RYAN

BOILERS / HEATING SYSTEM COMPONENTS

Not All High Efficiency Boilers are Created Equal

Outline

- **Boiler Selection Considerations**
- **High Efficiency Boilers**
  - Futlon
    - Vantage
    - Pulse
    - Pulse QT
  - LES
    - Series VI
  - Lochinvar
    - Knight
    - Sync
- **New Products**
  - Bryan TripleFlex Condensing Boiler
  - Power Flame Burners and Oil Pumpsets
  - Lochinvar Armor Water Heater Larger Sizes
  - Lochinvar Shield Water Heaters
  - LES HF & HW Series Larger Sizes
- **Drawing for Prizes (Bring Business Card)**

Boiler Selection Considerations

- **Condensing?**
- **Material**
  - Type
  - Amount
- **True Sealed Combustion**
- **Venting**
  - Material
  - Size
  - Max Length
- **Physical Size**
- **Clearances**
- **Serviceability**
  - Access
  - Parts
    - Qty
    - Proprietary
- **Operating Parameters**
  - Flow Rates (Min/Max)
  - Min Return Water Temp
  - Operating Electrical Load
  - Max ΔT
  - Max Operating Pressure
  - Max Operating Temp
- **Fuels**
  - Nat
  - LP
  - Nat & LP
  - (Nat or LP) & Oil
- **Turndown**
- **Included Features/Controls**
- **Years in Service**

Condensing Boiler Manufacturers

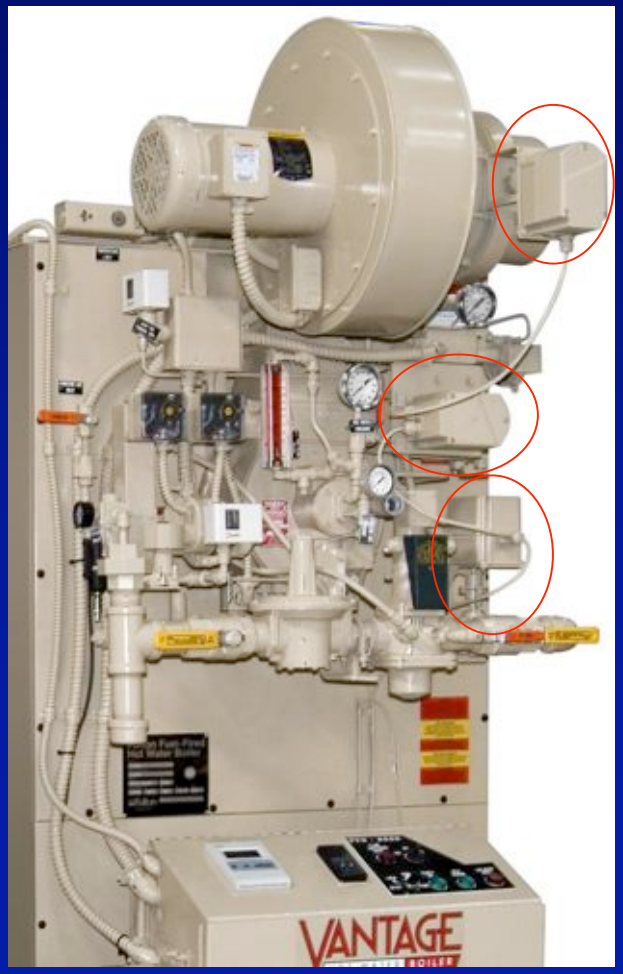
- Vantage
- Pulse
- Pulse QT

Fulton Vantage Hydronic Boilers

- Fully Condensing with Efficiencies up to 99%.
- Fully modulating with linkageless controls and 5:1 turndown.
- No minimum return water temperature.
- No minimum flow rate requirements.
- Fits through a standard 36” doorway. (Except VTG4000)

