Construction details

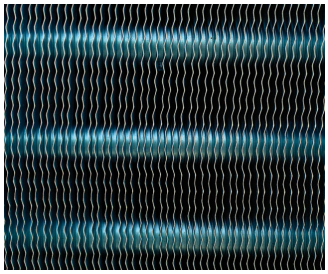
Adiabatic cooling

Construction details

1. Material options

- Heavy-gauge hot-dip **galvanized steel** is used for unit steel panels and structural elements featuring Baltibond Hybrid Coating**.**

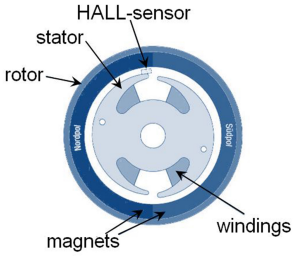
2. Heat transfer media



- The V-shaped finned coil is constructed of **staggered and seamless copper tubes** (10 mm diameter) with aluminium, rippled and corrugated fins.
- **2,5 mm fin spacing** for optimal air turbulence
- Thick and seamless copper headers and threaded steel connections
- Pressure tested at 15 bar
- **Try our option for aggressive environments**: special pre-coated anti-corrosion aluminium fins.

3. Air movement system

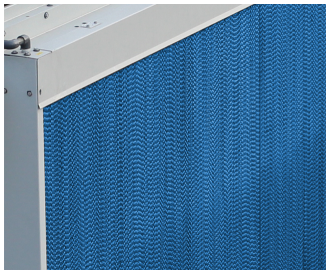




- **Axial fan** with exceptionally **compact direct drive** short integrated motor and fan guard.
- The **low profile fan** with fan guard features an **impeller and motor** and is balanced as a complete unit using dynamic single plane balancing. Balance grade is G6.3.
- Fan and motor totally **maintenance free**, and allow frequent starting.
- **Bearings seals and motor encapsulation** for long service life.
- The adiabatic units fitted with **EC motors** (EC in model number) provide an immense **reduction in power consumption**. The fans are piloted over an RS485 bus system by the controller supplied together with the electrical panel.
  Principle of operation: the magnetic field of the permanent magnets in the outside rotor is used by the consecutively powered windings in the inside stator to let the fan run. The Hall-sensor detects where the magnetic field is strongest, which determines which set of windings will be activated.

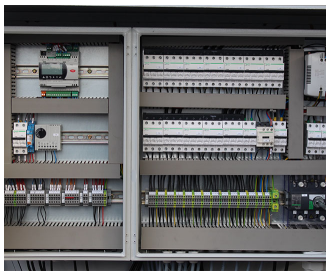
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4. Adiabatic pre-cooler



- Evaporative cooling pad of **impregnated cellulose** with different flute angles encased in bolted heavy gauge **stainless steel**.
- **Distribution pad on top** for complete pad wetting.
- **Once-through** water distribution system, no need for pumps, water drained to sewage.

5. Electrical panel and adiabatic controls



- Fully equipped **factory-installed electrical panel** with integrated motor controls and adiabatic controls as well as all the required circuit breakers and other auxiliary components.
- **Intelligent controls** featuring the possibility for:
  - An additional pre-programmed free cooling set-point
  - Day/night operation to limit the maximum fan speed to lower the sound levels
  - BMS communication with all common protocols
  - Possibility for a master/slave arrangement to further optimize multi-unit installations
  - Automatic cleaning cycle rinsing the pads in taxing environments
  - Possibility to force unit in dry operation in case water usage is prohibited

Like to know more about the TVFC TrilliumSeries cooler construction details? Contact your local BAC representative.

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