OLYMPIC REGION CLEAN AIR AGENCY

2940 Limited Lane NW - Olympia, Washington 98502 - 360-539-7610 – Fax 360-491-6308

FORM 1- NOTICE OF CONSTRUCTION

TO CONSTRUCT - INSTALL - ESTABLISH OR MODIFY AN AIR CONTAMINANT SOURCE

Form 1 Instructions:

1. Please complete all the fields below. **This NOC application is considered incomplete until signed.**
2. If the application contains any confidential business information, please complete a Request of Confidentiality of Records (www.orcaa.org/forms).
3. Duty to Correction Application: An applicant has the duty to supplement or correct an application. Any applicant who fails to submit any relevant facts or who has submitted incorrect information in a permit application must, upon becoming aware of such failure or incorrect submittal, promptly submit supplementary factors or corrected information.

Business Name: FORKS COMMUNITY HOSPITAL	**For ORCAA use only**
Mailing Address: 530 BOGACHIEL WAY, FORKS, WA 98331	File No: 192 County No: 9 Source No: 922 Application No: 22NOC1577
Physical Address of Project or New Source: SAME AS ABOVE	Date Received: Received AUG 22 2022 ORCAA
Billing Address: SAME AS ABOVE	

Project or Equipment to be installed/established:

REPLACEMENT OF TWO OLD BOILER WITH TWO NEW BOILERS

Anticipated startup date: 9 / 30 / 2022 Is facility currently registered with ORCAA? Yes ☒ No ☐

This project must meet the requirements of the State Environmental Policy Act (SEPA) before ORCAA can issue final approval. Indicate the SEPA compliance option:

- ☐ SEPA was satisfied by _____ (government agency) on ___/___/___ (date) - Include a copy of the SEPA determination
- ☐ SEPA threshold determination by _____ (government agency) is pending - Include a copy of the environmental checklist
- ☐ ORCAA is the only government agency requiring a permit - Include ORCAA Environmental Checklist
- ☒ This project is exempt from SEPA per 197-11-080 (3) (WAC citation).

Name of Owner of Business: FORKS COMMUNITY HOSPITAL		Agency Use Only
Title:		
Email:	Phone:	
Authorized Representative for Application (if different than owner): CLINT WOOD		
Title: FACILITY DIRECTOR		
Email: clintw@forkshospital.org	Phone: 360 327 8330	
I hereby certify that the information contained in this application is, to the best of my knowledge, complete and correct.		
Signature of Owner or Authorized Representative: (sign in Blue Ink)		
[signature]	**Date:** 8/18/2022	
IMPORTANT: Do not send via email or other electronic means. ORCAA must receive Original, hardcopy, signed application and payment prior to processing application.		

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FORM 1D- Contact Information

Business Name	FOR ORCAA USE
FORKS COMMUNITY HOSPITAL	FILE # 192
Physical Site Address (Street address, city, state, zip)	CTY # 9
530 BOGACHIEL WAY FORKS, WA 98331	SRC # 922
	Date Received
Previous Business Name (if applicable)	Received AUG 22 2022 ORCAA
NA	

Contact Information

Inspection Contact	
Name CLINT WOOD	Title FACILITY DIRECTOR
Phone 360 327-8330	Email CLINTW@FORKSHOSPITAL.ORG
Billing Contact	
Name TIM TRUONG	Title ACCOUNTS PAYABLE SPECIALIST
Phone 360 327-8088	Email TIMT@FORKSHOSPITAL.ORG
Emission Inventory Contact	
Name CLINT WOOD	Title FACILITY DIRECTOR
Phone 360 327-8330	Email CLINTW@FORKSHOSPITAL.ORG
Complaint Contact	
Name CLINT WOOD	Title FACILITY DIRECTOR
Phone 360 327 8330	Email CLINTW@FORKSHOSPITAL.ORG
Permit Contact	
Name CLINT WOOD	Title FACILITY DIRECTOR
Phone 360 327-8330	Email CLINTW@FORKSHOSPITAL.ORG

The **inspection contact** is the on-site person responsible for the everyday operation of the site and is available for inspections.

The **billing contact** is the person invoices are sent.

The **emission inventory contact** is the person requests for emissions information and material use information are sent.

The **complaint contact** is the person who receives and responds to complaints received on-site and who is contacted regarding complaints ORCAA receives.

The **permit contact** is the person responsible for filling out permit applications and receiving approval from ORCAA.

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www.orcaa.org

FORM 11

Fill out all the applicable equipment information requested below and submit the appropriate fees.

BOILERS AND HEATERS

General Information

Facility Name: Forks Community Hospital	**Contact Person:** Clint Wood **Phone Number:** 360-327-8330 **Email:** clintw@forkshospital.org
Facility Operating Schedule: 24 hrs/day, 7 days/wk, 52 wks/yr **Indicate days when operating:** ☒ M ☒ T ☒ W ☒ Thu ☒ F ☒ Sat ☒ Sun	**Boiler Operating Schedule:** 24 hrs/day, 7 days/wk, 34 wks/yr **Indicate days when operating:** ☒ M ☒ T ☒ W ☒ Thu ☒ F ☒ Sat ☒ Sun

Type of Boiler: Firetube Condensing	
Manufacturer: Fulton	
Model #: VTG-4000DF	**Serial #:** F2075691A
Date of Construction: 2021	
Date of Installation: Aug 2022	projected start up is September 30th, 2022
Cost of Modifications: $200,000	

Technical Specifications

Fuel Types (list all and attach MSDS):	1. No 2 Fuel Oil 2. Propane 3.		
Averge Heat Rate MMBtu/hr (HHV):	1. 2.0 MMBtu/hr 2. 2.0 MMBtu/hr 3.		
Design Maximum Heat Rate MMBtu/hr (HHV):	1. 3.928 MMBtu/hr output 2. 3.876 MMBtu/hr output 3.		
Heat Transfer Medium:	Temp 145 °F Input 130°F Output 160°F	Pressure (psi) 75 max Input Output	Flow Rate (specify units) Average Design Maximum 398 GPM
Fire Box	Average Temperature (°F) Volume of Fire box (ft^3)		N/A (Boiler is Firetube Type)

	Design Fire Box Gas Velocity (ft/s) _____ Residence Time in Fire Box (sec) _____	N/A (Boiler is Firetube Type)
Stack Parameters	Stack Height (ft) 25 Stack diameter (ft) 1.16 Stack Gas Flowrate (ft^3/min) 848 SCFM At Average Firing Rate _____ At Maximum Firing Rate _____ Stack Temperature (°F) _____	
Design Total Supplied Air (scfm): 782	**Design % Excess Air (vol):** 15%	

Emissions Data

Check all pollution controls proposed and complete the indicated forms:	☐ Multiclone (complete Form 31) ☐ Electrostatic Precipitator (complete Form 33) ☐ Wet Scrubber (complete Form 32) ☐ NOx controls (attach description) ☐ Baghouse (complete Form 12) ☐ Other (specify) _____
Items Vented to Air Pollution Control Device (check all that apply):	☐ Shaker Screens ☐ Elevators Head ☐ Elevator boot ☐ Hot aggregate bins ☐ Weigh Hopper/Mixer ☐ Dryer charge end ☐ Dryer discharge end ☐ Other (specify) _____

Pollutant	Maximum Concentrations	Maximum Emission Rates	
		lbs/hr	tpy
Oxides of Nitrogen (NO_x)	ppmv at 3% O_2 < 100	0.0220 NOx	0.154
Particulate Emissions	gr/dscf at 7% O_2 0.63	0.00246 Particulate	0.0098
Carbon Monoxide (CO)	ppmv at 3% O_2 < 50	0.1946 CO	0.077
Sulfur Dioxide (SO_2)	ppmv at 3% O_2 8.02	0.0312 SO2	0.0124
Volatile Organics (VOCs)	ppmv at 3% O_2 5.65	0.0220 VOC	0.009

Provide the following information on separate sheets of paper:
1. Description of how fuel quality, temperature, air flowrate, excess air, and other operating variables are controlled.
2. Description of devices used to monitor air pollution controls and emissions.
3. An assembly drawing, dimensioned and to-scale, in plan, elevation and as many sections as needed to clearly show operation of the combustion unit.

