

**VICTORY ENERGY<sup>®</sup>**

# FIRETUBE BOILERS

“The full line of Victory Energy firetube boilers that feature both wetback and dryback designs, meet virtually every application requirement.”

# INTRODUCING

Powerhouse Combustion & Mechanical Corporation has partnered with Victory Energy, a top-of-the-line boiler manufacturer, to provide best in class boiler products and services to clients throughout California.

The field expertise and service reputation of the Powerhouse team, combined with the engineering and manufacturing expertise of the Victory Energy team, provides a boiler product, equipment installation and on-going service experience that is unparalleled in the industry.



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## POWERHOUSE COMBUSTION & MECHANICAL CORPORATION

Powerhouse is a full-service provider of Mechanical and Combustion Services. We specialize in Boiler Service and Sales. Powerhouse holds a B license with a C-4 Steam/Hot Water Classification. Our mission is to focus on our client's best interests at all times. In doing so, we provide exceptional service and value.

Our team is always available. Powerhouse provides 24/7 Boiler Service 365 days a year. Our staff is trained to service any type of equipment. We are excited to partner with Victory Energy, to represent the highest quality (and still cost competitive) boiler equipment in the industry.

Industries we service include (not limited to): Aerospace, Chemical, Commercial Office, Education, Food Service, Hospitality, Healthcare, Institutional, Laundry, Manufacturing, Mining, Natural Gas, Oil, Packaging, Paper, Textile and Water.

Powerhouse is based in Southern California. Our current service area includes all of Southern California and portions of Central California.

## VICTORY ENERGY

INDUSTRY LEADING SOLUTIONS FOR BOILERS, BURNERS AND HEAT RECOVERY

The steam industry is a demanding one that continually pushes manufacturers to deliver new solutions. Users expect to see increased value delivered to their operations across all steam products. Their requirement of us is to be bigger, better and faster while looking into the future to anticipate new advances.

Forward thinking is imperative. That's what drives Victory Energy. We're continually advancing steam technology to deliver uncompromised value through thermal engineering expertise. It requires looking into the future to see what should be in new boiler and heat recovery advances.

When you need a company that does it fast and best and is forward thinking at every corner, look to Victory Energy.

Full Steam Ahead!

# THE BOILERS



From a dedicated manufacturing facility through to producing a full line of engineered wetback and dryback firetube boilers, Victory Energy is all in with firetube boilers! Backed by the best-in-class distributors to sell and service the Firetube product offering, Victory Energy has made a concerted effort to be the best manufacturer of firetube boilers that create maximum customer value.

Every FRONTIER® firetube boiler is produced against a company-wide "Concept to Completion" credo that exists from project inception through to boiler commissioning and start-up. The firetube team works seamlessly from in-house engineering and project management on through to manufacturing, logistics and field service to deliver a flawless product. Victory Energy controls the quality and timeliness on all project engagements to ensure that the product arrives on time and on budget.

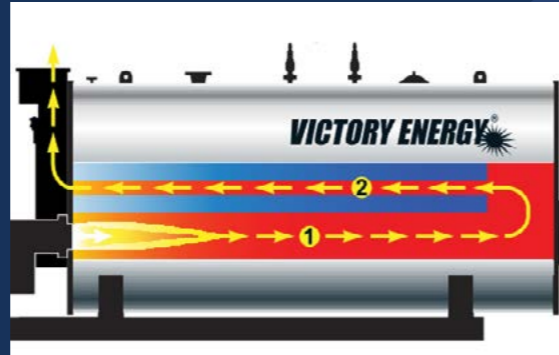


The Powerhouse sales and service team are experts on the Victory Energy line of products and fully equipped to help you find the right piece of equipment for your specific application.

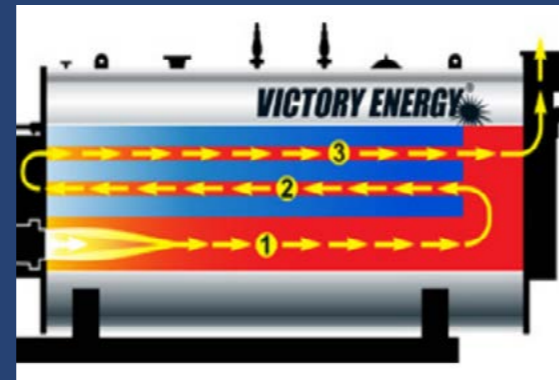
# WETBACK DESIGN

- Ideally suited for “varying” steam loads
- Engineered for less yearly maintenance issues
- Wetback boiler utilizes its water as the heat bearer to boiler components
- Water cooled flue gas reversing chamber reduces thermal stress

