



# Fuel-Fired Vertical Tubeless Boilers

Classic, Edge, Tribute and VMP Models  
From 4 to 150 BHP (138 - 5,021 lbs/hr)



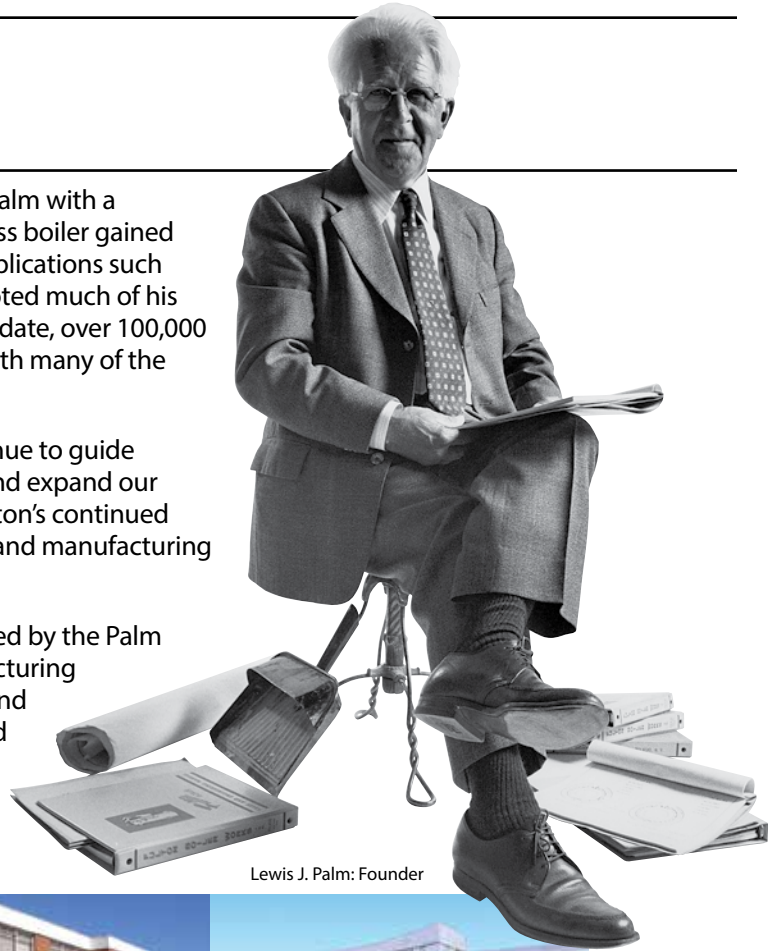
# Fulton: An industry leader since 1949.

## OUR HISTORY

Fulton Boiler Works, Inc. was founded in 1949 by Lewis J. Palm with a revolutionary design for vertical steam boilers. The tubeless boiler gained rapid acceptance as the premier small steam boiler for applications such as baking, sterilizing, and dry-cleaning. Mr. Palm also devoted much of his time developing both domestic and overseas markets. To date, over 100,000 vertical tubeless boilers have been shipped worldwide, with many of the original boilers still in operation.

Six decades after Fulton's start, our founder's values continue to guide our business approach. We constantly strive to improve and expand our capabilities, both in production and customer service. Fulton's continued growth has led to the development of new product lines and manufacturing facilities to meet the needs of a growing customer base.

The Fulton group of companies are still owned and directed by the Palm family. We have developed into a global group of manufacturing entities backed by over 60 years of research, innovation, and experience. Fulton is building on a tradition of success and dedicated to our core purpose of *improving life through heat transfer solutions*.



Lewis J. Palm: Founder



Fulton Corporate Offices: Pulaski, New York



Fulton UK: Bristol, England



Fulton China: Hangzhou, China

## GLOBAL CAPABILITIES

Collectively, the Fulton Companies employ more than 650 people in ten manufacturing facilities on three continents. Both design and manufacturing resources are shared and coordinated around the world: regardless of where your Fulton product comes from, you can count on it being produced at a quality that is second to none.