Filing Fee:

See https://www.orcaa.org/services/fee-schedules/ for an up-to-date list of fees

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Forks Community Hospital

Boiler Replacement

1. Forks Community Hospital takes annual fuel sample and send them to FOI Laboratories for fuel testing to check the quality of the fuel. This sample is taken from the fuel tank. The facility also does annual tune up by using a combustion analyzer. **See attachment A**

2. The device used for monitoring air pollution and emissions is call a InTech Combustion Analyzer manufactured by Bacharach and results are recorded on the National Emission Standards for Hazardous Air Pollutants for area Sources Form. **See attachment B analyzer**

3. **See attachment C for dimensions and combustion unit**

FOI LABORATORIES

Certificate of Analysis
Laboratory Number: FOI0810202213

Eric Anderson
Forks Community Hospital
530 Bogachiel Way
Forks, WA 98331
USA
360-327-8085
Sample ID:
Purchase Order:
Work Order:
Package: LSD 103

Sample Taken From:
Type of Fuel: ULSD
Sample Collection Date:
Date Received: August 10, 2022
Date Released: August 16, 2022
Component Make: Other
Component Model:
Serial Number: 23546
Quanity in Tank: 500 g
Tank Capacity: 900 g

Test	Limit	Method	Result
API Gravity by Hydrometer	report	ASTM D1298-99	35
Cetane Index	40 minimum	ASTM D976-01	45.9
Copper Strip Corrosion	3 maximum	ASTM D130-04	1a
Distillation, 50%	report °C	ASTM D86/D2887	261
Distillation, 90%	282 - 338 °C	ASTM D86/D2887	324
Flash Point	52 °C minimum	ASTM D93-10	61
Microbial Growth	report	Micro/Culture Medium	Negative
Sulfur	15 ppm maximum	ASTM D5453-09	12
Visual Appearance	Visual	ASTM D4176-04	Clear, Few Particles
Water and Sediment	0.05 maximum (% volume)	ASTM D2709	.001
Water by Karl Fischer	report in ppm	ASTM D6304-16	45

Comments:

8014 NE 13th Ave., Vancouver, WA 98665

A

InTech® Combustion Analyzer

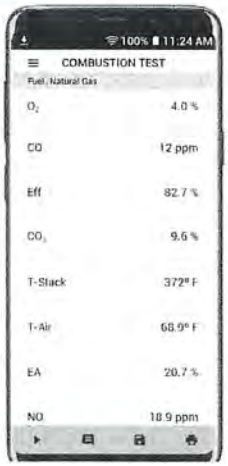
For Residential Applications

MSA
The Safety Company

DESCRIPTION

MSA Bacharach's InTech® is the perfect tool for entry-level residential HVAC technicians providing readings for O_2, CO, CO_2, Combustion Efficiency and Temperature. The InTech® is available with precalibrated, Sensor Exchange Program gas sensors to minimize downtime and maintenance costs. The Combustion mobile app (available for Android & iOS) allows users to create and send customizable combustion reports on-site.

Features	Benefits
Readings for O_2, CO, CO_2, Combustion Efficiency & Temperature	All-in-one instrument makes combustion tuning fast and simple.
Combustion App	Quickly create custom reports with comments and send via email (available for Android & iOS).
Automatic Sensor Protection	Protects sensors in the toughest combustion environments, extending life
IR Printer with Magnet	Print combustion and emissions reports in the field
Ambient CO Monitor	Check for dangerous levels of ambient CO
Precalibrated, Sensor Exchange Program Sensors	Quick and easy sensor replacement in the field & reduced downtime (doesn't require cal. gas)



Generate Custom Reports with the Combustion App

Download on the App Store

App Store

MORE INFORMATION:

Scan the QR code to learn about the InTech® and other MSA Bacharach products.

SAFEGUARDING
PEOPLE, PLACES, & THE PLANET

InTech® Combustion Analyzer

MSA
The Safety Company

Specifications	Description
O_2	20.9%
CO	0 to 2,000 ppm
STACK TEMPERATURE	-4 to 1,202°F (-20 to 650°C)
AMBIENT TEMPERATURE	-4 to 212°F (-20 to 100°C)
FUELS	Natural Gas, Oil 2 / 6, Kerosene, Propane, Butane, LPG, B5, KOKS, LEG and Biofuel

Product Details	Description
DISPLAY	2.7" (72 mm) backlit, monochrome LCD
DISPLAY LANGUAGES	English, Spanish, French
POWER	4 × AA Disposable Alkaline Batteries ≈ 15 hours
SIZE (H × W × D)	8.0" × 3.6" × 2.3". (20.3 × 9.1 × 5.8 cm)
WEIGHT	1 lb. (0.45 kg) including batteries
MEMORY	10 locations
COMMUNICATIONS	USB 2.0 (mini-B), IrDA
APPROVALS	CE, EN 50379-1 & -3
WARRANTY	2 years (including sensors)

Part Number	Description
0024-8510 *NEUTRONICS P/N: 7-01-1004-57-0*	Fyrite® InTech® O_2 Analyzer (analyzer with O_2 sensor, 12" probe, 6" sample hose assembly, water trap, particulate filter and soft carrying case)
0024-8511 *NEUTRONICS P/N: 7-01-1004-57-1*	Fyrite® InTech® (analyzer with O_2 and CO sensors, 12" probe, 6" sample hose assembly, water trap, particulate filter and soft carrying case)
0024-8523 *NEUTRONICS P/N: 7-01-1004-57-2*	Fyrite® InTech® with Protective Case (protective rubber boot and rugged protective carrying case)
0024-8512 *NEUTRONICS P/N: 7-01-1004-57-3*	Fyrite® InTech® with Protective Case & Reporting Kit (IrDA wireless printer, USB cable and Fyrite User Software)

** Siegert configurations available.*

MSA operates in over 40 countries worldwide. To find an MSA office near you, please visit ***MSAsafety.com/offices***.

4900-008-MC / 07.2019

Industrial/Commercial Division
Fulton Heating Solutions, Inc.

