

VICTORY ENERGY[®]

COMPANY ENGINEERING MANUFACTURING PRODUCTS AFTERMARKET CAREERS NEWS CONTACT

○ HRSG - Heat Recovery Steam Generators



The logo for the Horizon series, featuring the word "HORIZON" in a bold, purple, sans-serif font with a blue wave-like underline. Below it, the word "series" is written in a smaller, lowercase, blue font.



Concept to Completion[®]

Excellence in the making

From the beginning, the goals of Victory Energy Operations, LLC have been to be a single-source solutions provider backed by world-class service. Today, we are a leading boiler supplier offering proven energy solutions through advanced technologies and state-of-the-art manufacturing.

No application is too small or too large. We thrive in an atmosphere of innovative thinking and breakthrough methodology. We carry this attitude forward from "Concept to Completion[®]" as we work closely with our customers, in-house engineering teams, in-house project management teams, fabrication personnel, manufacturing crews, logistics department and field technicians.

In addition to providing rock-solid solutions that are reliable and compliant with the most stringent technical requirements, we are constantly looking for ways to maximize the efficiencies and value of total integration for our customers and end users.

Quality materials and superior construction is essential to producing heat recovery systems that are, by design, engineered to be the most reliable steam generators in the world. Our approach to modularization is designed to maximize shop assembly while minimizing costly field labor and delivery time.



Three of six HRSG modules designed to ship by rail.



State-of-the-art manufacturing facilities and corporate offices are located just North of Tulsa, Oklahoma.

Victory Energy offers a full range of custom-designed HRSG systems that are designed to deliver proven performance and crucial efficiencies at a cost effective price.

Modular-designed units are completely shop-assembled to maximize transportation efficiencies and minimize field costs by lowering man-hours needed for installation.

Typical HRSG Applications:

- Gas turbine/cogeneration
- Gas and diesel engine exhaust
- Solid fuel combustion recovery systems: wood, coal, MSW - Municipal Solid Waste)
- Process gas from thermal oxidizers, thermal reaction furnaces and incinerators
- Biomass and gasification



VE has ASME and NBIC Certificates of Authority to design, construct and repair pressure vessels.



HRSG modules are designed for ease of lifting and movement.



All work is managed by Victory Energy's ITP (Inspection Test Plan) to assure quality control.

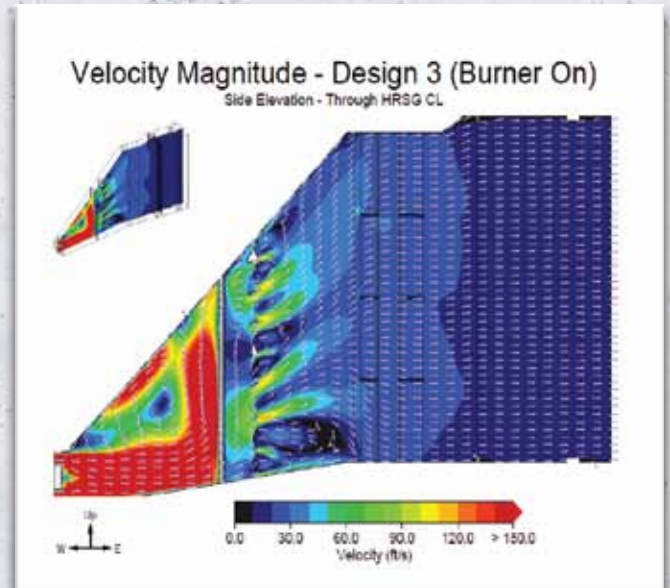
HRSG - Heat Recovery Steam Generators

Additional benefits you can expect from a HORIZON Series HRSG from Victory Energy:

- Modular assemblies simplify field labor and reduces construction costs.
- Module lifting lugs and temporary steel simplify field transport and handling.
- Fully shop assembled units or large assemblies are available for industrial HRSGs for a variety of exhaust gases
- Single wide, modular design
- Designs are custom engineered to accommodate transportation requirements
- 1, 2, or 3 pressure levels
- Full range of supplementary equipment

Advanced analytical tools are used for life cycle evaluation to consider the following factors:

- Proper selection of materials
- Field proven tube-to-header connection
- Each has built in flexibility for ease of thermal expansion
- Flexible piping designs
- Start up and shut down optimization



Results of advanced flow modeling to analyze temperature profiles and flow distribution.

Our commitment to the 212 Principle continues to drive our dedication to customer satisfaction.

The **212** Principle

At 211 degrees, water is hot. At 212 degrees, it boils.
And with boiling water, comes steam.
And with steam, we power the progress of change.

The power of one extra degree!



Modular HRSG tube bundle being prepared for internal inspection.