We utilize the best craftsmen worldwide so that we can continue to provide our customers with products and solutions that meet their needs. Our experienced staff is at your service to offer design and engineering assistance, discuss ideas and answer questions about your specific application needs. Industries throughout the world depend on Fulton as the "Single Source" for all their boiler needs, saving them valuable time and money.



Gas Train Assembly



Electrical Panel Assembly



Scroll Assembly



Pressure Vessel Assembly



Insulation Packing



Welding

# RUGGED, ROBUST AND RELIABLE

Fulton vertical tubeless boilers are hand-built by skilled craftsmen. The impressive workmanship that goes into constructing the pressure vessel is performed by Fulton's ASME certified welders, who average over 20 years of experience.



ing Pressure Vessel Heads



Blast-tube Assembly



Final Wiring



Painting



Final Crating and Shipping

# THE FULTON LINE OF VERTICAL TUBELESS BOILERS



<b>Classic</b> 4 - 60 BHP
Type: Steam or Hot Water Boiler
Size Range: 4, 6, 9.5, 10, 15, 20, 25, 30, 50, 60 BHP
Primary Application: Laundries, Drycleaners, Industrial / Commercial
Burner Available: Gas or oil fired and combination fuel fired. <i>* Low emissions burner optional.</i>
Design Pressure Range: Standard: 150 psig Custom: Up to 500 psig
Efficiency: Up to 80 %

<b>Edge</b> 6 - 30 BHP
Type: Steam or Hot Water Boiler
Size Range: 6, 9.5, 10, 15, 20, 30 BHP
Primary Application: Laundries, Drycleaners, Industrial / Commercial
Burner Available: Gas fired only <i>* Low emissions burner optional.</i>
Design Pressure Range: Standard: 15, 150 psig Custom: Up to 500 psig
Efficiency: Up to 84 %

<b>Tribute</b> 9.5 - 30 BHP
Type: Steam Boiler
Size Range: 9.5, 10, 15, 20, 30 BHP
Primary Application: Laundries, Drycleaners, Industrial / Commercial
Burner Available: Gas fired only <i>* Low emissions burner standard.</i>
Design Pressure Range: Standard: 150 psig Custom: Up to 500 psig
Efficiency: Up to 84 %

<b>Vertical Multi-Port (VMP)</b> 40 - 150 BHP
Type: Steam or Hot Water Boiler
Size Range: 40, 49.5, 50, 60, 80, 100, 130, 150 BHP
Primary Application: Laundries, Industrial / Commercial
Burner Available: Gas or oil fired and combination fuel fired. <i>* Low emissions burner optional.</i>
Design Pressure Range: Standard: 15, 150 psig Custom: Up to 300 psig
Efficiency: Up to 84 %

# THE CLASSIC VERTICAL TUBELESS BOILER

## FEATURES

- Vertical tubeless 2-pass design
- Top-mounted Fulton burner
- Uniform heat distribution for maximum longevity
- Small footprint - compact design
- Built/Certified to ASME, CSD-1 and other applicable codes, UL Packaged Boiler
- All hand-welded pressure vessel
- Over 100,000 units since 1949
- Simple, reliable and forgiving

## DURABLE AND RELIABLE CONSTRUCTION

Fulton boilers, with the original vertical tubeless down-fired design, have remained a compact trouble-free boiler for over 60 years, supplying steam and hot water to virtually every type of industry imaginable.

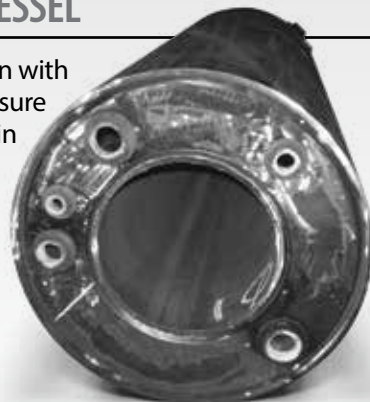
Fulton vertical tubeless boilers offer efficiencies up to 80 %, and can be ordered with oil and/or gas capabilities with low emissions burners (gas only). All Fulton boilers are completely trimmed, packaged boilers.