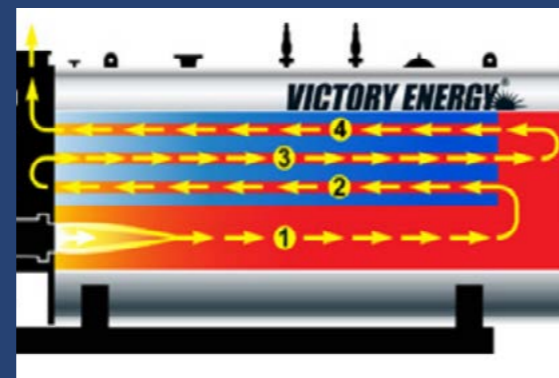
**2-PASS**  
**100 HP -2,500 HP**



**3-PASS**  
**200 HP -2,500 HP**



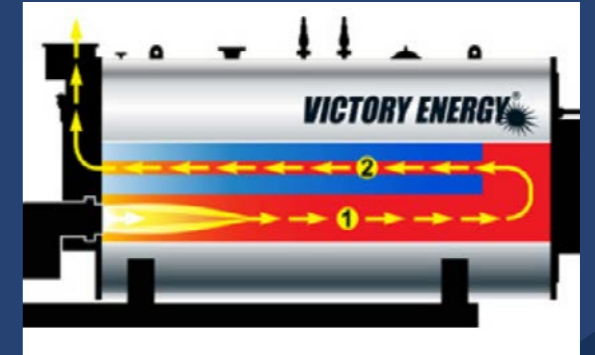
**4-PASS**  
**200 HP -2,500 HP**



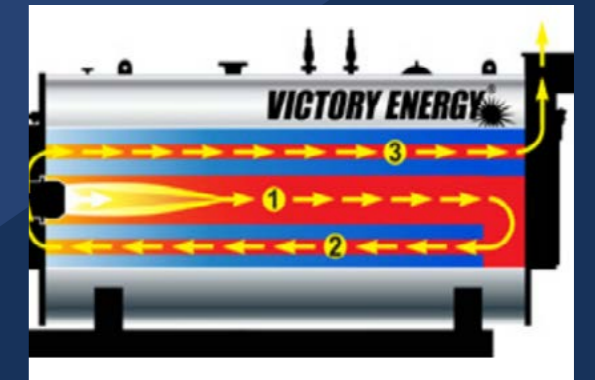
# DRYBACK DESIGN

- Ideally suited for “steady” steam loads
- Easier to maintain
- Tubes can be removed from either front or rear- ideal for fireside inspections
- Lower initial capital costs

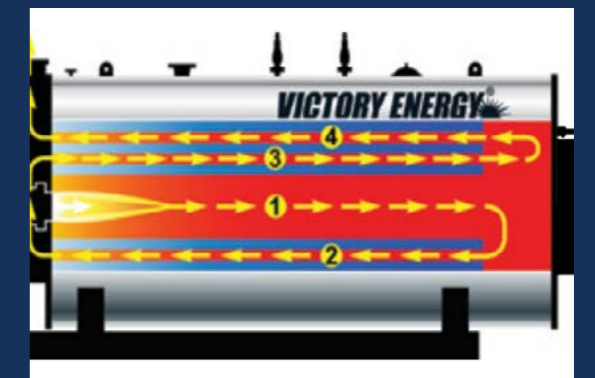
**2-PASS**  
**50 HP -2,500 HP**



**3-PASS**  
**50 HP -2,500 HP**



**4-PASS**  
**200 HP -1,500 HP**



# FEATURES/BENEFITS



## STAINLESS STEEL JACKET

Standard 304SS jacket. All Victory Energy boilers are manufactured with a stainless steel jacket standard. Stainless steel is easy to clean and more aesthetically pleasing in the boiler room.



## HEAVY DUTY DAVITED DOOR

Front davited doors for easy, safe access for maintenance. Easy cleaning and annual inspection access. No extra manpower or hoisting equipment needed. Rugged steel covering over door insulation. No sprayed on hardener. Erosion protection



## REAR ACCESS PLUG

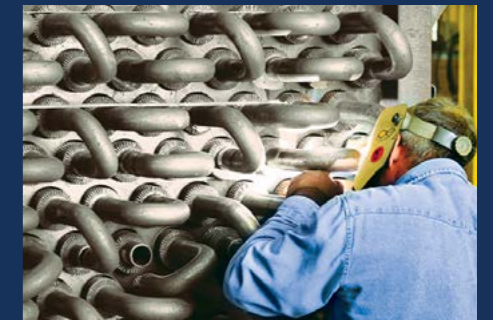
24" hinged and davited rear access plug for ease of maintenance. Heavy refractory plug can be removed safely and easily for annual inspection and cleaning without the need for extra manpower or hoisting equipment.