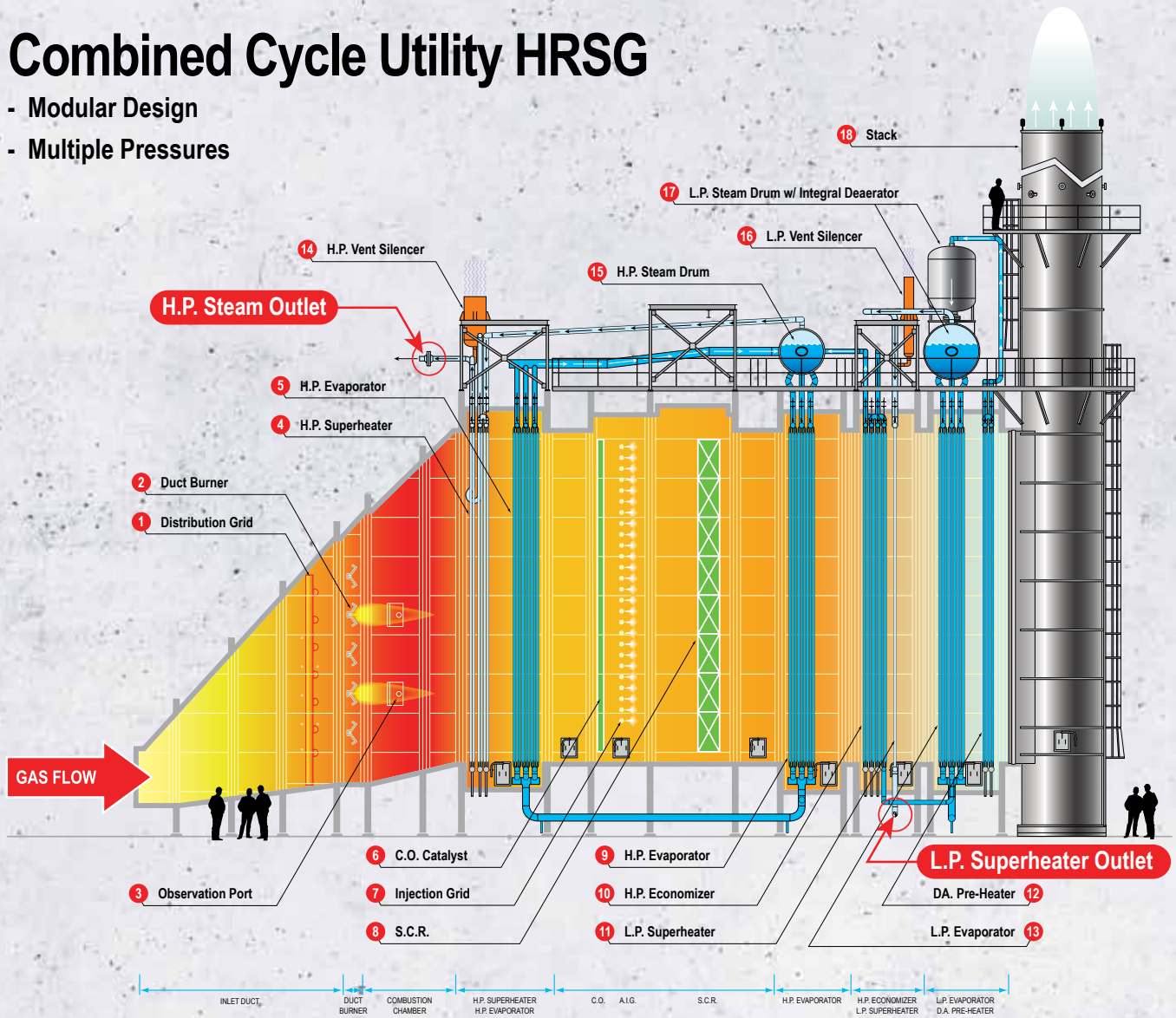
Proper equipment maximizes efficient and save delivery.



Fully customized control systems utilizing the latest PLC technology.

Combined Cycle Utility HRSG

- Modular Design
- Multiple Pressures



HRSG watertube heat recovery boilers are engineered with patented technologies.



Victory Energy specializes in large-scale fabrication of boilers and pressure vessels.



Fully integrated TITAN® water level equipment.

FULL STEAM AHEAD!



Erosive and corrosive resistant solid fuel (coal-fired) HRSG.



Modular designed field-erected Utility Combined Cycle HRSG.



O-style WHB's are custom-engineered for various applications.



MSW boiler equipped with large Davit doors for easy access.



Waste heat recovery project, expected to produce upwards of 40 megawatts. Capacities: 450K PPH, 1,300 PSIG and 900 Degrees.



Custom engineered waste heat watertube boilers, designed for sulfur recovery application.



**RECOVERED HEAT TRANSLATES
TO RESOURCES SAVED!**

Ancillary Equipment and Services

Heat Recovery Products are a vital part of our sustainability initiative and one of the many ways in which we provide integrated solutions to maximize waste heat recovery.

Victory Energy offers a complete suite of heat recovery products and ancillary equipment:

- EXPLORER® Economizers (rectangular & cylindrical)
- Condensing Economizers
- Waste heat oil heaters
- DA make up and tubular air pre-heaters
- Liquid-liquid heat exchangers
- Duct burners
- Silencers
- Deaerators and BFW pumps
- Blowdown systems
- Combustion controls & burner management systems
- Fuel trains/racks
- Transitions, stacks, support steel, duct-work/casing for high and low temperature and dirty gas applications, expansion joints, Guillotine dampers and controls, diverters, valves and hoppers
- SCR system
- Complete boiler trim
- ASME code piping
- CO catalyst
- Spare parts
- Full-time (24/7) service, installation and start-up



VICTORY ENERGY®

FOLLOW A LEADER



www.victoryenergy.com

1-877-783-2665

VICTORY ENERGY OPERATIONS, LLC | 10701 E. 126TH ST. N., COLLINSVILLE, OK 74021 | TEL: 918.274.0023 FAX: 918.382.4896

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