CLASSIC BOILER	INPUT FT3/HR	STEAM OUTPUT	WATER CONTENT	OPERATING WEIGHT
4	168	138 lbs/hr	14 gal	1,520 lbs
6	252	207 lbs/hr	16 gal	1,835 lbs
9.5	398	328 lbs/hr	16 gal	2,035 lbs
10	419	345 lbs/hr	24 gal	2,200 lbs
15	628	518 lbs/hr	39 gal	2,605 lbs
20	837	690 lbs/hr	77 gal	4,045 lbs
25	1,047	863 lbs/hr	82 gal	4,190 lbs
30	1,256	1,035 lbs/hr	170 gal	6,200 lbs
50	2,093	1,725 lbs/hr	245 gal	8,570 lbs
60	2,511	2,070 lbs/hr	270 gal	9,535 lbs



## ROBUST PRESSURE VESSEL

Fulton unique features begin with simplicity. The furnace (pressure vessel) is simply a pipe within a pipe. The top mounted burner sends a spinning cyclonic flame down the center furnace chamber and back up the outside of the pressure vessel. The result is even heating and a durable, forgiving design.



# THE EDGE

## VERTICAL TUBELESS BOILER

### FEATURES

- Same vertical tubeless 2-pass design as our Classic boiler
- Additional Flue Gas Enhancing System to maximize efficiency
- Top mounted burner for even heat distribution
- Small footprint - compact design
- Built/Certified to ASME, CSD-1 and other applicable codes, UL Packaged Boiler
- All hand-welded pressure vessel
- Stainless steel jacket

### DURABLE AND RELIABLE CONSTRUCTION

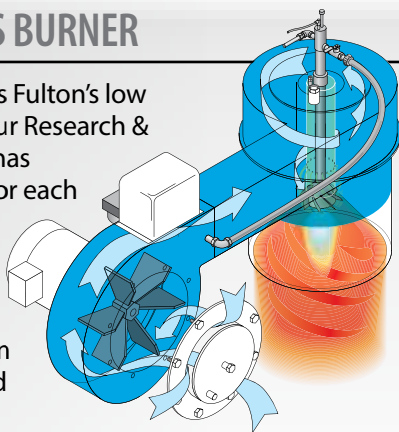
All of the time-proven benefits and design features of the Classic Vertical Tubeless Boiler have been maintained in the Edge, but with the added value of the Fulton Engineered Flue Gas Enhancing System (FGE) to cut your fuel bills substantially.

Using added heat transfer surface area, the high-velocity flue gases travel over a cylindrical grid of heat convection fins, transferring additional heat evenly to the water in the vessel. This creates increased efficiency up to 84% while still maintaining a rugged pressure vessel design.

EDGE BOILER	INPUT FT <sup>3</sup> /HR	STEAM OUTPUT	WATER CONTENT	OPERATING WEIGHT
6	242	207 lbs/hr	16 gal	1,833 lbs
9.5	384	328 lbs/hr	16 gal	2,035 lbs
10	403	345 lbs/hr	24 gal	2,200 lbs
15	606	518 lbs/hr	39 gal	2,605 lbs
20	807	690 lbs/hr	77 gal	4,045 lbs
30	1,210	1,035 lbs/hr	170 gal	6,200 lbs

### LOW EMISSIONS BURNER

An available option is Fulton's low emissions burner. Our Research & Development team has developed burners for each model to meet or exceed the most stringent emissions requirements. This option is available on the Classic, Edge, and VMP models.



