



# VSRT™

VERTICAL SPIRAL RIB  
TUBELESS STEAM BOILERS

10 – 60 BHP



# SETTING THE STANDARD AGAIN

## INDUSTRY LEADING EFFICIENCIES

Achieve Up to 86% efficiency with up to 10:1 turndown ratio and NOx emissions less than 20 ppm standard.

## HIGHEST STEAM QUALITY AVAILABLE

A tall steam space and generous steam release area result in greater than 99.75% steam quality.

## COMPACT VERTICAL FOOTPRINT

Up to a 30-HP VSRT fits through a standard doorway. Whether a new system or a retrofit, installation has never been easier.

## FULLY WETTED PRESSURE VESSEL

All heat exchanger surfaces are water backed and poured refractory is eliminated from the design, resulting in exceptionally low jacket temperatures.



In 1949, Fulton pioneered the vertical tubeless design which quickly became the industry standard for industrial steam boilers. Since that time, no one has been able to improve upon Fulton's original design.

Now Fulton is raising the bar with the **VSRT (Vertical Spiral Rib Tubeless) boiler**, the world's first fully wetted, refractory-free vertical tubeless boiler and the new standard for industrial steam boiler design.

Optimized using **PURE Technology**, the VSRT provides the highest efficiencies available combined with a compact vertical footprint. VSRT boilers are built to last as a reliable source of clean steam, providing cost savings and operator peace of mind for years to come.

## BETTER BY DESIGN

**PURE Technology** is the culmination of Fulton's clean-slate design approach. Based on comprehensive system optimization, PURE Technology radically challenges the industry status quo and empowers our engineers to create the best boiler solutions possible, unhindered by previous design trade-offs.