Product Data Submittal

Fulton Model: VTG-4000DF

Fulton VANTAGE Commercial/Industrial Hydronic Heating Boilers

(Dual Fuel Burner - Gas/Oil)

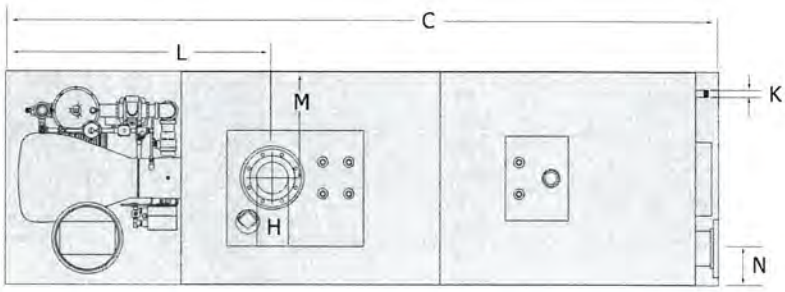
Dimensions

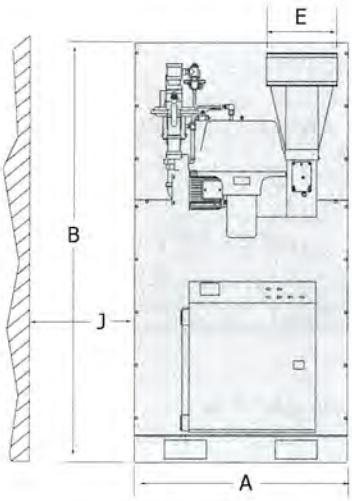
A. Boiler Width	IN	40.5
	MM	1028
B. Boiler Height	IN	79.5
	MM	2019
C. Boiler Depth w/ Blower	IN	136
	MM	3454
D. Flue Outlet Diameter	IN	14
	MM	356
E. Air Inlet Diameter	IN	12
	MM	305
F. To Center of Flue Outlet	IN	18.75
	MM	476
G. To Center of Return Water Inlet	IN	35
	MM	889
H. Water Inlet/Outlet Diameter	IN	6
	MM	152
I. Min. Clearance to Ceiling	IN	24
	MM	610
J. Min. Clearance to either Side Wall *	IN	12
	MM	305
Min. Clearance to Front	IN	36
	MM	915
Min. Clearance to Rear	IN	24
	MM	610
K. Condensate Drain Diameter	IN	1
	MM	25.4

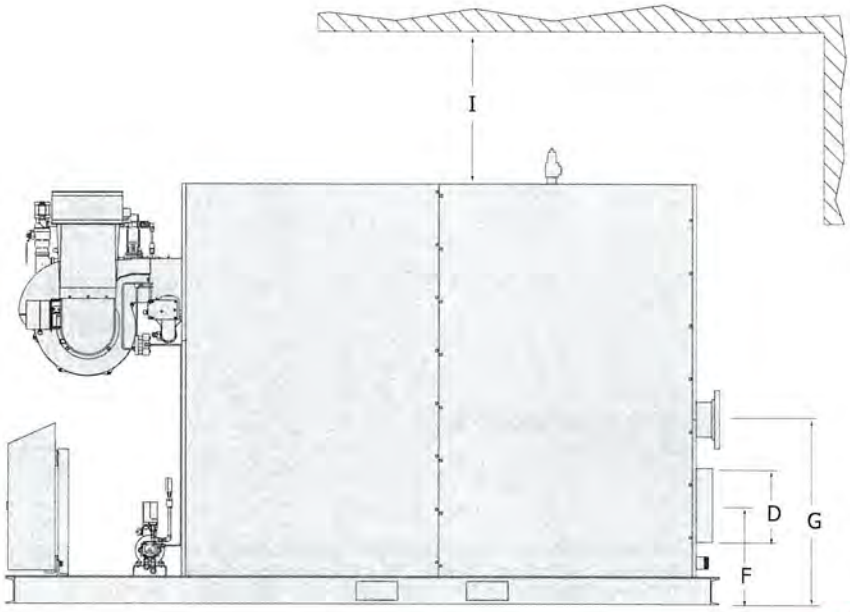
L. Water Outlet from Front of Skid	IN	50.75
	MM	1289
M. Water Outlet from Side	IN	20.25
	MM	514
N. Water Inlet from Side	IN	7.1
	MM	180

Specifications and Dimensions are approximate and for reference only. We reserve the right to change specifications and/or dimensions.

* Consult factory for 1" side clearance.







C

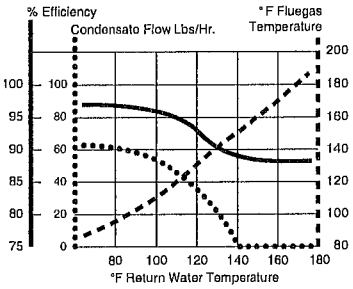
Specifications

972 Centerville Road
Pulaski, New York USA 13142
Call 315-298·5121
Fax 315-298·6390
Visit www.fulton.com

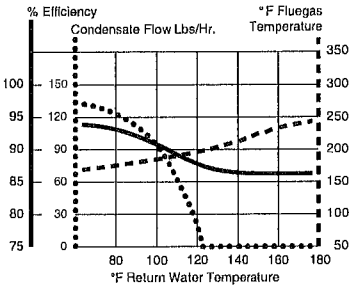
Industrial/Commercial Division
Fulton Heating Solutions, Inc.

Model		**VTG-4000DF**
Fuel		Nat. Gas, LP, #2 Oil **See Note 1**
Input	BTU/Hr.	4,000,000
	KCAL/Hr.	1,007,984
Fuel Consumption @ rated capacity:		
Natural Gas	FT^3/Hr.	4000
	M^3/Hr.	113
#2 Oil	GPH	28.6
	LPH	130
Unit Size/Output	BHP	102
	KW	1008
Electrical Requirements		
230V,60Hz,3 Phase	Amps	16.1
460V,60Hz,3 Phase	Amps	8.1
Blower Motor	HP	3
	KW	2.23
MAWP	PSI	160
	BAR	11.0
Max. suction to boiler mounted oil pump	Hg	13
	Bar	0.44
Max. flow & return pressure to oil pump	PSI	3
	Bar	2
Water Content	Gal	240
	Liters	911
Boiler Connection Sizes		
Safety Valve Inlet	IN	1.25
	MM	31.8
Safety Valve Outlet	IN	1.5
	MM	38.1
Water Inlet & Outlet	IN	6
	MM	152
Air Inlet	IN	12
	MM	305
Exhaust Outlet	IN	14
	MM	356
Gas Inlet	IN	2
	MM	50.8
Oil Inlet Connection	IN	.375
	MM	9.5
Approximate Weights		
Dry Weight	LB	5,800
	KG	2,636
Shipping Weight	LB	6,300
	KG	2,864
Operating Weight	LB	7,800
	KG	3,545
Floor Loading	LB/FT^2	223
	KG/M^2	1,060

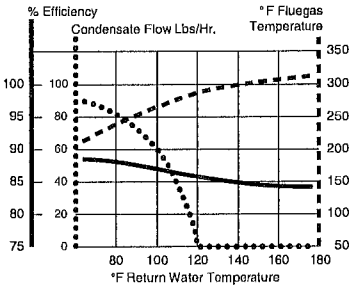
VTG 4000DF LOW FIRE



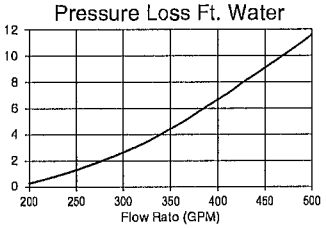
MID FIRE



HIGH FIRE



Pressure Loss Ft. Water



Air Intake Supply & Exhaust Vent Piping+

	No. of Feet of Standard Dia. Pipe	No. of 90° Elbows
Min. length air intake supply piping	0	0
Max. length air intake supply piping	35 (10.7m)	4
Min. length exhaust vent piping	0	0
Max. length exhaust vent piping	35 (10.7m)	4

+ Screened Termination Couplings inapplicable. Air intake and vent sizes may vary based on the installation. Please contact Fulton for vent sizing assistance. Consult factory for longer air intake and exhaust run requirements.