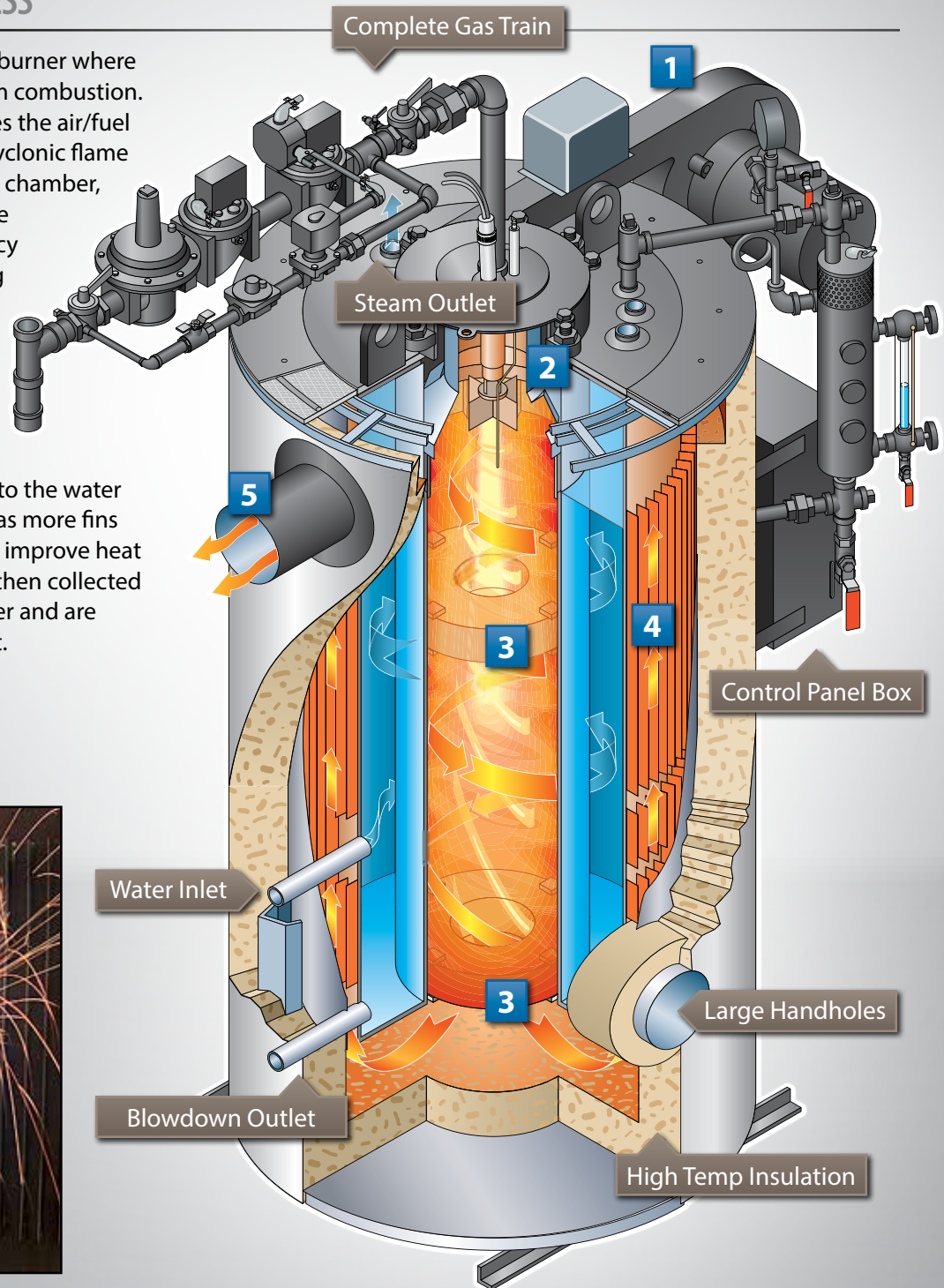
\* A low emissions burner comes standard on all Tribute models



# A LOOK INSIDE THE CLASSIC AND EDGE

## THE COMBUSTION PROCESS

**1** Air is drawn into the power burner where it is mixed with fuel for optimum combustion. **2** The ignition assembly ignites the air/fuel mixture and sends a spinning cyclonic flame down the length of the furnace chamber, forming the first pass. **3** Flame retainer rings increase occupancy time of the flue gases increasing heat transfer. **4** The flue gases are turned at the base of the chamber and return over the heat convection fins that surround the entire water jacket. This is the second pass, which transfers additional heat to the water in the vessel. The Edge model has more fins and an enhanced orientation to improve heat transfer. **5** The flue gases are then collected at the upper portion of the boiler and are expelled through the flue outlet.



