NEXT

NEXT COOLING | IWC | ASCTI

Air-Cooled Condensers

Global Presence, Local Expertise

www.nextcooling.com

Efficient. Sustainable. Built to Perform.

As a recognised leader in advanced cooling technologies, NEXT proudly offers a high-performance portfolio of Air-Cooled Condensers (ACC's) to clients across the globe. Our ACC solutions are meticulously engineered to minimise environmental impact by minimizing noise, water usage and lowering carbon emissions.

Each ACC undergoes rigorous evaluation by our experienced engineering team to ensure optimal component integration and system-wide efficiency. This approach underpins long-term reliability and consistent operational performance.

A-Frame Design

Smart Design for Direct Steam Condensation

The A-frame Air-Cooled Condensers (ACCs) represent the Best Available Technology for modern industries and power plants requiring reliable condensation and heat rejection. These units are a top choice worldwide, delivering exceptional energy savings, robust reliability, and sustainable performance. Our design is in line with industry standards and engineering practices, as well as international codes (HEI code).

Feedback from operators underscores that A-frame ACCs often outlast expectations, with routine annual inspections sufficient for long-term reliability.

Design Highlights:

- **Modular Construction**
  Easy to install, maintain with minimal downtime
- **FV to 1.5 bar(a)**
  Maximize steam turbine output
- **Heavy-Duty Materials**
  Galvanized steel, Aluminium cladded tubes, and UV-resistant FRP offer decades of service
- **Robust Structure**
  Engineered for wind, seismic, and snow loads specific for each region
- **Forced Draft**
  Mechanical group is protected and exposed to fresh air
- **Maintenance Made Easy**
  Crews can reach all critical areas

Single Tube Row Configuration

Compact. Efficient. Freeze-Resistant.

Our air-cooled condensers are designed with single row tube-bundles, providing maximum thermal efficiency in all climates. They uniquely optimize heat transfer and airflow while maintaining compact footprints and low operating noise.

Single-row overperform conventional multi-row models, especially at low ambient temperatures or fluctuating loads. This proven technology has transformed dry cooling worldwide, especially for renewable energy projects and power generation

Our single row tube-bundle design features:

- Low pressure drops (steam and air side) > Lower energy use
- Consistent steam distribution
- No "dead zones" or freezing risks
- Nearly 100% finned surface for optimal heat transfer
- Allows high steam velocity and efficient drainage
- Steam-contact design keeps condensate at safe temperatures
- Corrosion resistant aluminium cladding

Operating under Vacuum

Maintaining Performance in Low-Pressure Conditions

ACCs operate under vacuum. Small leaks and non-condensable gases are inevitable and require removal in order to preserve thermal efficiency (Holding).

Rapid initial evacuation (Hogging) is critical in modern power plants requiring operational flexibility . High-capacity vacuum systems like steam jet ejectors or liquid ring pumps ensure proper operability.

Tailored Solutions

Custom Designs for Unique Site Needs

Every site is different. We offer bespoke ACC systems to meet your specific operational and environmental requirements.

Noise Control

We tackle noise from fans, motors, and steam ducts with:

- Low-noise and ultra-low noise fan blade shapes
- Soundproof mechanical group enclosures
- Insulated duct surfaces
- Inlet/outlet silencers for maximum reduction

Cold Climate Adaptations

Reliable Performance in Freezing Conditions

- Fan control systems and logics
- Steam Isolation valves
- Optimized dephlegmator bundles configuration up to full dephlegmation
- Thermal insulation and heat tracing
- Hot-box configuration

- Natural Draft Cooling Towers
- Mechanical Draft Cooling Towers
- Package Cooling Towers
- Aftermarket Services
- Heat Exchangers

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EUROPE and MENA
Switzerland, Italy
E info@nextcooling.com

AFRICA
South Africa
E info-za@nextcooling.com

INDIA
Delhi, Mumbai, Chennai
E info-in@nextcooling.com

ASIA PACIFIC
Australia
E info-au@nextcooling.com