NOTES:
1. **The turndown ratio is 5:1 for Natural Gas; 3:1 for Propane; 2:1 for Oil**

Installation Notes

1. Natural Gas Pressure Required: 14" W.C., consult factory for lower gas pressure applications. Minimum Propane Gas Pressure Required: 17" wc.
2. One condensate drain can be used for up to 3 boilers. The condensate drain requires a fresh water connection. The connection is a 1/4" compression fitting and the water pressure shall be less than 100 PSI.

Fulton Heating Solutions

Condensing Hydronic Boiler Product Lines

5/28/2017

Fulton Heating Solutions

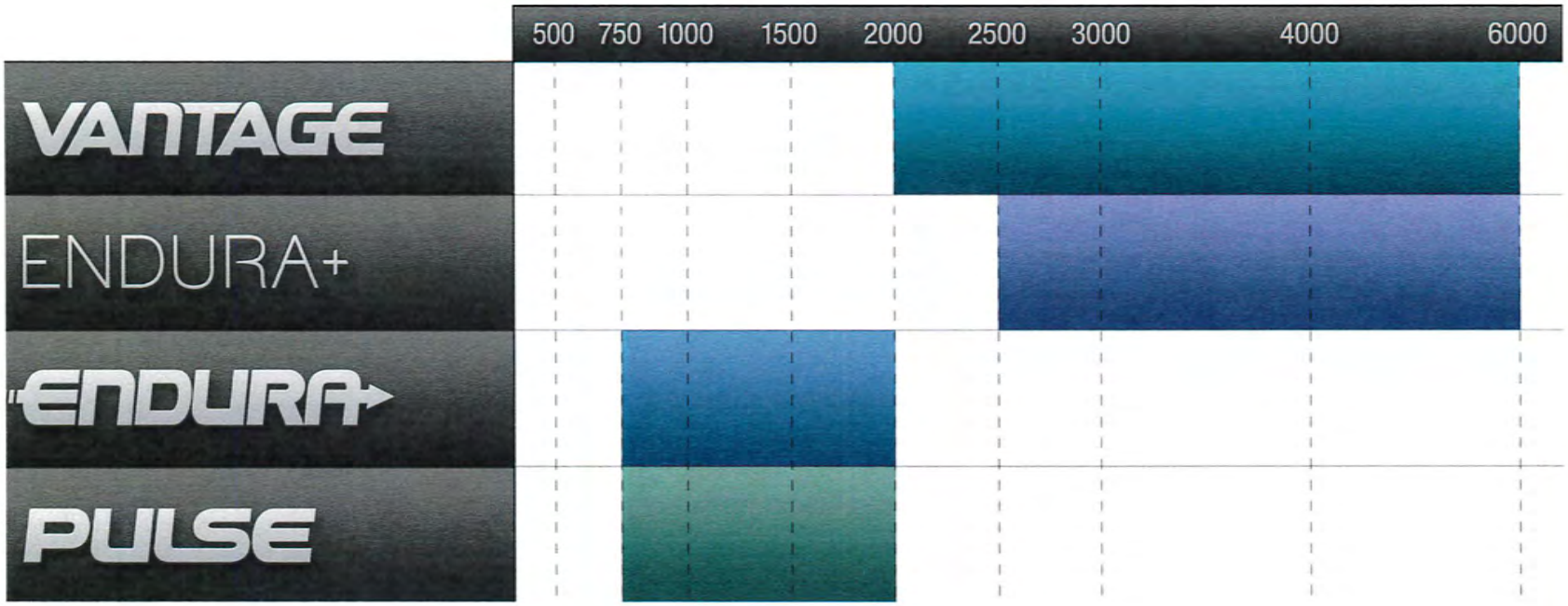
- Based in Syracuse, NY
- A division of The Fulton Companies, a privately held global manufacturer of rugged, robust and reliable boilers since 1949
- Commercial heating hydronic (hot water) boilers for a wide range of applications

Fulton www.fulton.com

Fulton Heating Solutions

Fulton www.fulton.com

750 MBTU/hr - 6,000 MBTU/hr

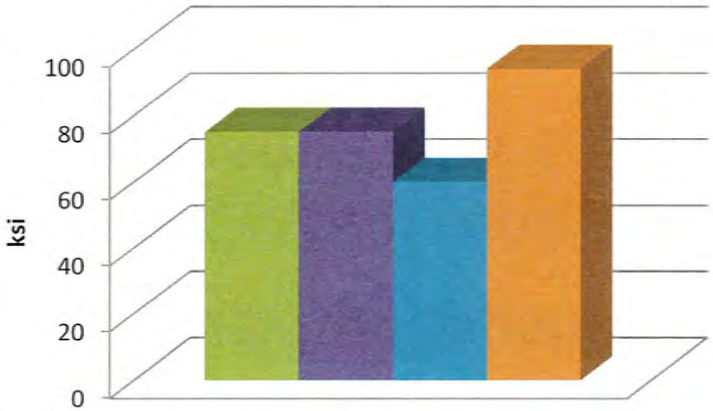


Fulton www.fulton.com

Boilers Built with Duplex Stainless

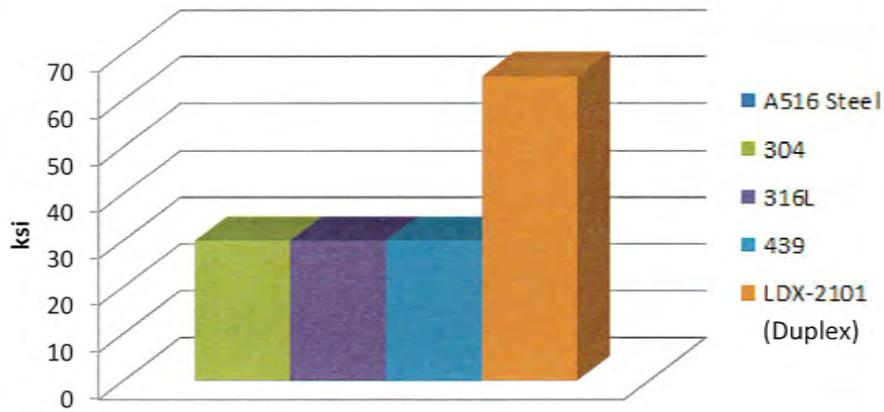
Ultimate Tensile Stength (min)

(Higher is Better)



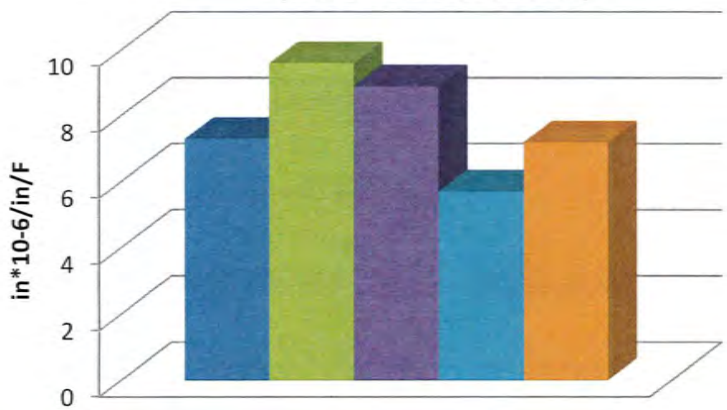
0.2% Yield Stength (min)