★ MORE THAN **15** PATENTS PENDING WORLDWIDE ★

**PURE**  
OPTIMIZED  
[www.fulton.com/pure](http://www.fulton.com/pure)

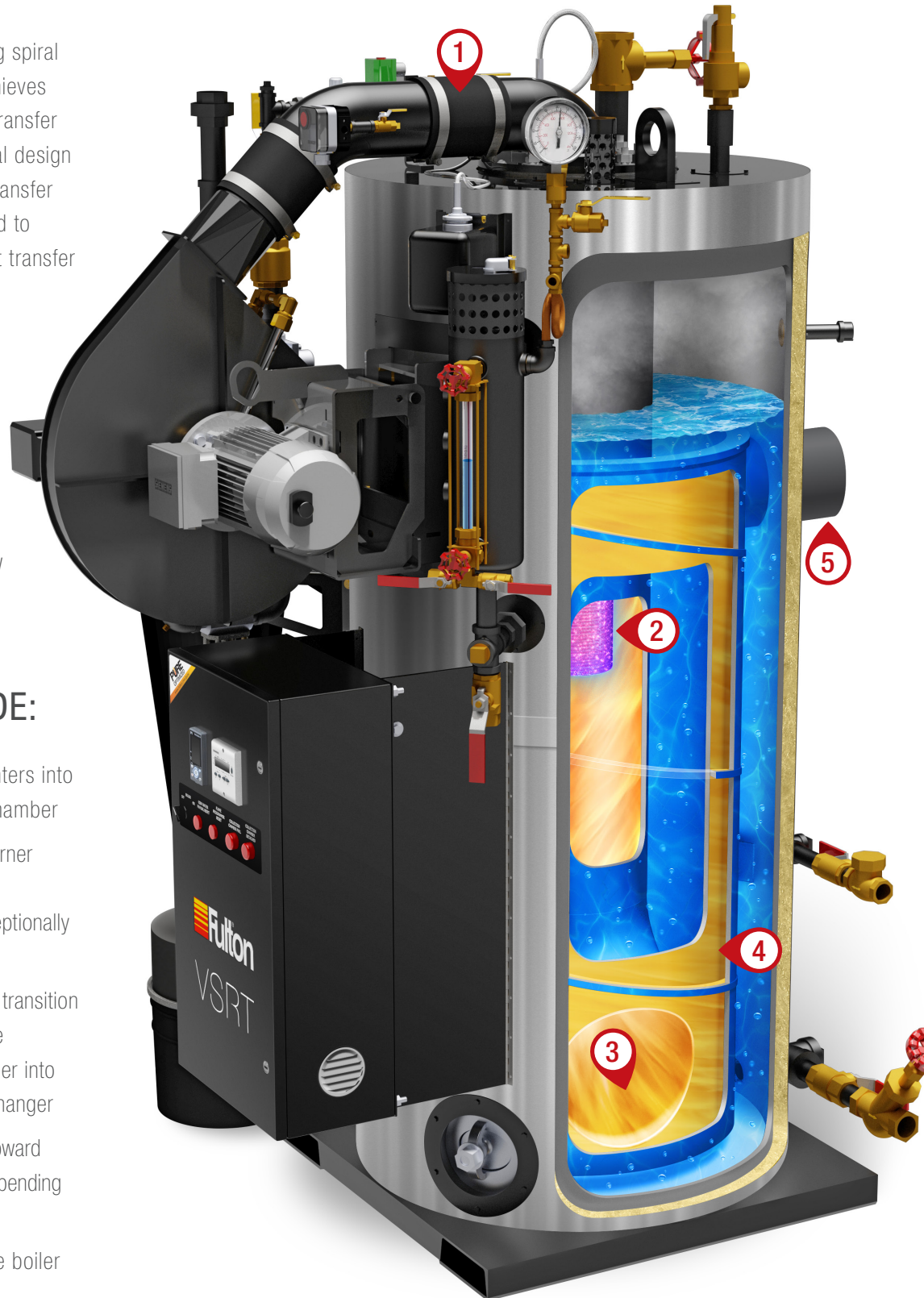
# A REVOLUTION IN STEAM BOILER DESIGN

Fulton's patent pending spiral rib heat exchanger achieves industry leading heat transfer rates. The unique spiral design provides a long heat transfer path which is optimized to achieve maximum heat transfer in a compact space.

The VSRT features a **fully water backed pressure vessel** wrapped with high-density insulation, resulting in minimal thermal losses and low jacket temperatures.

## A LOOK INSIDE:

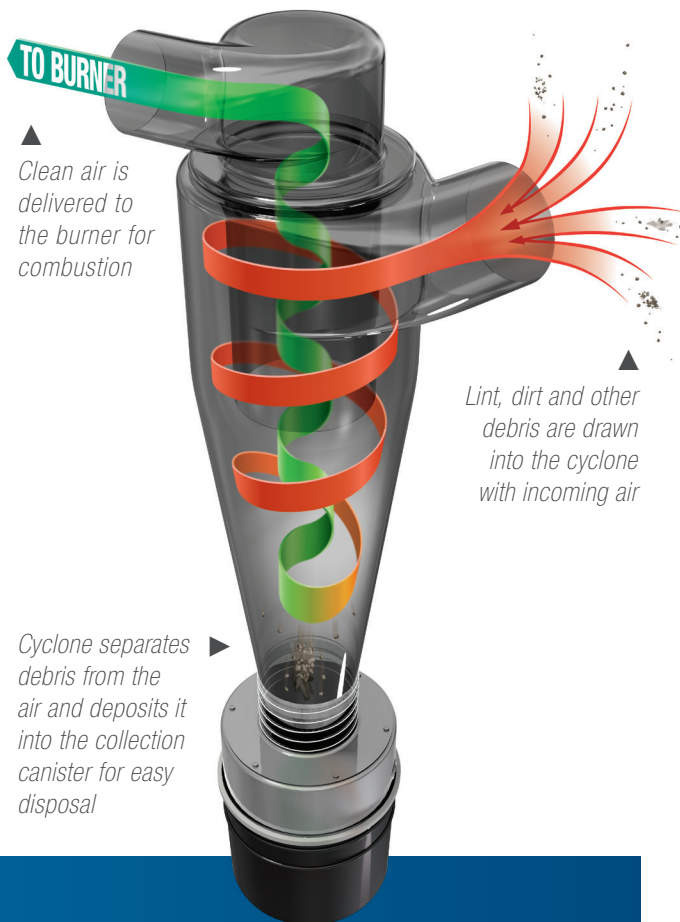
- 1 Air/fuel mixture enters into the combustion chamber
- 2 PURE optimized burner features up to 10:1 turndown with exceptionally low emissions
- 3 Combustion gases transition downward from the combustion chamber into the spiral heat exchanger
- 4 Flue gases spiral upward through our patent-pending heat exchanger
- 5 Flue gases exit the boiler



## LOWEST OPERATING COSTS

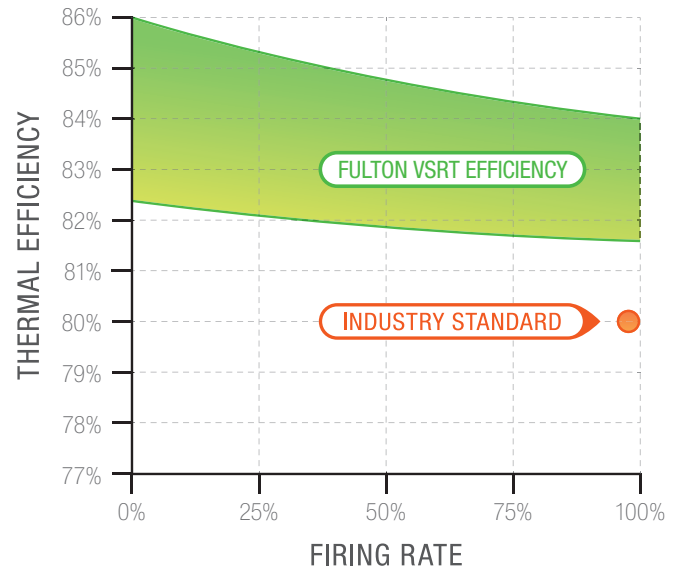
As the world's first and only spiral rib tubeless design, the VSRT has been optimized so that the spiral rib heat exchanger can transfer the most amount of heat in the most compact space.

