

# STEAM SURFACE CONDENSERS



**TEi**  
a Babcock Power Inc. company

**THERMAL ENGINEERING INTERNATIONAL (USA) INC. (TEi)**, a Babcock Power Inc.® company, is a leading supplier of heat transfer technology to the electric power generation and industrial markets. Backed by more than 100 years experience, we offer fully integrated design, engineering, manufacturing, construction, research and development services.

The surface condenser is a critical component in the operation of a steam power plant. Condenser failures can result in forced outages and loss of generation capacity. TEi condensers represent an evolution of advanced technology, offering improved thermal efficiency and advanced mechanical design to reduce forced outages and increase availability.

Our condenser designs can incorporate enhanced deaeration systems, and/or a variety of turbine exhaust options, which can assist in improving plant layouts. We continually address and refine these and other considerations associated with circular designs where space is at a premium.



Steam Surface Condenser Transition



## TEi Surface Condensers Maximize Thermal Efficiency By:

- Optimizing tube layout geometries
- Maximizing available surface area
- Managing destructive velocities
- Distributing steam uniformly
- Minimizing pressure drop
- Optimizing reheat and deaeration
- Effectively removing non-condensibles
- Reducing subcooling potential

## TEi's Mechanical Design Provides:

- Security against tube leakage and condensate contamination
- Protection against destructive tube vibration
- Controlled thermal expansion
- Conservatively designed steam paths
- Ease of field assembly
- Condenser panel allowable force & moment analysis for customer usage
- Protection against high-energy fluids
- Control of excessive tube loads & tubesheet stresses



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## SERVING OUR CUSTOMERS

TEi provides feedwater heaters for conventional fossil generation, solar, biomass, nuclear, IPP/NUG/Co-Gen technology and programs utilizing advanced cycle configurations. TEi facilities are dedicated exclusively to the manufacture of heat transfer equipment for power plant and process industries. Our organization's advanced programs ensure compliance with the highest quality requirements at our U.S. facilities and licensed overseas operations.

## LOS ANGELES HEADQUARTERS

Design teams provide integrated product engineering, resulting in single-point responsibility for design and manufacturing

## JOPLIN, MISSOURI MANUFACTURING FACILITY

Equipped with sophisticated tooling necessary for the precise drilling of tubesheets and support plates. Large floor and lay-down areas eliminate assembly bottle necks and promote efficient material flow.

## CERTIFIED SHOP PER THE FOLLOWING:

9001 : 2008

ASME Section I & Section VIII

Chinese Manufacturing License, PED, CRN

National Board U, S, R

Military Standards

IOCFR—Nuclear Non-Safety Related

## AWARD RECIPIENT

SHARP (Safety & Health Achievement Recognition Program 2009–14)

FM Global Manufacturing Award of Excellence 2009

TECO Westinghouse Blue Diamond Award 2009

Deviation Management System tools to identify, record, analyze non-conformances and improve quality control system.



## FULL RANGE OF HEAT TRANSFER COMPONENT SERVICES

- Feedwater heaters
- Surface condensers
- Moisture separator reheaters (MSRs)
- Heat exchangers
- Engineering & field services

SAFETY<sup>3</sup> PEOPLE. POWER. PROJECTS.

We're giving safety the third degree.

Babcock Power Inc. and its subsidiaries place the safety, health and security of our people at the core of our company values. Our team is our most valuable resource, generating solutions everyday to deliver safe, clean, reliable energy globally. With a keen focus on safety, Babcock Power Inc. conducts business in a manner that protects our people, our customers and the environment. From innovation to generation, we are proud of our award-winning safety record and are committed to operating with integrity and excellence.

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