(Higher is Better)



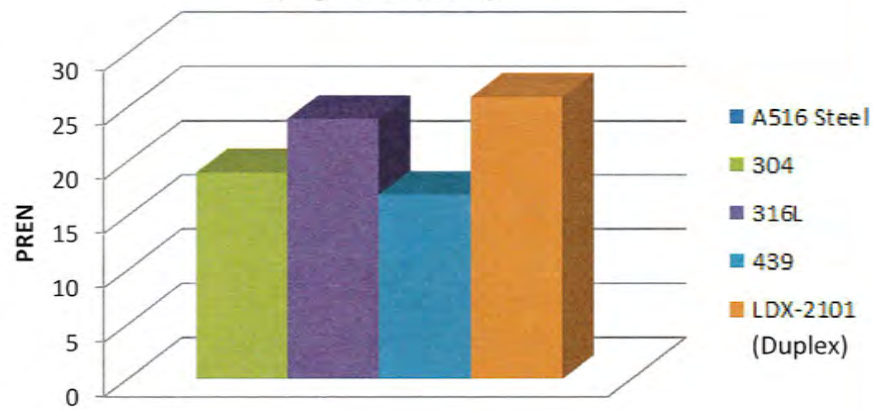
Coefficient of Thermal Expansion

(Closer to steel is better)



Pitting Resistance

(Higher is Better)



Vantage - Condensing Hydronic Boilers

- Capacities range from 2,000,000 to 6,000,000 BTU/hr
- High mass, high volume fire tube design
- Rugged duplex stainless steel condensing heat exchanger
- Ultra high efficiencies
- Dual fuel capabilities with #2 oil
- Industrial controls and burner platforms for superior reliability

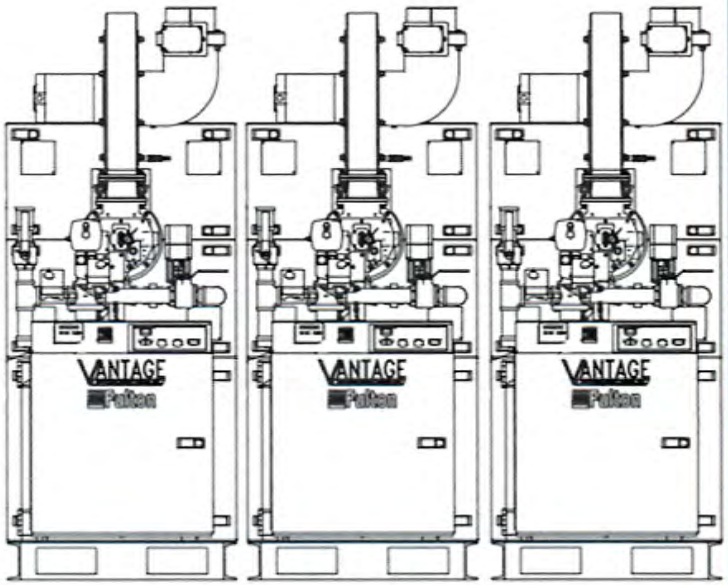
Fulton www.fulton.com

Vantage - Models and Sizes

- VTG-2000/DF
  - 2,000,000 BTU/hr
- VTG-3000/DF/LE
  - 3,000,000 BTU/hr
- VTG-4000/DF/LE
  - 4,000,000 BTU/hr
- VTG-5000/DF
  - 5,000,000 BTU/hr
- VTG-6000/DF
  - 6,000,000 BTU/hr

Vantage - Features and Benefits

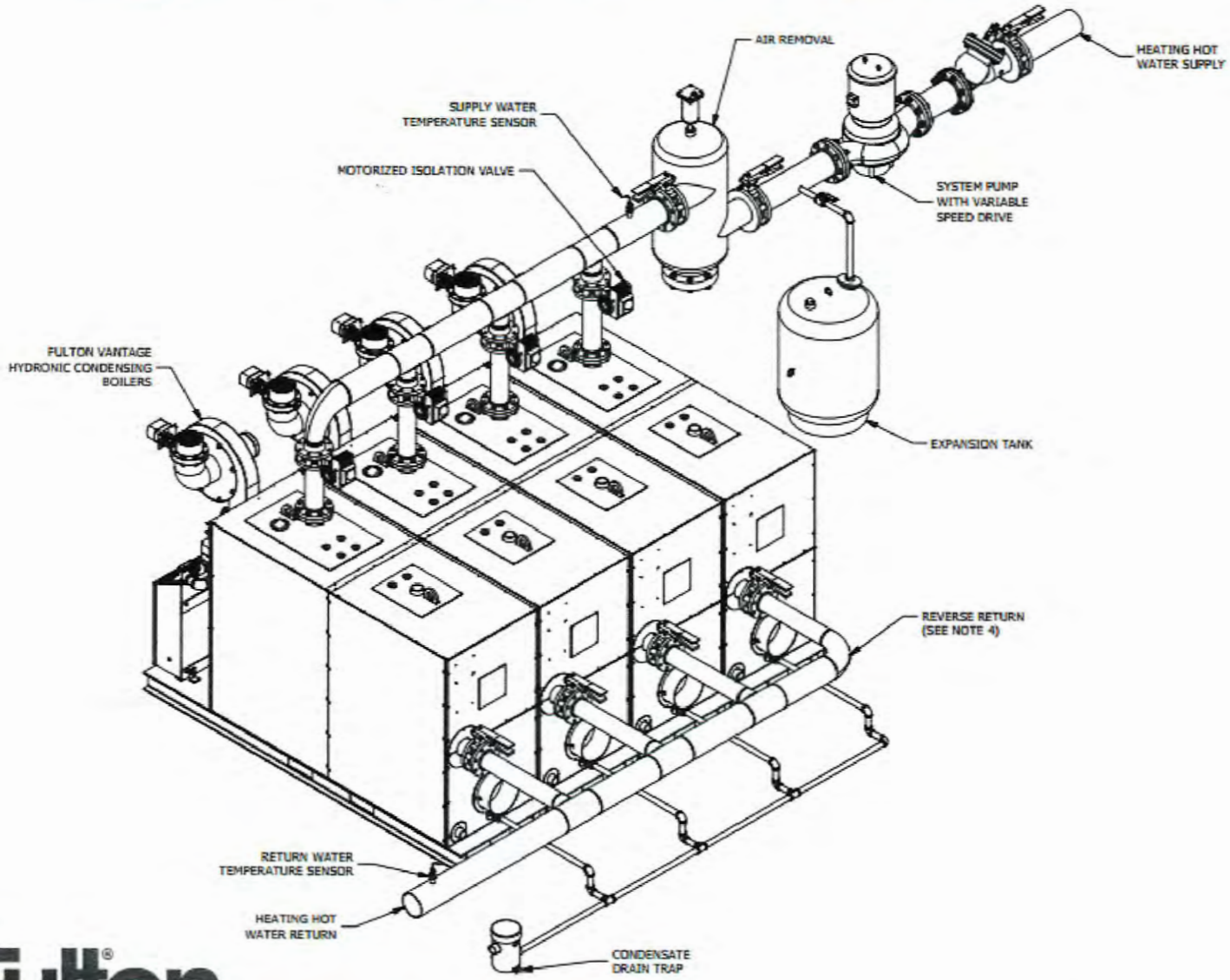
- Does not require primary secondary piping
  - Designed for variable primary flow
- No minimum return water temperature on NG or LP
- One inch side clearance
- Zero flow will not harm the heat exchanger