- ▶ **INDUSTRY LEADING THERMAL EFFICIENCIES**
- ▶ **TURNDOWN UP TO 10:1, FULL MODULATION**
- ▶ **20 PPM NO<sub>x</sub> STANDARD**
- ▶ **VARIABLE SPEED FAN**
- ▶ **LINKAGELESS CONTROLS**



### MEDIA FREE CYCLONIC AIR FILTER

Fulton's patent-pending cyclonic air filter effectively clears the combustion air of damaging particles. Our cyclonic filter won't clog over time and it eliminates the need for replacement filters.



## DURABLE PRESSURE VESSEL

The VSRT has a patent pending, self-compensating stress relieving architecture. Our spiral rib heat exchanger is fully immersed in water to optimize heat transfer, creating a longer-lasting boiler that beats the competition in every category of durability.

- ▶ **FULLY WETTED, REFRACTORY-FREE DESIGN**
- ▶ **THERMAL STRESSES VIRTUALLY ELIMINATED**
- ▶ **VERTICAL TUBELESS DESIGN VIRTUALLY ELIMINATES CORROSION**
- ▶ **5-YEAR PRESSURE VESSEL WARRANTY; 10-YEAR WITH ENGINEERED SYSTEM**

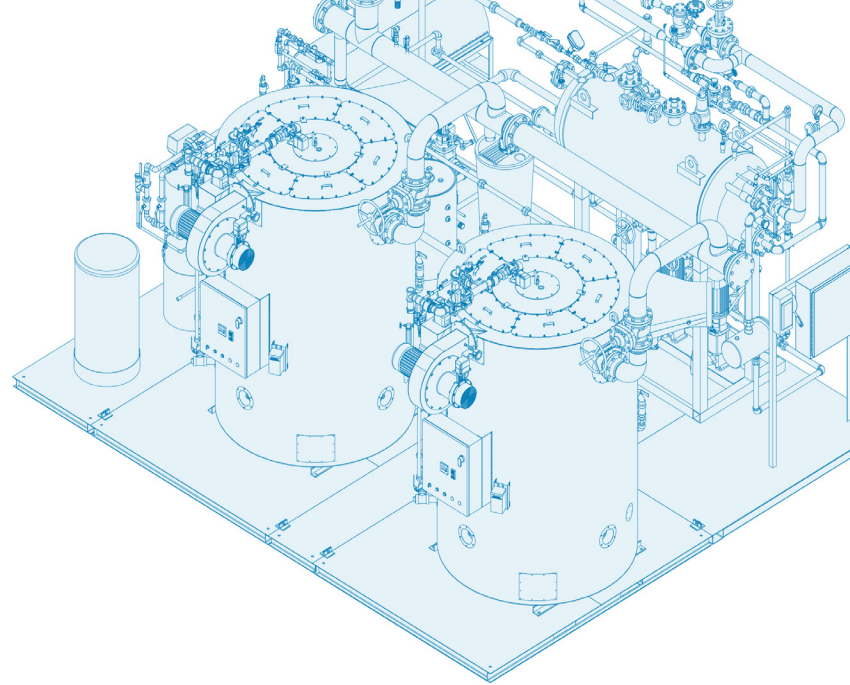
## EASE OF OWNERSHIP

Our engineers considered every aspect when designing the VSRT. From high-grade controls and easy-to-access maintenance points, to our breakthrough cyclonic air filtration.

