Construction details

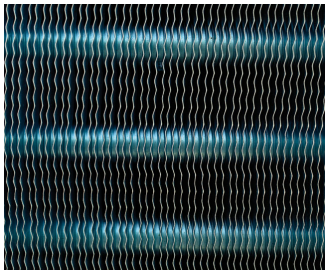
Adiabatic cooling

Construction details

1. Material options

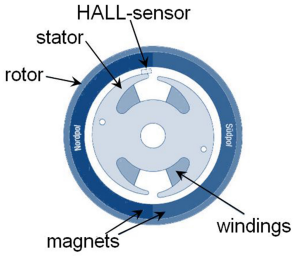
- Heavy-gauge hot-dip **galvanized steel** is used for unit steel panels and structural elements featuring Baltibond Hybrid Coating**.**

2. Heat transfer media



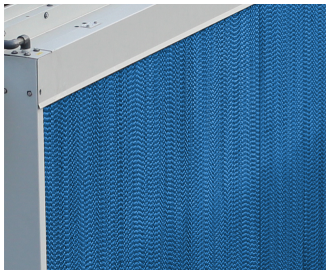
- The V-shaped finned coil is constructed of **staggered and seamless tubes** with aluminium, rippled and corrugated fins.
- **The fins are spread** for optimal air turbulence.
- Thick and seamless copper headers and threaded steel connections.
- Pressure tested at 34 bar.
- **Try our option for aggressive environments**: special pre-coated anti-corrosion aluminium fins.

3. Air movement system



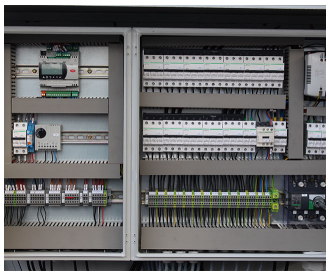
- **Axial fan** with exceptionally **compact direct drive** short integrated motor and fan guard.
- The **low profile fan** with fan guard features an **impeller and motor** and is balanced as a complete unit using dynamic single plane balancing. Balance grade is G6.3.
- Fan and motor totally **maintenance 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.

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 TVC TrilliumSeries condenser construction details? Contact your local BAC representative.