Vantage - Other Benefits

- High water volume:
  - Reduced cycling with greater buffer volume
  - Low water side pressure drop, reduced pumping cost
- Thicker and more robust materials
- Larger Delta-T tolerance (100°F)
- Biogas and Digester Gas capabilities (Custom Configured)

Vantage - Variable Primary Flow



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Vantage - Certifications and Compliance

- ASME Sec IV, CRN
- UL-795 Listed
- AHRI Certified Efficiencies
- CSD-1 and CSA
- XL GAPS (GE GAP / IRI)
- Factory Mutual Compliant
- SCAQMD & TCEQ (LE Models)
- NFPA 85 Option Available

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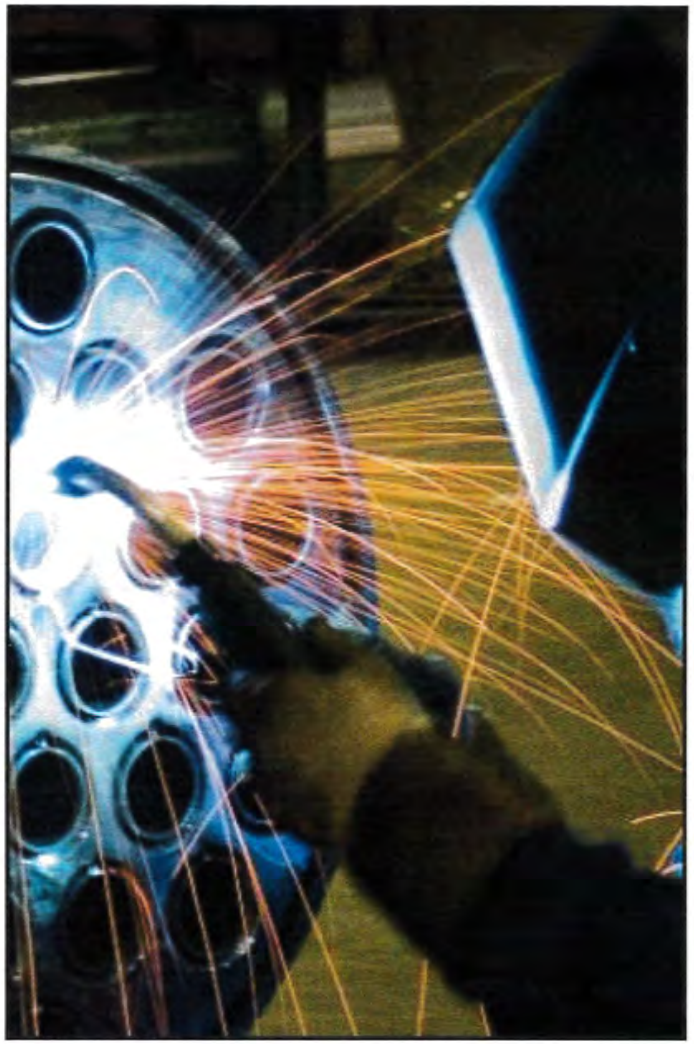
Vantage - Leading AHRI Efficiencies

Model	Certified Thermal Efficiency (Nat. Gas)
VTG-2000 / DF	95.7%
VTG-3000 / DF	96.3%
VTG-4000 / DF	96.9%
VTG-5000 / DF	92.6%
VTG-6000 / DF	94.0%

AHRI CERTIFIED™
www.ahridirectory.org

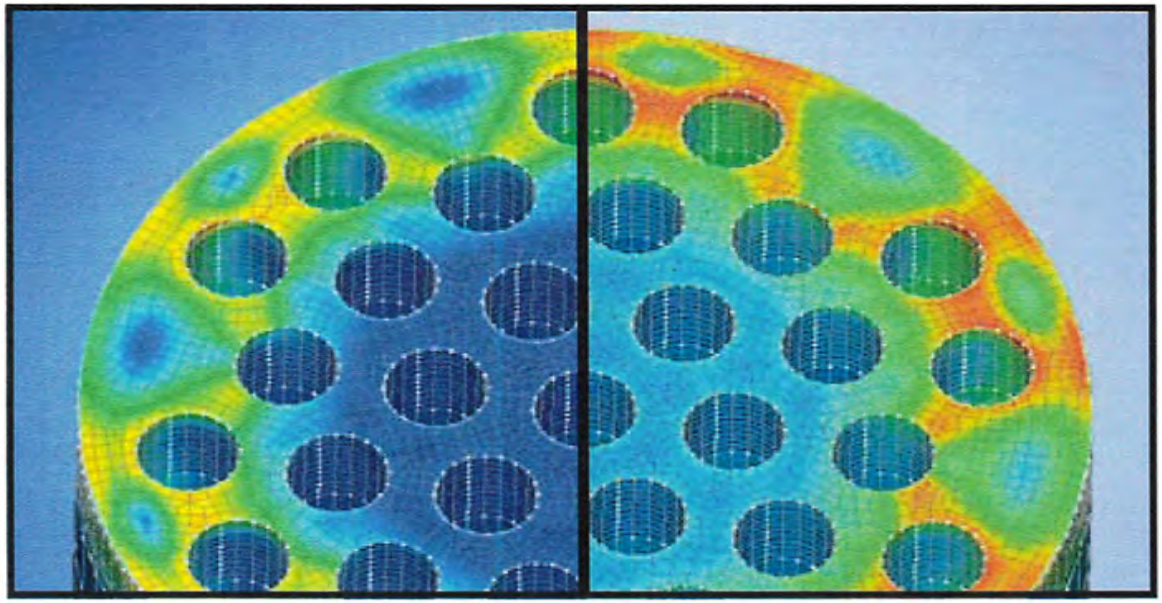
Vantage - Heat Exchanger Design

- High-mass firetube platform
- Conservative material thicknesses for boiler longevity
- Lifetime thermal shock warranty
- Duplex alloy stainless steel condensing heat exchanger

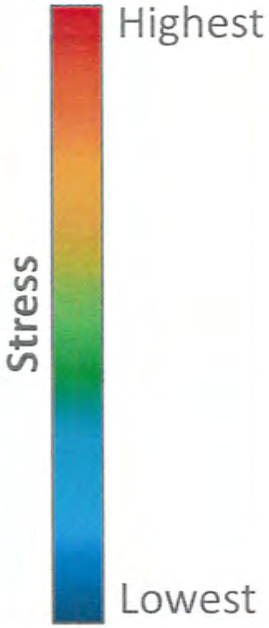


Vantage - Duplex Alloy Stainless Steel

- A stainless alloy far superior to 316L and 439 used in competing boilers
- Duplex experiences lower stresses due to a low coefficient of thermal expansion