## INTEGRAL ECONOMIZER

Integral economizer provides superior efficiency in a compact package which eliminates most costs associated with installing a traditional stack economizer.

- Robust, industrial grade design
- Fully welded coil
- Helically wound
- High frequency welded fins
- NO commercial style, compression type fittings or pressed

Low-gas side pressure drop minimizes burner blower requirements – due to boiler plus integral economizer design the fluctuations in pressure are less. No drop in pressure means a more efficient operation.



# FEATURES/BENEFITS



## RING GROOVE TECHNOLOGY

To make an even more robust tube-to-tubesheet connection, Victory Energy incorporates a practice more commonly utilized in the industrial watertube manufacturing process.

During pre-assembly and after the tubesheet is drilled on a CNC 5-axis mill machine, they add a 1/16" serration or "ring groove" on the inside of the tube hole as a final step. When the tubes are installed, the tube ends expand into the ring groove.

Exclusive Victory Energy "ring groove" standard tube attachment results in a very robust tube to tubesheet connection. The added ring groove creates a 40% stronger joint.

The result is a better seated tube end and a stronger joint at the tube connection to the tubesheet. This reduces the likelihood that the tubes can be loosened at this vital connection due to thermal stress or other factors. This serves to eliminate the need for re-rolling, re-beading or re-flaring of tube ends.



## RIFLED TUBES

Because of their internally rifled shape, the rifled tubes are more efficient. The rifling creates turbulent flow which enhances heat transfer between the fireside and the waterside.



## TUBESHEET THICKNESS

Minimum 3/4" tubesheet thickness

Minimum 3/4" ligament between tubes

The result is less flexing and overall stronger tubesheets. A thicker tube sheet = a stronger boiler.



## NO NPT PIPE OR FITTINGS

Major boiler trim piping is socket welded with flanges appropriately placed for serviceability.

We avoid the use of NPT pipe and fittings which are often prone to loosening / leaking.



## CORRUGATED FURNACE

Absorbs the expansions and contractions of the steel, avoiding ruptures in the tube sheets of the boiler caused by excessive stresses.

# WHY CHOOSE US?



## QUALITY

The Victory Energy line of products have been engineered and manufactured to leave nothing on the table. Every detail has been considered. Victory's engineers bring exacting standards to the development of a boiler in advance of a project. It begins with determining the thermal design and size of the boiler. All additional key factors are intimately considered – from steam capacity, pressure and temperature on through to the fuel requirements, the emissions requirements, and lastly, the physical footprint for where the boiler is going to be in operation.

The Powerhouse team prides itself on quality within all aspects of our delivery of service. Quality is paramount. Our goal is to foster relationships with trusted partners that share similar values and core beliefs.

## INNOVATION

It would be easy to design Boilers the way everyone else does. Victory chose innovation instead. Everything has been considered; Operator safety, lifespan, maintenance costs, energy use, aesthetics, material costs, and more have all been considered and addressed through constant innovation.

Powerhouse embraces this philosophy as well and stays current on trends, legislation and standards to continually deliver the best possible solutions to our clients. There is no cookie cutter answer. Each client and project deserves its own solution.

## EXPERTISE

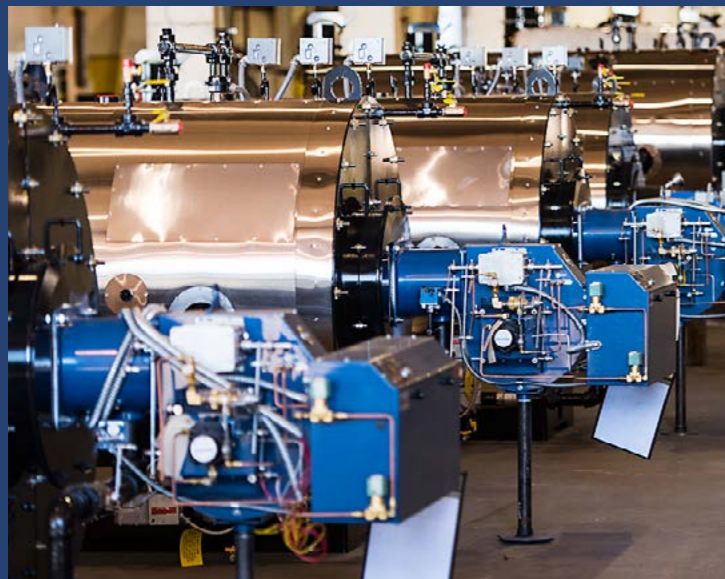
Victory Energy is continually advancing steam technology to deliver uncompromised value through thermal engineering expertise. It requires looking into the future to see what should be in new boiler and heat recovery advances.

