.1 Sound Level: To maintain the quality of the local environment, the cooling tower shall be furnished with a low sound fan. The thermal performance of the cooling tower when furnished with the low sound fan shall be certified by the Cooling Technology Institute in accordance with paragraph 1.2 of this specification. Maximum sound pressure levels (dB) measured 50 ft from the cooling tower operating at full fan speed shall not exceed the sound levels detailed below.

Location	63	125	250	500	1000	2000	4000	8000	dB _A
Discharge									
Air Inlet									
Cased Face									

BAC Certified Quality

CTI Performance Certification

The thermal performance of BAC Series 3000 Cooling Towers has been certified by the Cooling Technology Institute in accordance with their standard STD-201. Independent CTI certification assures that the thermal capacities set forth in published literature accurately reflect actual cooling tower performance and eliminates the need for costly individual cooling tower testing.

The Cooling Technology Institute (CTI) is a nonprofit, self-governing, technical association of manufacturers, users, and suppliers of evaporative cooling equipment, and engineering firms having an interest in water conservation. It is dedicated to improving the technology, design, performance, and maintenance of evaporative cooling equipment. As such, CTI offers a thermal performance certification program to all cooling tower manufacturers.



ISO 9001 Certification

ISO 9001 certification guarantees the consistently high quality of Series 3000 Cooling Towers. It confirms BAC's commitment to quality assurance and reaffirms that BAC meets international standards set for management principles, designs, closed-loop corrective action, training and documentation control in all of its engineering and manufacturing operations.

Five-Year Mechanical Equipment Warranty

The five-year warranty provided on BAC Series 3000 Cooling Towers is the most comprehensive fan motor and mechanical equipment warranty available in the industry. Included in the five-year warranty are the mechanical equipment support, fan(s) fan shaft(s), bearings, sheaves, and fan motor(s).