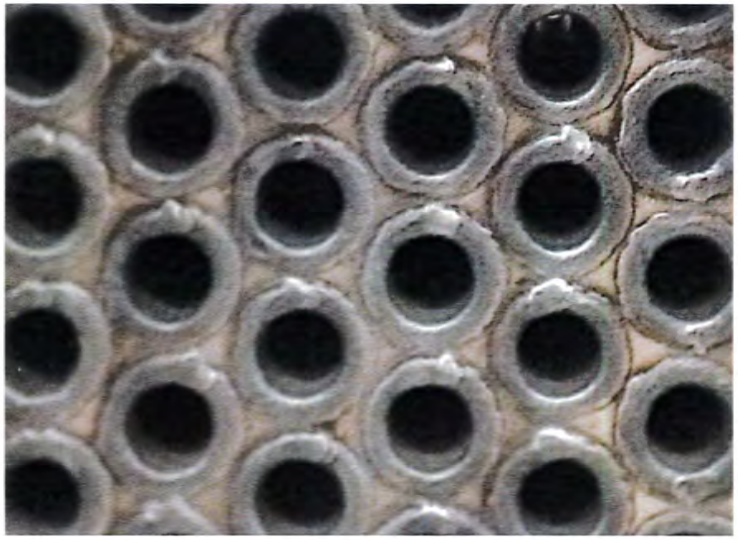


Duplex Alloy Stainless Steel 316L Stainless Steel



Vantage - Heat Exchanger Design

- Rugged design
- Superior construction and materials
- No overlapping welds

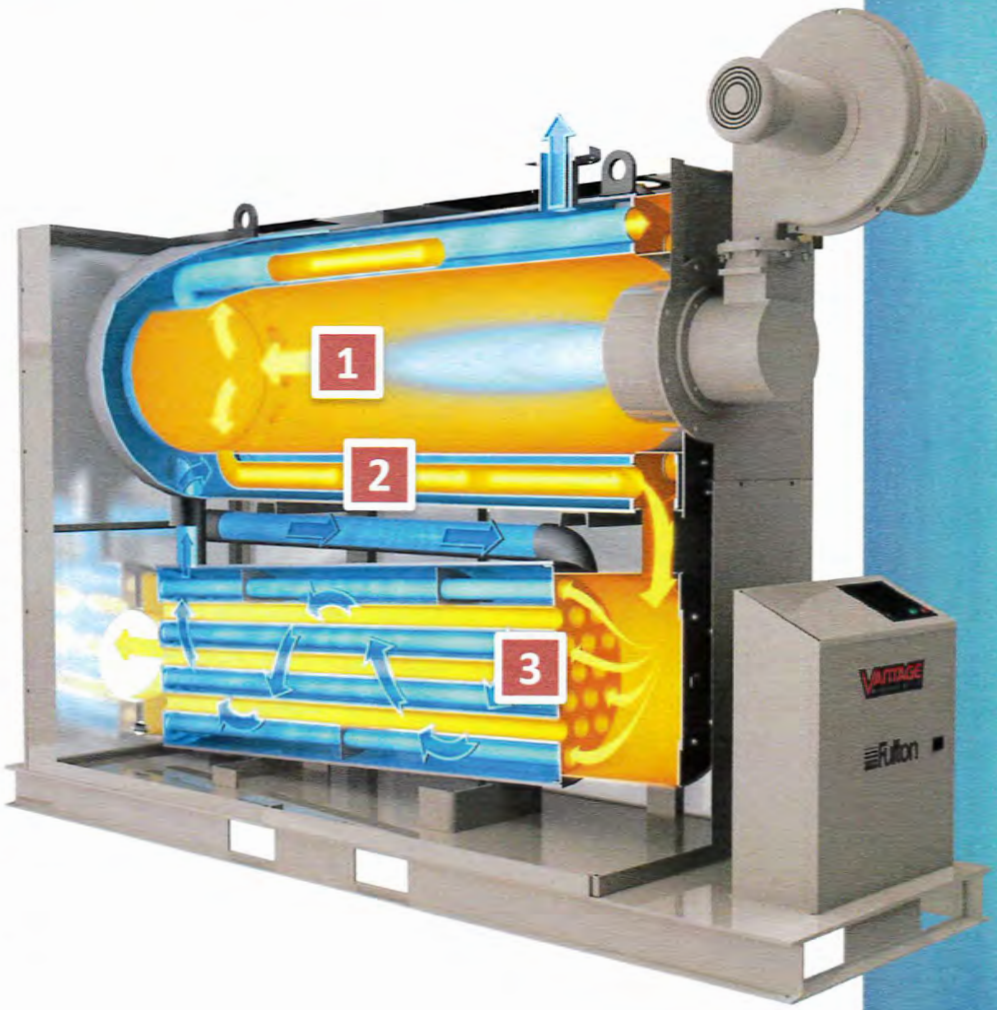


Fulton Vantage

Competition

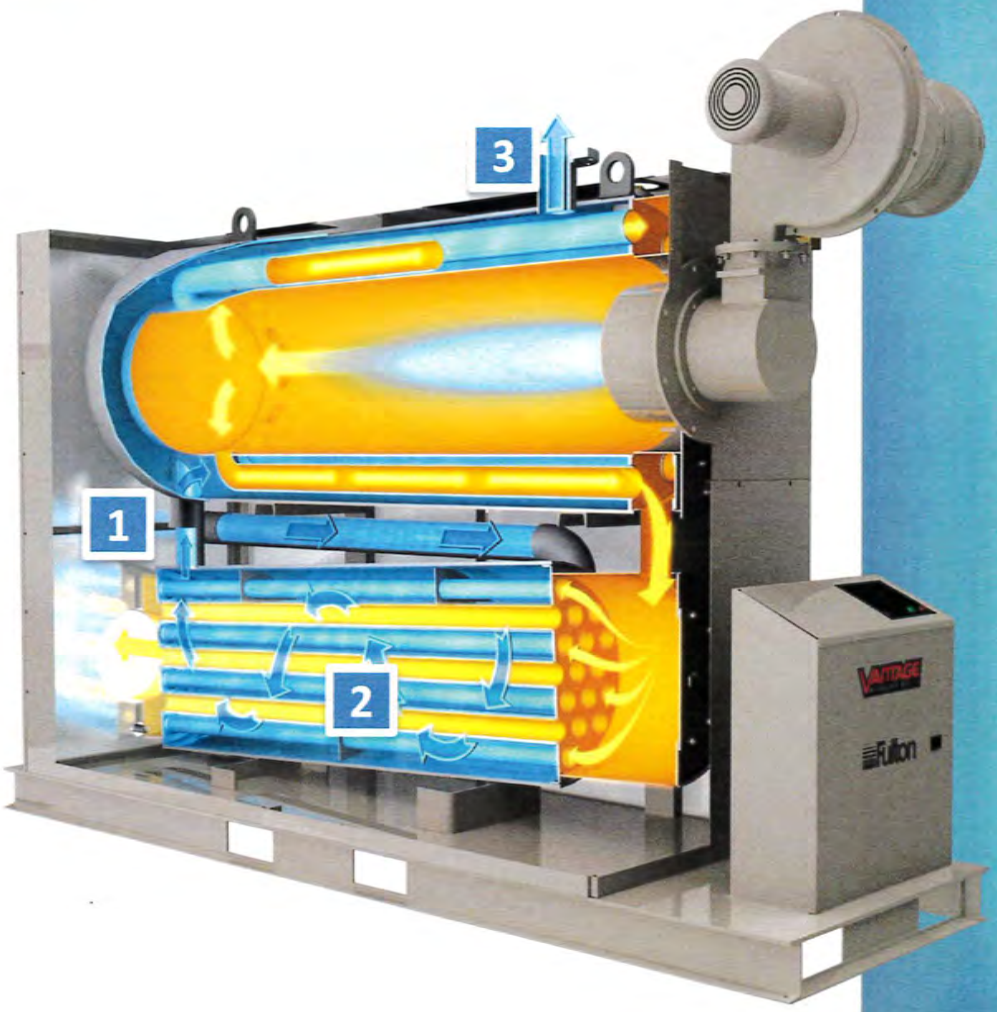
Vantage - Three Pass Fire Tube

1. Power burner fires horizontally into the first pass
2. Water backed turn around directs flue gases into radially welded schedule 40 pipes
3. Flue gases transition into the Duplex stainless steel condensing section