The Powerhouse team is a top provider of boiler service and prides itself on depth of knowledge in "anything with a flame". The technical staff is proven and their executive leadership will ensure that all your needs are met at every step of your project journey.

## RELIABILITY

Victory Energy is committed to continually investing in their facilities to improve their operations. They recently added a game changing steam test facility to start-up all of our products prior to shipment. Another example for how Victory Energy is differentiating themselves from their competition.

You can count on the product and the service. Powerhouse proudly represents the Victory Energy line of products. With countless clients served in just about every industry imaginable, we can guarantee that your product will work or we will work with you to make it right.





# SERVICES - NEW EQUIPMENT



The Powerhouse Combustion & Mechanical Corporation team will be with you every step of the way from concept to completion and beyond for your boiler project. Our team can assist in the planning and concept/ purchase / installation /start up process / warranty and on-going service and maintenance.

## PLANNING FOR NEW / REPLACEMENT EQUIPMENT

- Facility Needs Assessments
- Expert Guidance on Equipment Sizing / Selection / Regulatory
- Equipment Sales
- Turnkey Installation
- Controls Integration
- Design / Engineering
- Custom Manufacturing
- Equipment Removal / Demolition
- Rental Boilers

## START UP SERVICES

- Connections
- Utility Coordination
- Testing
- On-Site Training
- Training Documentation
- O & M Manuals
- Factory Authorized Startups
- Boil Out Services
- Warranty Validation Services
- Combustion Tuning / Commissioning

## CALL US TODAY

We want to work with you on your next project.

Our team is eager to understand your needs.

As your partner, we will design and deliver a solution that not only meets but exceeds your expectations.

**POWERHOUSE COMBUSTION & MECHANICAL CORPORATION**

**800.707.9242**

**WWW.POWERHOUSE-COMBUSTION.COM**

# SERVICES - GENERAL



Powerhouse Combustion & Mechanical Corporation is first and foremost a full service provider of mechanical and combustion services. We exist to raise the bar on services provided in this industry. Many of our competitors sell equipment first and service is just a necessary evil. Our philosophy is the opposite. Service first. Our technicians, mechanics, boiler makers, welders, office staff and executives are well trained and share this mindset. Our field staff is well trained on most equipment in use today across a multitude of industries and applications. Please see below for a partial list of services

## REGULATORY COMPLIANCE

- AQMD Periodic Emissions Testing
- Monthly / Quarterly Inspections & Testing
- Semi-Annual / Annual Inspections & Testing
- Source Testing & Compliance Testing
- Low Emission Boiler / Combustion Equipment Sales
- Low NOx Equipment Selection Expertise
- SCAQMD, SDAPCD, SJVAPCD, VCAPCD
- Permitting and NOV Resolution
- Flow Meter Certification

## MAINTENANCE AND REPAIRS

- 24/7 Emergency Service
- Preventative Maintenance Services
- Semi-Annual / Annual Inspections
- Parts Replacement / Parts Sales
- Pressure Vessel Repairs
- Retubes / R Stamp Repair
- Retrofits
- Refractory & Insulation
- ASME & National Board Certified Welding
- Electrical & Controls

## FABRICATION & MECHANICAL

- ASME Piping & Vessel
- National Board Piping / Repair
- Expansion Joints / Seismic
- Custom Fabrication
- Structural
- Venting / Ducting
- ASME B31.1 / B31.3

**CALL US TODAY**

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## 24 HOUR EMERGENCY SERVICE

Sales - Service - Installation - Repairs - Air Quality Regulatory Testing  
Maintenance - Inspections - Design - Engineering - Permitting - Controls  
Integration - Welding Fabrication - Refractory - Electrical - Plumbing  
Custom Manufacturing - ASME and National Board Certified Welding  
Machinery Moving - Source Testing - Boilers - Burners - Furnaces - Ovens  
Thermal Fluid Heaters - Hot Water Heaters - Thermal Oxidizers - Incinerators  
Process Heaters - Autoclaves - Hot Air Heaters - Recovery Units  
Heat Treating - Bake Outs - Energy Production



Call us for all your heating, hot water, and steam needs.  
We will find a solution that works for you and your specific application

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**800.707.9242**

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