



IMPROVE
COOLING

REDUCE
WARMING



**BALTIMORE
AIRCOIL COMPANY**

YOUR DEDICATED PARTNER IN INNOVATIVE
HEAT TRANSFER AND THERMAL STORAGE

BLUE by nature
GREEN at heart

Open Cooling Towers

Open cooling towers are a proven and cost-effective method of cooling condenser water loops and industrial processes. In operation, the condenser water (or process water) flows directly over the **heat transfer surface** of the open cooling tower. As **air** is introduced into the **tower**, a fraction of this water is **evaporated**, cooling the remaining water.

Open cooling towers provide evaporative cooling for many types of systems, and the specific application will largely determine which BAC cooling tower is best suited for a project. There are two main configurations of factory assembled open cooling towers: crossflow and counterflow. In crossflow cooling towers, the water flows vertically down the wet deck as the air flows horizontally across it. In counterflow cooling towers, the water flows vertically down the wet deck as the air flows vertically up it.



Closed Circuit Cooling Towers

Closed circuit cooling towers keep the process fluid clean and contaminant free in a closed loop. This creates two separate fluid circuits: an **external circuit**, in which spray water circulates over the coil and mixes with the outside air, and an **internal circuit**, in which the process fluid to be cooled circulates inside the coil. During operation, heat is transferred from the warm fluid in the coil to the spray water, and then to the atmosphere as a portion of the water evaporates.

BAC manufactures two types of closed circuit cooling towers: combined flow and counterflow.

Combined flow closed circuit cooling towers have both a heat exchange coil and wet deck surface for heat transfer; they utilize parallel flow of air and spray water over the coil, and crossflow of air and spray water flow through the wet deck surface.



Water Saving Products

CLOSED CIRCUIT COOLING TOWERS

Water saving and hybrid products (HXI) are of the closed circuit type where the heat load to be rejected is transferred from the process fluid to be cooled to the ambient air through a heat exchange coil.

The coil serves to isolate the process fluid from the outside air, keeping it clean and contamination free in a closed loop. The hybrid wet/dry products cool the liquid to be cooled by efficiently combining dry sensible air cooling with evaporative cooling. These products include two or more distinctive heat transfer surfaces or sections combined into one product optimising the use of the ambient dry and wet bulb temperature.

DRY COOLERS

The **SpartiumCooler** and **TrilliumSeries** coolers are dry coolers equipped with an **adiabatic pre-cooler section**.

Before the air is drawn through the high density finned coil however, it is pre-cooled adiabatically as it passes through an evaporative pad where water is evaporated in the air.



	Crossflow	Counter flow	Combined flow	Indoor installation	Axial fan	Centrifugal fan	Low sound	Energy efficiency	Easy maintenance	Operational safety	Water saving
Open cooling towers	S1500E	•			•		C	A	A	A	
	S3000E	•			•		C	A	A	A	
	FCT/IST		•		•		F	A	D	D	
	RCT		•		•		F	A	D	D	
	VTL-E		•		•		A	F	D	E	
	VT 0/1		•		•		A	F	D	E	
Closed circuit cooling towers	FXVE		•		•		C	A	A	A	E
	FXV-D		•		•		C	A	A	A	E
	FCI		•		•		F	A	D	D	D
	RCF		•		•		F	A	D	C	D
	VFL		•		•	•	A	F	D	E	D
	VXI		•		•	•	A	F	D	E	D
	HXI		•	•		•	C	A	B	B	C
	SP		•			•	D	C	A	A	B
Evaporative Condensers	DFCV-AD		•		•		D	C	A	A	B
	CKVE		•		•		C	A	A	A	E
	CKV-D		•		•		C	A	A	A	E
	ECI		•		•		F	A	D	D	D
	RCC		•		•		F	A	D	C	D
	VCL		•		•	•	A	F	D	E	D
	VXC		•		•	•	A	F	D	E	D
	VCA		•		•		E	B	D	E	D
	HXC		•	•		•	C	A	B	B	C
	TSDC		•			•	D	C	A	A	B
TVFC		•			•	E	D	A	A	B	

Addition of product accessories can improve standard product features e.g. sound attenuation, plume abatement, maintenance, operational safety, corrosion protection. Contact your BAC representative for more information.



