

HFL - Hybrid Closed Circuit Cooling Tower



The HFL cooling tower is one of BAC's newly designed hybrid closed circuit cooling towers. Its design is unique: the HFL offers maximal cooling efficiency thanks to the three flexible operating modes and sets an unmatched operational safety standard in the industry.

The HFL is the perfect combination between :

- reliability, optimal thermal performance, maximal water/energy savings
- a clean and safe system



THE HFL'S UNIQUE DESIGN IN SHORT :

1. Sloping sump with remote cold water basin for easy maintenance
2. Closed circuit
3. Important water savings: integrated intelligent by-pass control system
4. Flexibility thanks to the HFL's three operation modes
5. Elimination of plume during wet operation
6. Efficient legionella risk control
7. Low sound operation
8. Large range of construction materials
9. Sustainable development: the HFL fully satisfies the current ecological regulations
10. Optional: integrated water treatment kit, service contract and extended warranty

Product Report



Baltimore Aircoil

1. Sump for easy maintenance

- Internal remote cold water basin, small capacity, shielded from the air stream
- Automatic drainage from the sloping dry sump: no manual actions required for more operational safety
- Complete access to the cold water basin even during operation
- Easy maintenance
- Daily disinfection possible after complete drainage of the small internal sump

2. Closed Circuit

- Dry finned discharge coil, shielded from the wet area
- Wet prime surface coil for evaporative cooling; depending on the load profile, water can be sprayed over this coil

3. Important water savings: integrated intelligent by-pass control system (BAC patented)

- Precise control of the fluid's outlet temperature
- Minimal water consumption
- Stable system, also during spring and fall



4. Flexibility thanks to the HFL's three operation modes

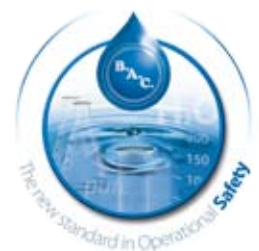
- Dry operation
- Adiabatic operation
- Combined wet-dry operation

5. Elimination of plume during wet operation

- The specific design of the dry finned discharge coil makes the temperature rise and reduces the relative humidity of the discharge air coming from the wet prime surface coil

6. Efficient legionella risk control

- Completely dry operation during 10 months per year (depending on site conditions)
- Spray water kept inside the unit during wet or adiabatic operation
- No splash-out from the remote cold water basin
- No "dead legs" in the piping system
- Prime surface construction materials preventing scaling
- Complete drainage of the sump and full access to this basin even during operation



7. Low Sound Operation

- Low noise centrifugal fans with high performance sound attenuation available

8. Large range of construction materials

- Stainless steel, hot dip galvanised steel, protective epoxy coating

9. Sustainable development: the HFL fully satisfies the current ecological regulations

- Evaporation through latent heat transfer saves energy
- Very low CO₂ emission compared to traditional solutions
- Outlet temperature will approach the wet bulb temperature during summertime
- Remarkably high COP

