

# Construction details

## Closed circuit cooling towers

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#### 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 **cooling 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 10 bar operating pressure according to PED. Pneumatically tested at 15 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 different water or glycol circuits.
- **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 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 motors have an efficiency level that significantly **exceeds efficiency class IE4** and enable **speed control without an additional variable frequency drive** and shielded cables.
- The EC motors 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.



### 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 [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, a double blank-off wall to create high turbulences in the basin during operation, thereby reducing the need for cleaning.