- ▶ **INDUSTRIAL CONTROL PLATFORM**
- ▶ **EASY ACCESS TO THE PRESSURE VESSEL**
- ▶ **5-YEAR BURNER WARRANTY**

# CUSTOM ENGINEERED SOLUTIONS

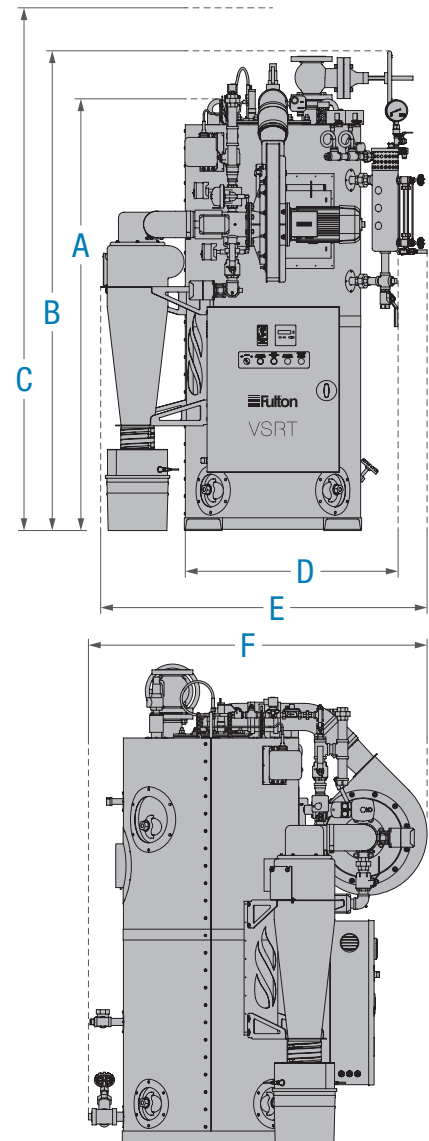
With extensive engineering experience, Fulton's team can design and build a system tailored to your specific needs. From concept to delivery, you are part of the process, ensuring timely and accurate completion of your custom engineered system.



- ▼ **INDUSTRY LEADER IN SYSTEMS ENGINEERING**
- ▼ **SINGLE-SOURCE TURNKEY SYSTEMS**
- ▼ **WIDE RANGE OF ANCILLARY EQUIPMENT**
- ▼ **10 YEAR PRESSURE VESSEL WARRANTY**

## SPECIFICATIONS AT A GLANCE

	MODEL: VSRT	10	15	20	30	40	50	60
<b>SPECIFICATIONS</b>								
Fuel Input	MBH	400	600	800	1,200	1,600	2,000	2,400
Steam Output, F&A 212°F	LB/HR	345	518	690	1,035	1,380	1,725	2,070
Output	MBH	335	503	670	1,005	1,340	1,673	2,000
Water Capacity	GAL	94	94	112	112	333	333	333
<b>DIMENSIONS</b>								
(A) Height w/o Trim	IN	72.80	72.80	79.25	79.25	96	96	96
(B) Height w/ Trim	IN	77	77	86	87	103	103	103
(C) Height w/ Burner Pull	IN	99	99	110	110	130	130	130
(D) Width w/o Trim	IN	32.5	32.5	32.5	32.5	53.5	53.5	53.5
(E) Width w/ Trim	IN	59	59	61	60	68	68	68
(F) Depth	IN	56	56	59	62	81	81	81
Steam Outlet (150 psi, NPT)	IN	2	2	3	3	4	4	4
Feedwater Inlet (NPT)	IN	1	1	1	1	1	1	1
Main Blowdown (NPT)	IN	1	1	1.25	1.25	1.5	1.5	1.5
Surface blowdown (NPT)	IN	0.75	0.75	0.75	0.75	0.75	0.75	0.75
Safety Valve Outlet (150psi, NPT)	IN	1	1	1	1	1	1.25	1.25
Natural Gas Inlet (NPT)	IN	1	1	1	1.25	1.25	1.5	1.5
Air Inlet	IN	6	6	6	6	6	6	6
Flue	IN	6	6	8	8	10	10	10
<b>WEIGHTS</b>								
Approximate Shipping Weight	LB	2,500	2,500	3,281	3,400	5,100	5,200	5,400
Approximate Operating Weight	LB	2,716	2,716	3,645	3,764	6,740	6,840	7,040
Approximate Flooded Weight	LB	3,008	3,008	3,939	4,058	7,450	7,550	7,750



NOTE: Specifications and dimensions are approximate and for reference purposes only. Fulton reserves the right to change specifications and/or dimensions without notice. Graphics contained in this brochure may not be representative of actual product.

# OPTIMIZE YOUR STEAM BOILER SYSTEM

Fulton has been a family owned manufacturer of heat transfer equipment since 1949. VSRT boilers are available through a worldwide network of authorized representatives. Your local representative will assist you in the selection of Fulton equipment to best meet your application needs.



FOOD PROCESSING



HEALTHCARE



PHARMACEUTICAL  
PROCESSING



COMMERCIAL  
BUILDINGS



LAUNDRY &  
DRY CLEANING



BREWING &  
DISTILLERIES



CLEAN STEAM



MANUFACTURING

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representative online at:

[www.fulton.com/sales](http://www.fulton.com/sales)



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