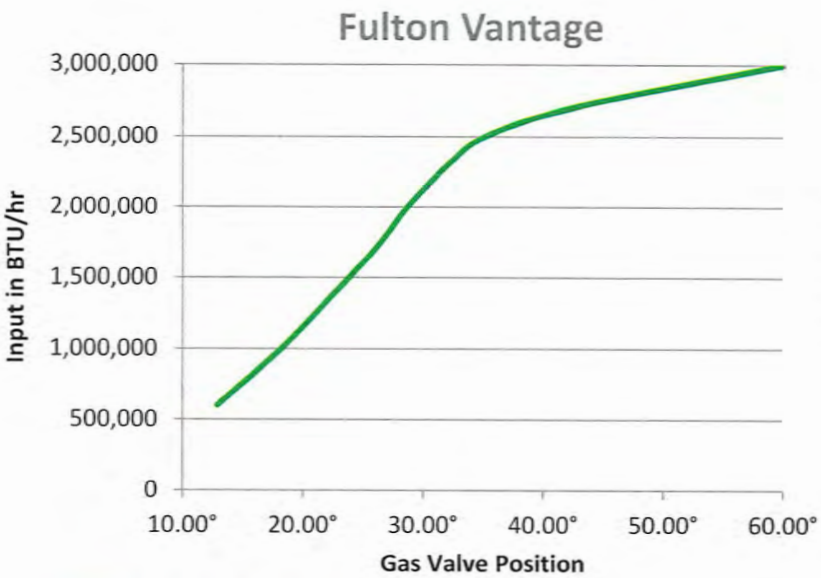
Vantage - Water Side

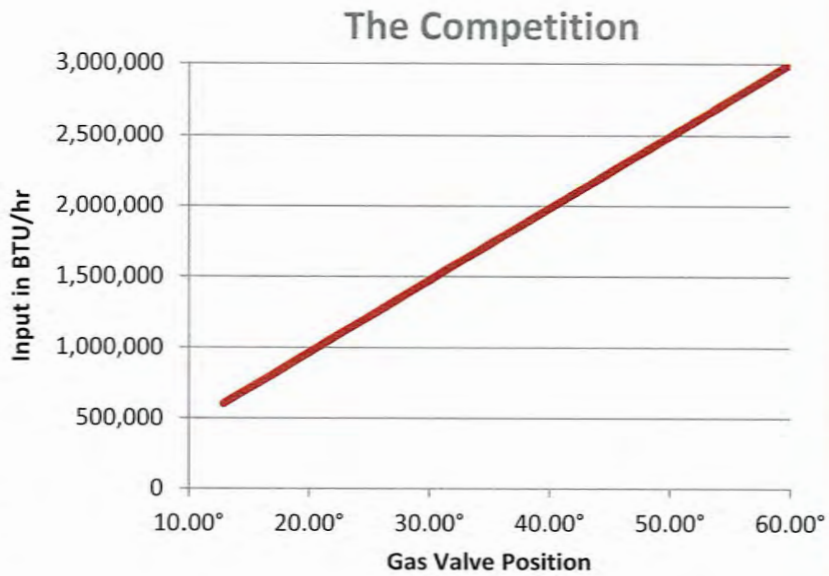
1. Return water enters at the rear of the boiler
2. Water passes through a series of baffles to optimize mixing and turbulence
3. Heated supply water exits at the top of the vessel



Vantage - Industrial Combustion Controls

- The air/fuel ratio required across a turndown range is non-linear
- The Vantage linkageless control with independent air and gas servo motors optimizes O_2 (Excess Air) with a non-linear combustion profile
- Maintaining low excess air increases combustion efficiency and decreases flue gas dew point temperatures (more condensing occurs)



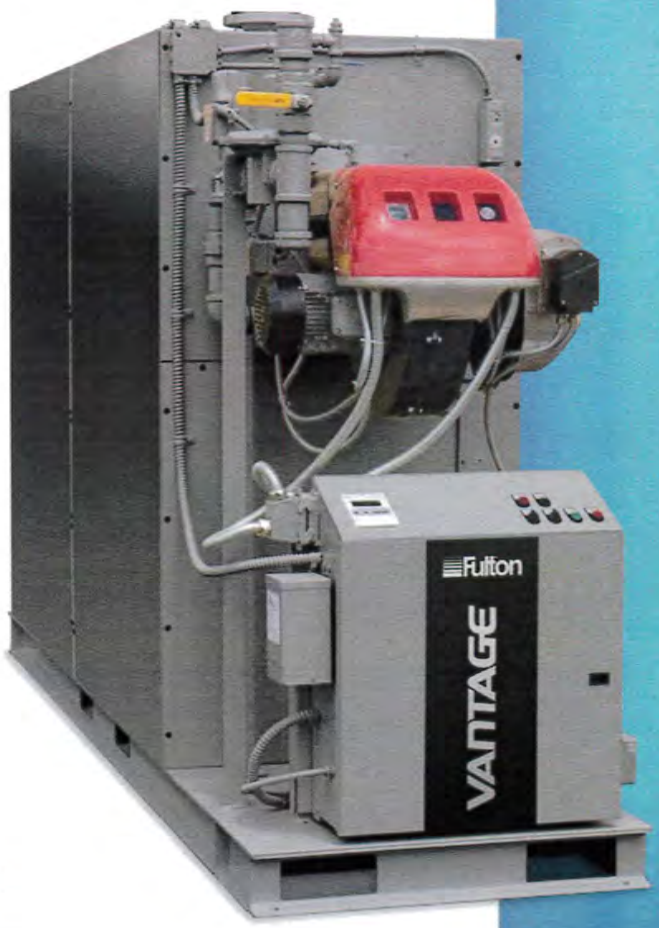


Vantage - Standard Models

- Flexible and reliable industrial power burners
  - Maxon OvenPak (2-5MM)
  - Riello RS-160/E (6MM)
- Natural Gas, Propane or dual-fuel Natural Gas & Propane
- Rugged burner tolerates a wide range of operating conditions

Vantage - Dual Fuel (Gas/Oil) Models

- Natural Gas (or Propane) and #2 Fuel Oil
  - Riello RLS Series Burners
- Condensing on gas, B-100 bio diesel and ultra low sulfur (<15 ppm) fuel oil
- Simplified fuel selection (turn of a switch)
- Pressure atomized oil burner
  - Does not require compressed air
- Lights with direct spark ignition
  - Does not require a gas pilot
- Continuous operation on #2 fuel oil without derate or flame impingement
- **<u>True full time dual-fuel boiler!</u> Not just for *"emergency backup only"* like the competition!**



Vantage - Dual Fuel (Gas/Oil) Markets

- Healthcare and Medical Facilities
  - Fuel oil is a reliable standby fuel already available in many facilities with backup generators
- Fuel Curtailment Areas
  - Utility rebates may be available for customers able to switch to a backup fuel during peak demand
- Educational
- Government and Military