# THE TRIBUTE

## VERTICAL TUBELESS STEAM BOILER

### FEATURES

- Rugged and proven vertical Edge style pressure vessel design
- Advanced burner technology with high turndown performance and variable-speed fan
- Standard low emissions <20ppm NOx
- Small footprint - compact design
- Built/Certified to ASME, CSD-1 and other applicable codes, UL Packaged Boiler
- Very quiet operation with HMI controls
- Premiere industrial / commercial vertical tubeless boiler

TRIBUTE BOILER	INPUT FT <sup>3</sup> /HR	STEAM OUTPUT	WATER CONTENT	OPERATING WEIGHT
9.5	384	328 lbs/hr	16 gal	2,035 lbs
10	403	345 lbs/hr	24 gal	2,200 lbs
15	606	518 lbs/hr	39 gal	2,605 lbs
20	807	690 lbs/hr	77 gal	4,045 lbs
30	1,210	1,035 lbs/hr	170 gal	6,200 lbs

### STATE-OF-THE-ART CONTROLS

The Tribute boiler uses a state-of-the-art control system to control and display boiler operations. The Synex Controls SC-750 monitors boiler parameters such as stack temperature, steam pressure, burner status and alarms. The easily-configured touchscreen interface eliminates guesswork and enhances operator / BMS interfacing.



### DURABLE AND RELIABLE CONSTRUCTION

The Tribute® is the latest and most advanced vertical tubeless boiler from Fulton. The name "Tribute" pays homage to founder Lewis Palm's development of the vertical tubeless boiler many decades ago. The Tribute combines Fulton's time-tested pressure vessel design with state-of-the-art controls and burner technology.

This new technology includes an advanced pre-mixing style burner and variable-speed fan. This design yields low emissions with high turndown performance and efficiencies up to 84%. In addition, we have designed our own state-of-the-art control system to display boiler operations. The result is a premier industrial / commercial steam generator, with the same rugged construction that you get with every Fulton boiler.