10. Optional

- Integrated water treatment kit
- Service contract and extended warranty

DESIGN FEATURES HFL



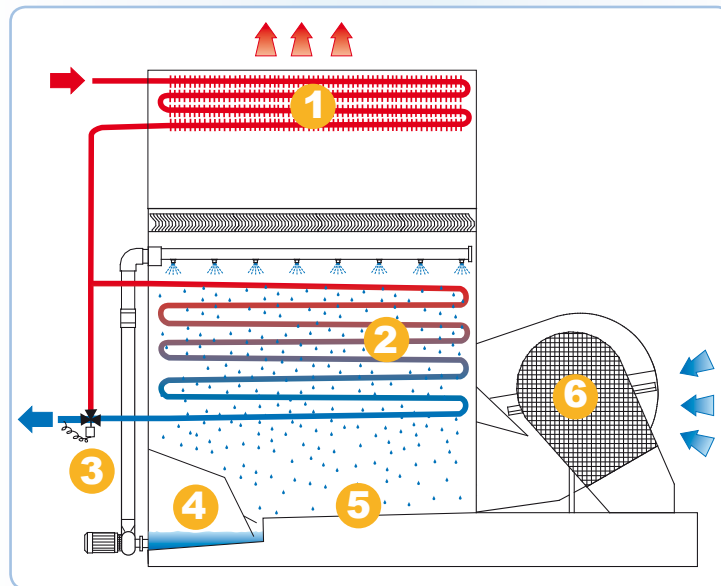
1 Dry finned discharge coil



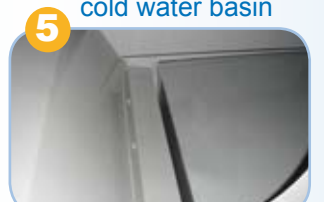
2 Wet prime surface coil



3 Modulating flow control valve (by-pass arrangement)



4 Separate internal cold water basin



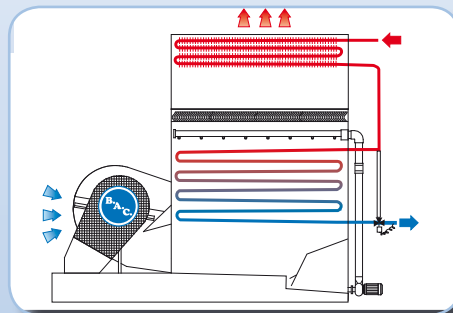
5 Sloping dry sump



6 Centrifugal fan

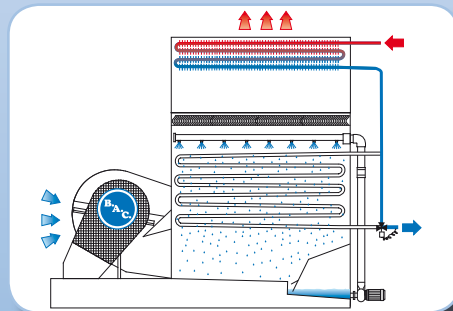
3 OPERATING MODES

Dry operating mode



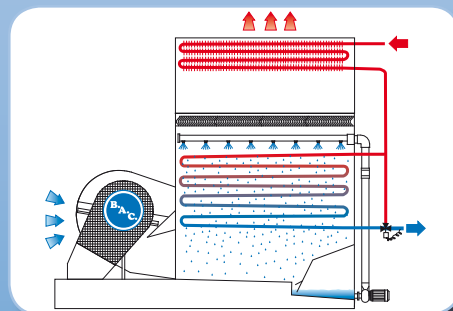
The spray water pump is turned off and the modulating flow control valve remains fully open. The fluid to be cooled is fed from the finned coil to the prime surface coil and is cooled by the dry air.

Adiabatic operating mode



The fluid to be cooled completely by-passes the wet prime surface coil. No heat is rejected from this coil and the recirculating spray water merely serves to saturate and adiabatically pre-cool the incoming outside air.

Combined wet-dry operating mode



The fluid to be cooled is first fed to the finned discharge coil, where it is pre-cooled by the discharge air. Subsequently the fluid is fed to the prime surface coil, which is wetted by the spray system. At reduced heat load and/or ambient temperatures the modulating flow control valve, which is controlled by the design fluid outlet temperature, modulates the flow through the wet prime surface coil.

OTHER WATER SAVING BAC PRODUCTS

DFC



DFC Coolers are available in horizontal, vertical or V-shaped configuration in a wide capacity and sound level range. The DFC has been designed to deliver maximum thermal performance and equipment lifetime while minimizing sound pressure, operational and installation costs.



TrilliumSeries Cooler and Condenser

In conditions where the design fluid outlet temperature comes close to the ambient dry bulb temperature, dry air cooling becomes inefficient or impossible.

The BAC TrilliumSeries Coolers have been designed to offer reliable, safe and efficient fluid cooling down to temperature below ambient temperature, while minimizing water consumption. The TrilliumSeries Cooler offers the advantages of evaporative cooling in a safe dry cooling product.

The BAC TrilliumSeries Coolers have been designed to offer reliable, safe and efficient fluid

HXI



HXI Closed Circuit Hybrid Cooling Towers deliver fully rated thermal performance over a wide range of flow and temperature requirements. Distinct advantages of the HXI include plume abatement, significant water savings over traditional water-cooled equipment. Standard design features satisfy today's environmental concerns, minimize installation costs, maximize year-round operating reliability, and simplify maintenance requirements.

HXC



The HXC Hybrid Condensers offer 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 HXC minimises operating cost, provides year-round operating reliability and simplifies maintenance requirements.

For more information :

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