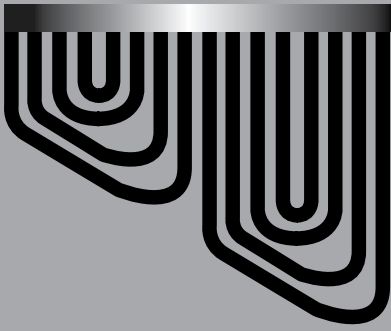


**CTI POWER**



**YOUR POWER  
CONNECTION  
SINCE 1914**



# YOUR LEADING PRESSURE

At CTI Power, our goal is to provide cost-effective solutions for our customers in the following industries:

- Power Generation
- Petro-Chemical
- Pulp and Paper
- Industrial Steam Generation

We accomplish this through our expertise, reliability, responsiveness and unparalleled customer service.



**Large Modules for Faster Installation**



# PART FABRICATION SOURCE



**Welding of  
Superheaters  
for Super  
Critical Unit**



**Inlet Header  
with Stubs**



**Induction Heater  
for Hot Bending**



**Automated TIG  
Welding**



# ABOUT CTI

CTI Power has served the power generation industry for over 100 years. Our two ASME code shops located in North Carolina and Illinois have full capabilities to fabricate all ASME pressure parts. Our experienced staff and professional workforce will meet or exceed your expectations.

Our parent company, Chicago Tube & Iron, is one of the largest steel service centers in the United States with ten subsidiaries throughout the country. CT&I has over 1.2 million square feet of efficient, state-of-the-art facilities and carries over 30,000 line items of inventory. Our CTI Fabricated Products Division can also provide detailed laser cutting and robotic welding for non-code products.

## CTI Power Benefits

CTI Power provides exceptional value:

- Offering a superior level of responsiveness and customer service for all projects large or small
- Broad engineering and manufacturing expertise
- Leading the industry with innovative state-of-the-art fabrication
- Cost effective solutions to meet customer needs
- Providing the highest quality fabricated products using in-house Quality Control and heat treating
- On time delivery for all projects



**Locust, North Carolina**

ASME shop space—130,000 sq. ft.

Full capabilities for all ASME pressure part fabrication



**Romeoville, Illinois**

ASME shop space—65,000 sq. ft.

Non-ASME Fabricated Products—65,000 sq. ft.

Warehouse space—260,000 sq. ft.

Full capabilities for all ASME pressure part fabrication

# QUALITY ASSURANCE

CTI Power holds ASME “S”, “U” and NBIC “R” stamps with ASNT level III and AWS CWI inspectors on staff.

Our Quality system incorporates an inspection process that includes corrective and preventive action plans, statistical analysis and ongoing training to improve shop labor skills and in-process quality. We use the analysis and preventive actions to drive continuous improvement throughout the company.

We perform a triple inspection of all fixtures prior to start of production and utilize full size templates for first article verification and subsequent in-process checks.

All of the quality reports generated on a project are made available to our customers in digital format.

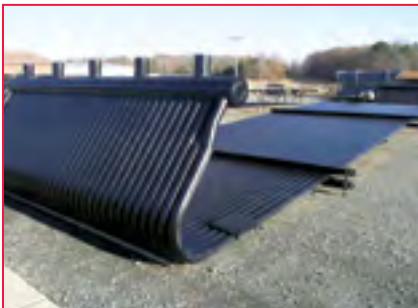
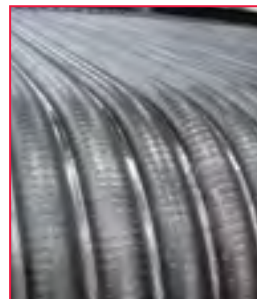
The Quality Department conducts Process Qualifications as well as Internal Audits to verify compliance. All suppliers undergo a comprehensive qualitative process to ensure their products meet our quality standards. Consistent high quality is our top priority.