Evaporative Condensers

In an evaporative condenser, refrigerant vapour is condensed in a coil, which is continually wetted on the outside by a recirculating water system. Air is circulated over the coil, causing a small portion of the recirculating water to evaporate. The evaporation removes heat from the vapour in the coil, causing it to condense. Evaporative condensers provide **lower condensing temperatures** and compressor kilowatts savings up to 30% when compared with air cooled systems. BAC manufactures two types of evaporative condensers: combined flow and counterflow. Combined flow evaporative condensers have both a heat exchange coil and wet deck surface for heat transfer; they utilize parallel flow of air and spray water over the coil, and crossflow of air and spray water flow through the wet deck surface.



Water Saving Condensers

The **HXC hybrid condenser** offers significant water savings versus traditional water-cooled and evaporative condensers. Thanks to the standard design features the HXC satisfies additional environmental concerns by minimising also energy consumption, refrigerant charge and plume.

The **TrilliumSeries** condensers are dry condensers equipped with an **adiabatic pre-cooler section**. Before the air is drawn through the high density finned coil however, it is pre-cooled adiabatically as it passes through an evaporative pad where water is evaporated in the air.



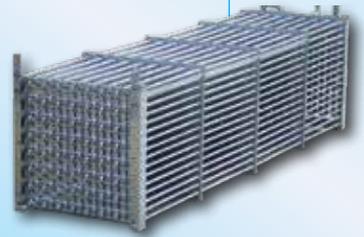


Ice Thermal Storage Products

Ice thermal storage products are used to build and store cooling in the form of ice during periods of reduced cooling demand. This way the mechanical refrigeration system needs not to be sized on peak load but on “average” conditions. Hence a smaller refrigeration system with much lower power requirements and a smaller refrigerant charge can be selected. Ice thermal storage products can either be of the “internal” or “external” melt type. For “internal melt” only glycol solutions can be used as secondary refrigerant. “External melt” ice storage products can use either direct refrigerant feed or glycol solutions.

TSC

as from 300 kWh



TSU-C/F

325 - 3692 kWh



Evaporators

In an evaporator, refrigerant liquid is evaporated in a coil. Fans draw the ambient air into the evaporator and force the air over the finned coil. The liquid inside the coil absorbs the heat from the air and evaporates. Then this cooled air is blown into the area that needs to be cooled. BAC manufactures two types of evaporator coils: galvanized and stainless steel aluminium, they can be provided with horizontal or vertical headers.



All our evaporator selections are custom engineered by our Engineering Team and tailored to suit our customer's unique applications and capacity requirements to ensure optimum efficiency and performance. Modelled in accordance with BAC's strict design criteria, and based on a proud heritage of over 75 years of air coil design and manufacturing, all selections are accompanied by comprehensive engineering data sheets and supporting drawings.



Spare Parts

BAC original spare parts are not just components. They guarantee year-round reliable operation of your cooling equipment.

Why? They meet BAC specifications — optimized by more than 75 years of cooling product experience. Every part undergoes a testing process under different conditions. On top BAC parts meet unrivalled safety and quality requirements and they are state of the art and fit perfectly.



BALTIMORE AIRCOIL COMPANY

Baltimore Aircoil Company - South Africa

Head office

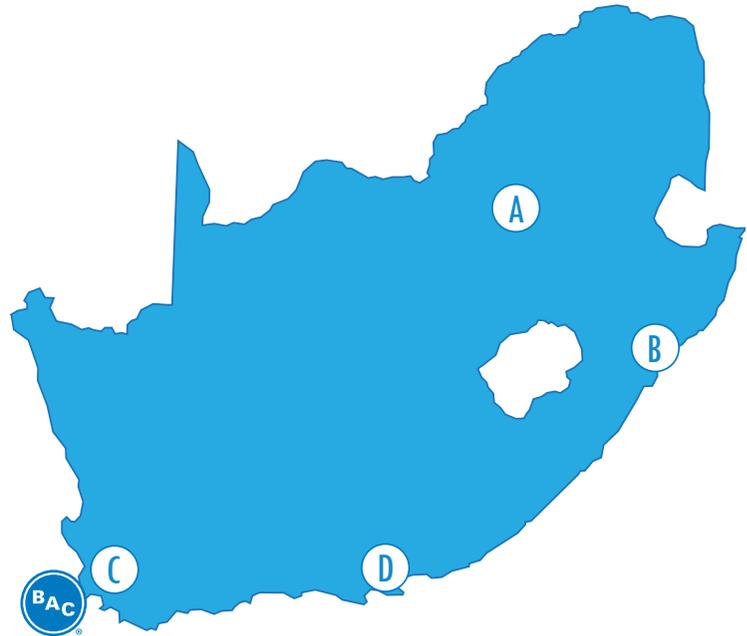


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LOW ENVIRONMENTAL
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S 310 v02 EN SA



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