

# SPIG™ Air-Cooled Condensers



# Environmentally Friendly SPIG™ Air-Cooled Condensers



Air-cooled condensers for an 850 MW combined cycle power plant



A-Frame design



V-Frame design



Δ-Frame design

## Global Cooling Competencies

Babcock & Wilcox Environmental (B&W) operates globally supplying an extensive range of SPIG™ turnkey cooling systems. Since 1936, we have designed, engineered and installed many state-of-the-art cooling system projects for a wide range of industries including oil and gas, petrochemical, power generation, waste-to-energy, cogeneration and combined cycle, and district heating and cooling, to name a few.

Our experience includes wet, dry and wet/dry hybrid cooling solutions as dictated by site-specific requirements. We can supply both mechanical and natural draft systems and design for a wide range of project specifications such as high seismic loads, vibration control, corrosion, noise control, sub-freezing operation, and sea water use.

Dry cooling technology, both air-cooled condensers (ACC) and air-finned coolers (AFC), represent an increasing portion of our global business, as water preservation is becoming a priority for plant owners and operators.

## SPIG Air-Cooled Condenser Design

The increasing demand for dry cooling solutions has given B&W the opportunity to offer its experience, expertise and customized engineered solutions for energy efficient and high performance air-cooled condensers.

SPIG high efficiency air-cooled condensers are flexible and customized, and can be supplied with A-frame, V-frame or Δ-frame configurations according to any plot plan restrictions. Special considerations for low noise, low fan power consumption, corrosion resistance, and extreme temperature applications are also available. Customers realize benefits from long life operation, minimized downtime and maximized plant performance and availability.

Our expertise includes both multi-row and the advanced single-row technology. Multi-row tube technology design features round and elliptical tube geometry, round tube with aluminum fin, fin bond type G-fin, L-fin and extruded or elliptical tube with hot-dip galvanized steel fins to help protect against corrosion.

The single-row aluminum fin tube design is state-of-the-art technology in vacuum steam condensers. The multiple rows, circular or elliptical tubes of the multi-row design are replaced with one larger flat tube. The main advantages of the single-row design include increased thermal efficiency, lower fan power consumption, non-freezing ability, higher resistance against corrosion and a smaller plot area. The SPIG design is developed through in-house software for thermal rating as well as international HTRI® thermal software. We are also a proud member of the ACC Users Group.

Single row condenser tube bundles are manufactured in our China location in Shanxi Province. The entire operation is ISO9001:2008 certified, from raw material to production processes and testing, including general management.







Single-row manufacturing facility



Air-cooled condenser service



Single-row tube air-cooled condenser

## Expert Service

To help avoid unscheduled downtime and achieve optimal plant performance, B&W offers a wide range of services for air-cooled condensers such as maintenance, overhaul, revamping, spare parts supply, and online remote monitoring. Our comprehensive service portfolio includes inspections, structural and thermal repairs, upgrades, refurbishment, and the addition of new cells.

In addition, a customized online continuous monitoring system is available to improve plant efficiency by processing parameters and mechanical equipment conditions. The UNICO smart system is suitable for optimizing air-cooled condenser operation.

B&W provides flexible, customized technical solutions to satisfy most any customer requirement.



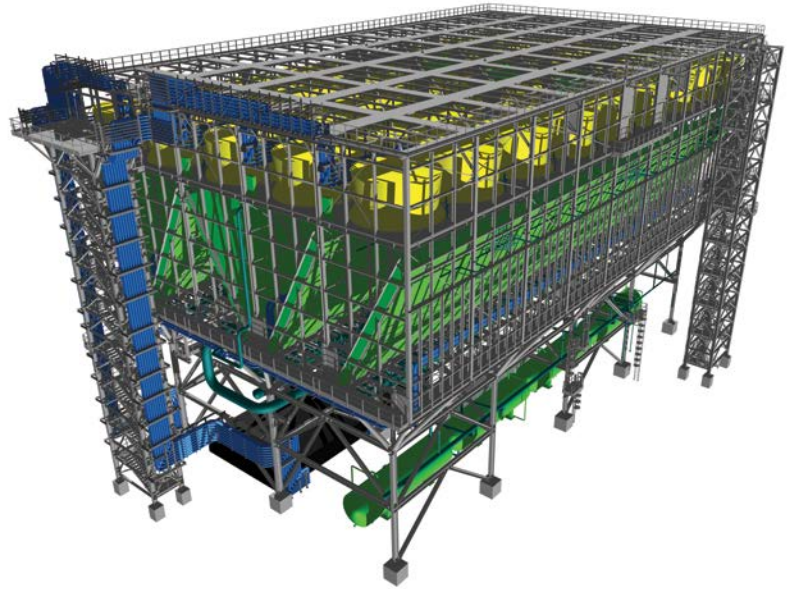
UNICO installation on an air-cooled condenser



Cleaning systems

# SPIG™ Air-Cooled Condensers

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Established in 1867, B&W is a global leader in renewable, environmental and thermal technologies and services for power and industrial applications.

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