### **In-house NDE Capabilities**

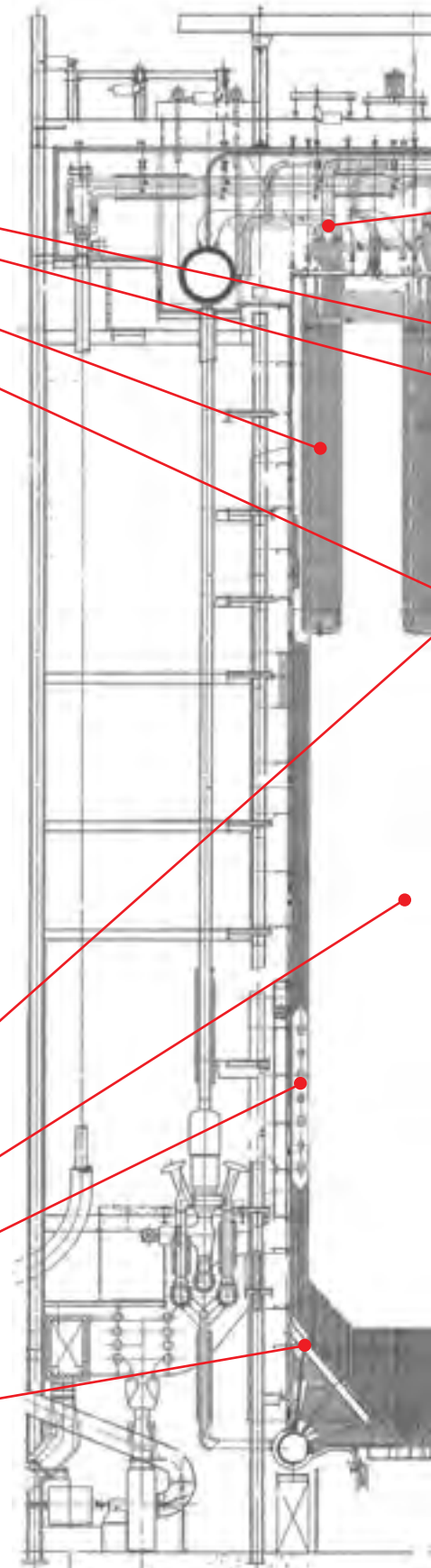
VT — Visual Inspection 100% on all projects  
PT — Liquid Dye Penetrant Testing  
MT — Magnetic Particle Testing  
UT — Ultrasonic Testing  
HY — Hydrostatic Testing  
RT — Digital Radiography



