Construction details

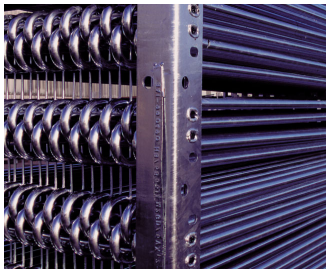
Refrigerant condensers

Construction details

1. Material options

- The unique Baltibond® hybrid coating **is standard for maximum equipment life.** This hybrid polymer coating is applied before assembly to all hot-dip galvanized steel components of the unit.
- Optional **stainless steel** panels and structural elements of type 304L or 316L for extreme applications.
- Or the economical alternative: a **water-contact stainless steel cold water basin**. Its key components and the basin itself are stainless steel. The rest is protected with the Baltibond® hybrid coating.

2. Heat transfer media



- Our heat transfer media is a **condensing coil**. Its thermal performance is proven during comprehensive **lab thermal performance tests,** and it offers you unrivalled system efficiency.
- The coil is constructed of prime surface steel, hot-dip galvanized after fabrication. Designed for maximum 23 bar operating pressure according to PED. Pneumatically tested at 34 bar.

- All hot dip galvanized and stainless steel coils are delivered with BAC's **Internal Coil Corrosion Protection**, to ensure an optimal internal corrosion protection and guaranteed quality.

Try our Polairis™ coil options:

- **Extended surface coils** with selected rows, finned at 3 to 5 fins per inch and hot-dip galvanized after fabrication, for dry operation during winter time.
- **Multiple circuit coils (split coils)** for your halo carbon refrigerants, maintaining individual compressor systems. Or use it for compressor jacket water or glycol cooling.
- **Stainless steel coils** are in type 304L or 316L.
- **High pressure coils** are designed for 28 bar operating pressure and pneumatically tested for 40 bar. Hot-dip galvanized after fabrication.

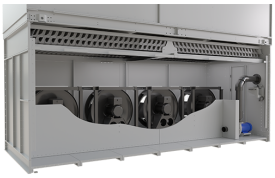
All coils are designed for low pressure drop with sloping tubes for free drainage of fluid.

3. Air movement system

- The air movement system consists of **multiple, direct driven radial fans** made of aluminum, mounted on **EC/PM motors with integrated control electronics**. They are completely **maintenance free** and guarantee **redundancy.**
- Air guiding channels installed above the fans allow a direct, vertical and **uniform air distribution** over the entire footprint of the condensing coil for **optimal heat transfer**.
- EC/PM motors have an efficiency level that significantly **exceeds efficiency class IE4** and enable **speed control without an additional variable frequency drive** and shielded cables.
- All motor types are wired to an IP66 terminal box, to avoid time-consuming on-site wiring.
- **Drift eliminators** come in UV-resistant plastic, which will not rot, decay or decompose and their performance is tested and **certified by Eurovent**. They are assembled in **easily handled and removable sections**, for easy inspection of the water distribution system.

- Steel drift eliminators, protected with the unique Baltibond® hybrid coating for optimal corrosion protection, are also available for specific applications.

4. Water distribution system



These consist of:

- **Spray branches** with wide non-clog plastic **nozzles**, secured by rubber **grommets**. You can easily remove, clean and flush both nozzles and spray branches from outside the unit.
- A DiamondClear® Design water collection system with:
  - Sloping channels that are continuously cleaned through direct impact of falling spray water, minimizing the need for maintenance
  - A sloping and free draining cold water basin with minimal surface and volume, which makes it subject to high turbulences during operation, thereby reducing the need for cleaning and chemical usage.
- A close couple, stainless steel fitted centrifugal **spray pump** with totally enclosed fan cooled (TEFC) motor**,** installed horizontally to **reduce the basin water volume.** Water treatment system connections in the pump piping and cold water basin are provided as standard.
- An **electrical water level controller** is standard installed increasing the equipment reliability and helping to maintain you system year-round. This controller is installed together with a solenoid activated valve in the make up water line. This valve closes slowly to minimize water hammer.

The dry area underneath the sloping channels is accessible via the **man-sized rectangular access door** and provides f**ull access to all components of the lower section** without the need to step into any wet areas, thus making it **quick and safe to inspect and maintain** the system.

Like to know more about the Polairis™ construction details?
Contact your local BAC representative.