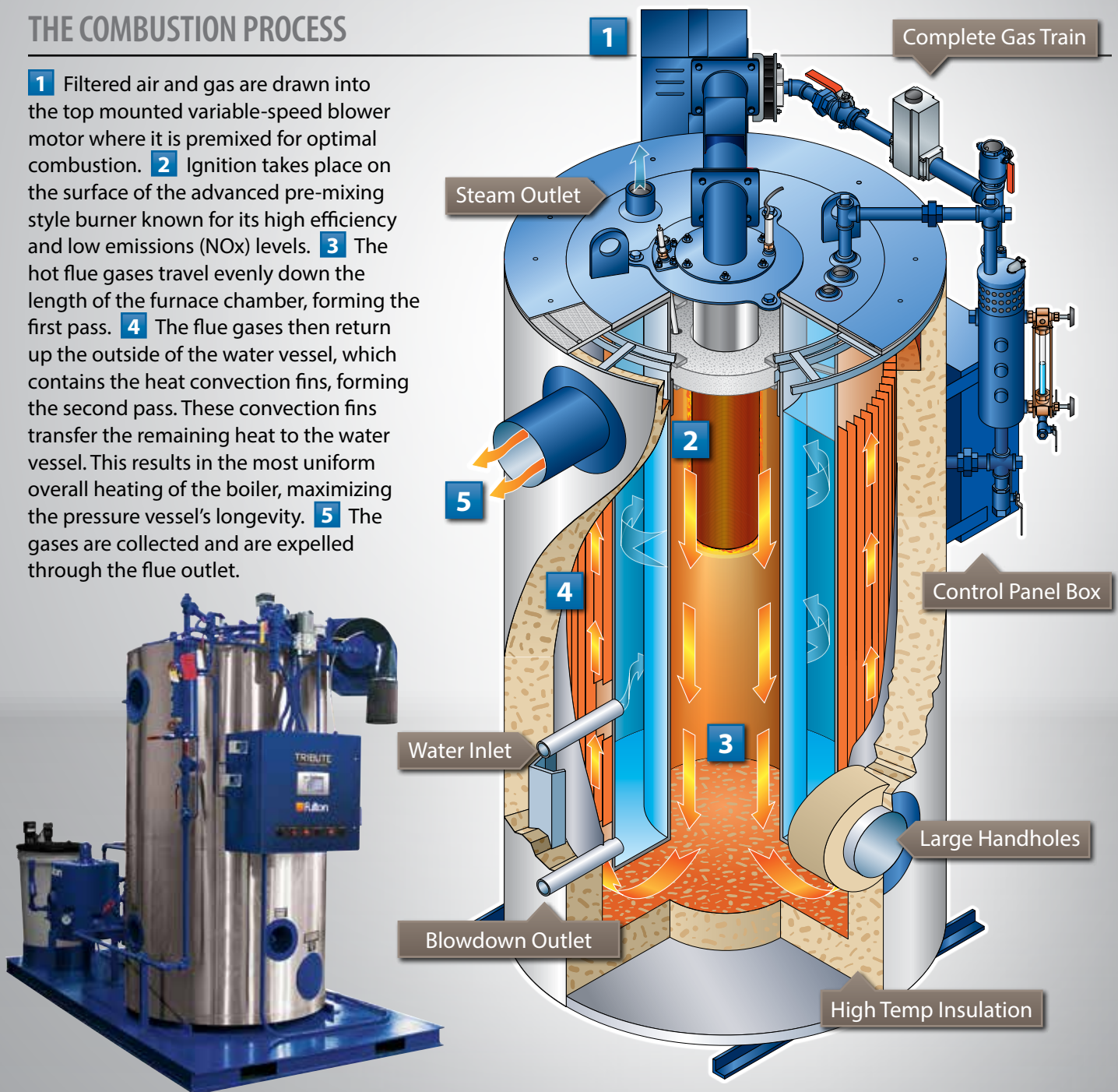




# A LOOK INSIDE THE TRIBUTE

## THE COMBUSTION PROCESS

**1** Filtered air and gas are drawn into the top mounted variable-speed blower motor where it is premixed for optimal combustion. **2** Ignition takes place on the surface of the advanced pre-mixing style burner known for its high efficiency and low emissions (NOx) levels. **3** The hot flue gases travel evenly down the length of the furnace chamber, forming the first pass. **4** The flue gases then return up the outside of the water vessel, which contains the heat convection fins, forming the second pass. These convection fins transfer the remaining heat to the water vessel. This results in the most uniform overall heating of the boiler, maximizing the pressure vessel's longevity. **5** The gases are collected and are expelled through the flue outlet.