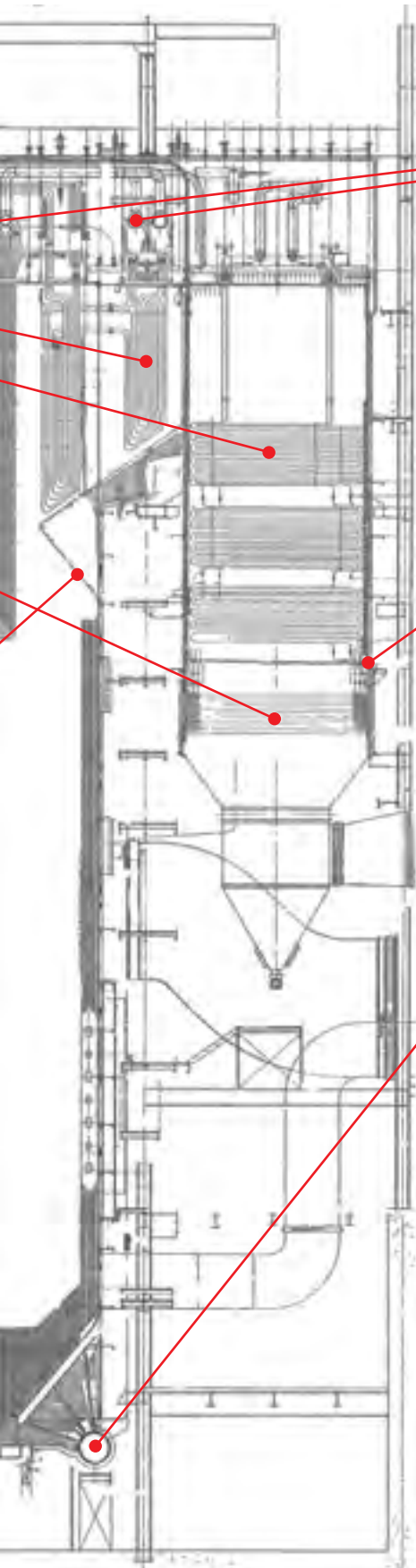
## Elements - SH, RH, Econ, Gen Bank



## Waterwalls - Panels, Openings



# PART PRODUCTS

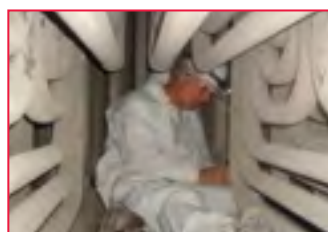


## Headers and Drums



**C**onsistent  
**R**eliable  
**C**ustomer  
**S**ervice

Reverse Engineering



In-house Heat Treatment



Header Optimization



# HYBRID LASER PANEL WELDING

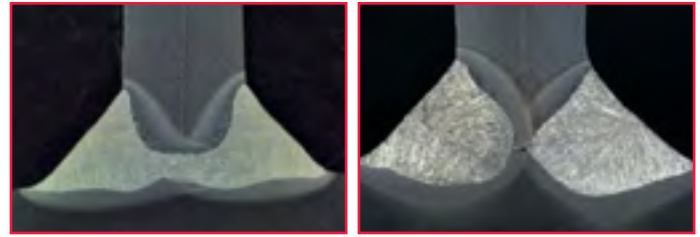
Hybrid Laser Arc Welding (HLAW) is an ASME approved process combining two traditional welding technologies – laser beam welding (LBW) and GMAW arc welding process. One prominent benefit of the HLAW process is a reduction in welding-induced residual stresses due to lower heat input requirements. The laser beam portion, used as the heat source, can focus energy to a single spot. This reduces the overall heat input to the weld by a factor of five as compared to SAW. Lowering the residual stresses reduces the amount of distortion created during welding, minimizing the heat affected zone (HAZ) and limiting stresses provide for longer panel life. The HLAW laser process also provides 100% full penetration welds.

With the HLAW Panel Welding System, CTI Power can provide panels using any ASME approved materials, while accommodating any tube size and tube spacing to fabricate panels up to 60' long.

## HLAW Benefits

CTI Power's Hybrid Laser System provides several advantages over submerged arc welding for membrane attachment to boiler tubes:

- 100% Weld Penetration
- Less Tubing Penetration
- Lower Residual Stresses
- Smaller HAZ
- Superior Weld Profile
- Higher Repeatability
- Less shrinkage, more consistent finished panel geometry



The HLAW membrane weld (left) provides 100% full penetration. When compared to other panel welding processes, it provides a more uniform weld with less encroachment into the tube material and a smaller heat affected zone (HAZ).

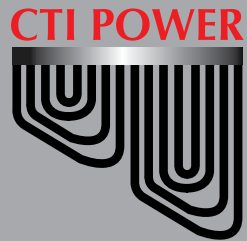


Above are two finned tubes as they come off the respective welding systems. CTI Power's HLAW panel welding system produces dramatically lower distortion, meaning virtually no straightening required.

# AUTOMATED TIG WELDING

CTI Power uses an automated TIG welding process for joining tubes for length prior to bending. This process provides the highest quality welds while the automation results in fast, repeatable, high integrity welds. The GTAW process can be used with virtually any tube material and wall thickness, including dissimilar metal welds.





## **ASME Fabricators of Boiler Pressure Parts**



### **BOILER RELATED INQUIRIES**

**CTI POWER – CHARLOTTE**  
**888-788-8138**  
[www.cti-power.com](http://www.cti-power.com)

**CHICAGO/ROMEDEVILLE**  
**800-972-0217**

### **DISTRIBUTION RELATED INQUIRIES**

**CHICAGO/ROMEDEVILLE**  
**800-972-0217**

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**QUAD CITIES**  
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**FOND DU LAC**  
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**ST. PAUL**  
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**800-428-1380**

**CLEVELAND**  
**800-972-0217**

[www.chicagotube.com](http://www.chicagotube.com)