# THE VMP

## VERTICAL MULTI-PORT BOILER

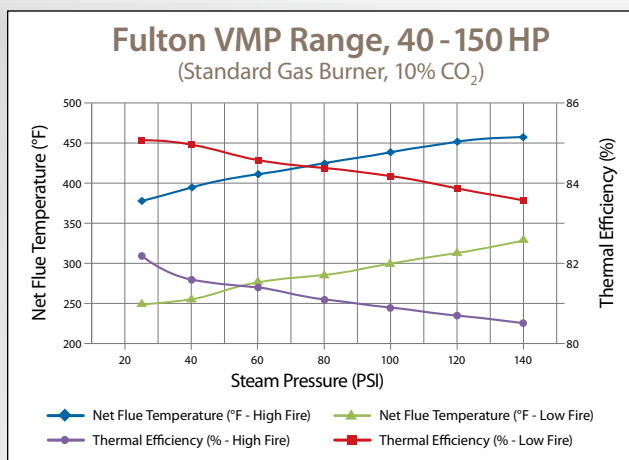
### FEATURES

- Vertical 2-pass design with heavy-walled Schedule 80 flue pipes (No tubes to replace)
- Water-backed, insulated blanket surrounding the boiler results in lower radiant losses
- Small footprint - compact design
- Built/Certified to ASME, CSD-1 and other applicable codes, UL Packaged Boiler
- Low emissions burner available
- Largest vertical tubeless steam boiler available to the market

### DURABLE AND RELIABLE CONSTRUCTION

Within the Fulton VMP (Vertical Multi-Port) Boiler, a series of heavy-walled large-diameter Schedule 80 flue pipes are welded to the top and bottom heads in the pressure vessel, and these pipes are surrounded by water. Within these pipes are "ribboned" turbulators that maximize overall heat transfer. The water-backed design speeds up boiler start up time and creates even heating throughout. These, along with the many other design features of the VMP, result in fuel to steam efficiencies of up to 84%.

VMP BOILER	INPUT FT <sup>3</sup> /HR	STEAM OUTPUT	WATER CONTENT	OPERATING WEIGHT
40	1,595	1,380 lbs/hr	172 gal	7,200 lbs
49.5	1,972	1,708 lbs/hr	274 gal	8,850 lbs
50	1,992	1,725 lbs/hr	242 gal	8,600 lbs
60	2,392	2,070 lbs/hr	270 gal	9,650 lbs
80	3,188	2,760 lbs/hr	383 gal	11,200 lbs
100	3,985	3,450 lbs/hr	518 gal	13,850 lbs
130	5,181	4,485 lbs/hr	810 gal	19,150 lbs
150	5,978	5,175 lbs/hr	810 gal	19,150 lbs



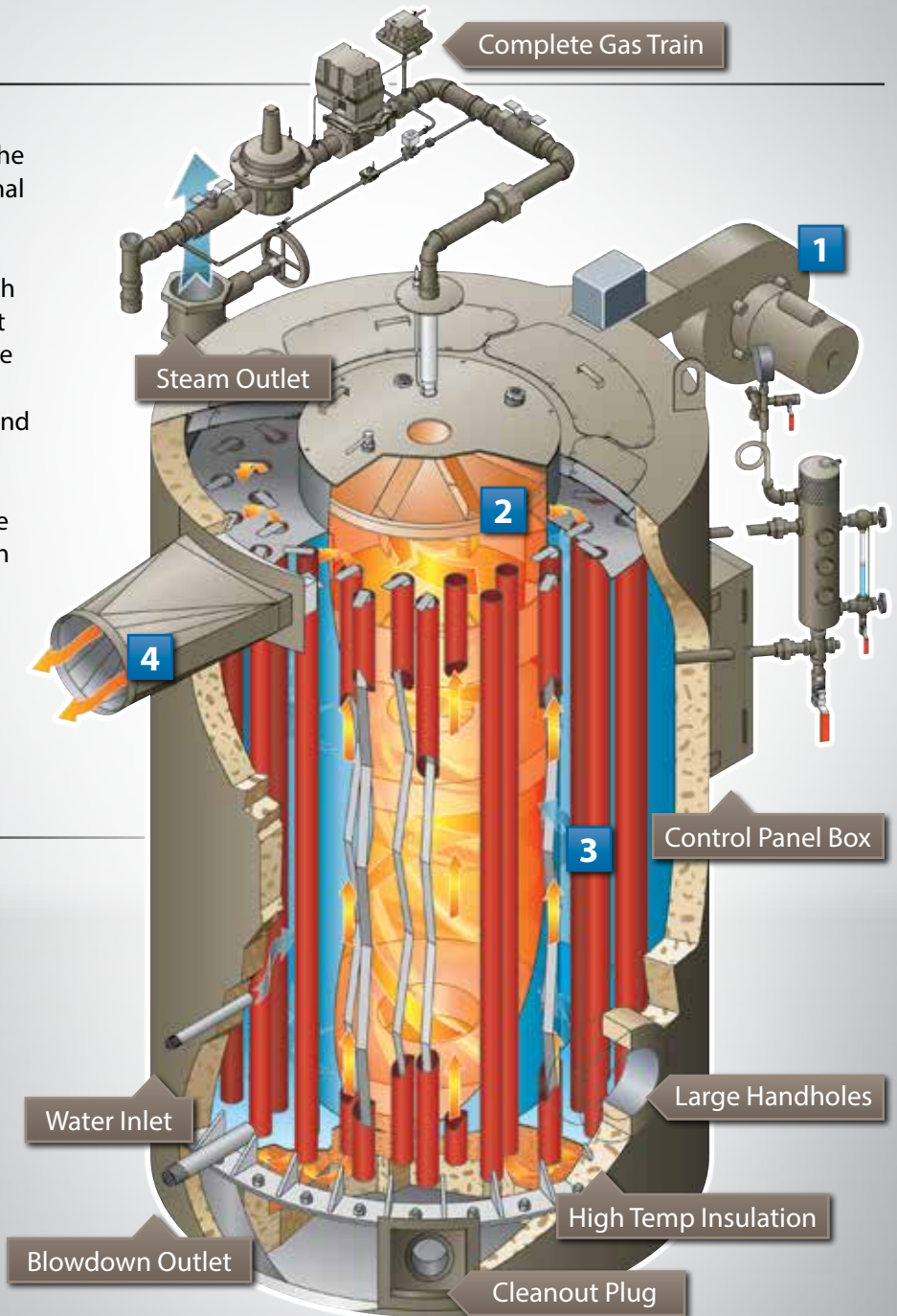
# A LOOK INSIDE THE VMP

## THE COMBUSTION PROCESS

**1** Air is drawn into the top-mounted power burner, where it is sent through the swirl plate and mixed with fuel for optimal combustion. **2** The ignition assembly ignites the air/fuel mixture and sends a spinning cyclonic flame down the length of the furnace chamber, forming the first pass. **3** The flue gases are turned at the base of the furnace then return through the Schedule 80 pipes, forming the second pass. The turbulators within the pipes distribute the flow of the flue gases to transmit the remaining heat to maximize heat transfer. **4** The flue gases are then collected at the upper portion of the boiler and are expelled through the flue outlet.

## PIPE vs. TUBE

The Pipe-type boiler is constructed of Schedule 80, heavy wall pipes, tube replacement is a thing of the past. This simple design is proven by decades of experience, and is backed by our unmatched warranty.



## ANCILLARY EQUIPMENT

A steam boiler is just one part of a well-designed steam system. Proper delivery of feedwater and collection of condensate are essential to the operation of a steam system. Fulton is able to manufacture standard or custom vessels to perform these tasks to ASME code or non-code, depending on the requirements in your area or system. Our auxiliary equipment is used to control the quality, pressure, storage capacity and enthalpy (heat content or temperature) of steam. The quality of the water used in a steam boiler will affect its life. Water treatment equipment will help provide quality feedwater so that corrosion and deposition in the boiler will be minimized. Fulton engineers can match equipment to just about any application you may encounter today.



## ENGINEERED SYSTEMS

As demand for creative solutions to complex heat transfer applications grows, Fulton has excelled in the design and fabrication of customized skid systems. With more than three decades of experience in designing and building skid systems, Fulton has become a single source manufacturer for custom pre-piped heat transfer equipment and accessories.

- Turnkey
- Plug and Play
- Single point manufacturing
- Flexible designs - 1.5HP to 900 BHP
- Over 2,000 skids installed around the globe



 **Fulton**<sup>®</sup> The heat transfer innovators.

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