Fulton Vantage

- Linkageless Controls



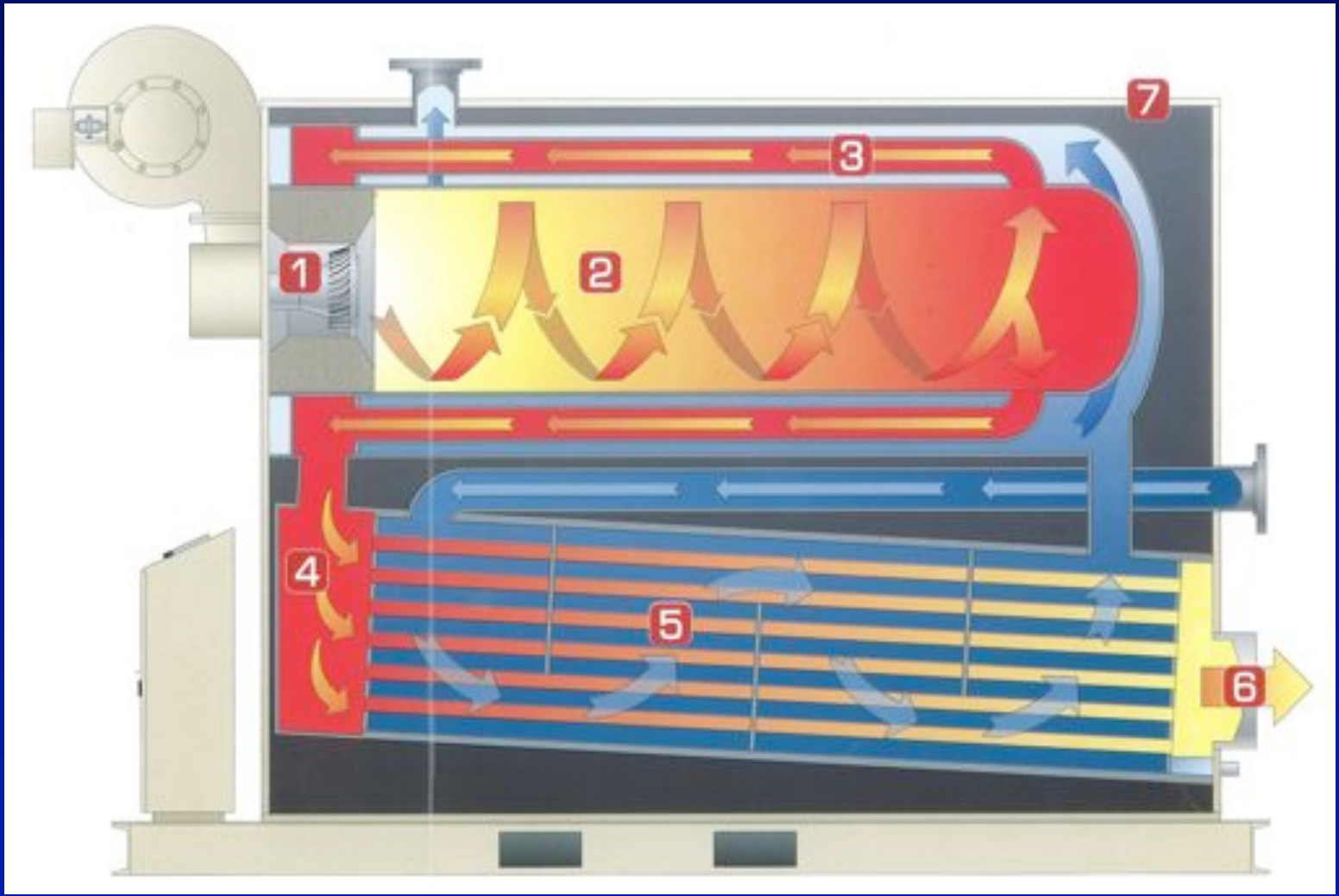
Fulton Vantage Hydronic Boilers

- Vantage Hydronic Boilers.
  - VTG-4000 = 4000 MBH Input
  - VTG-3000 = 3000 MBH Input
  - VTG-2000 = 2000 MBH Input

Fulton Vantage Hydronic Boilers

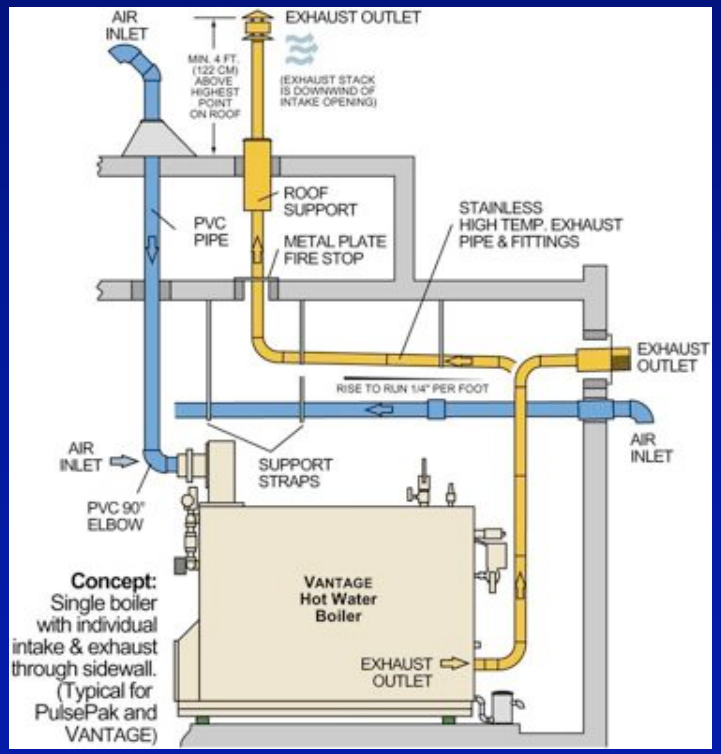
- **Fuels**
  - Single Gas
  - Dual Gas
  - Combination Gas & Oil

Fulton Vantage Boiler Design



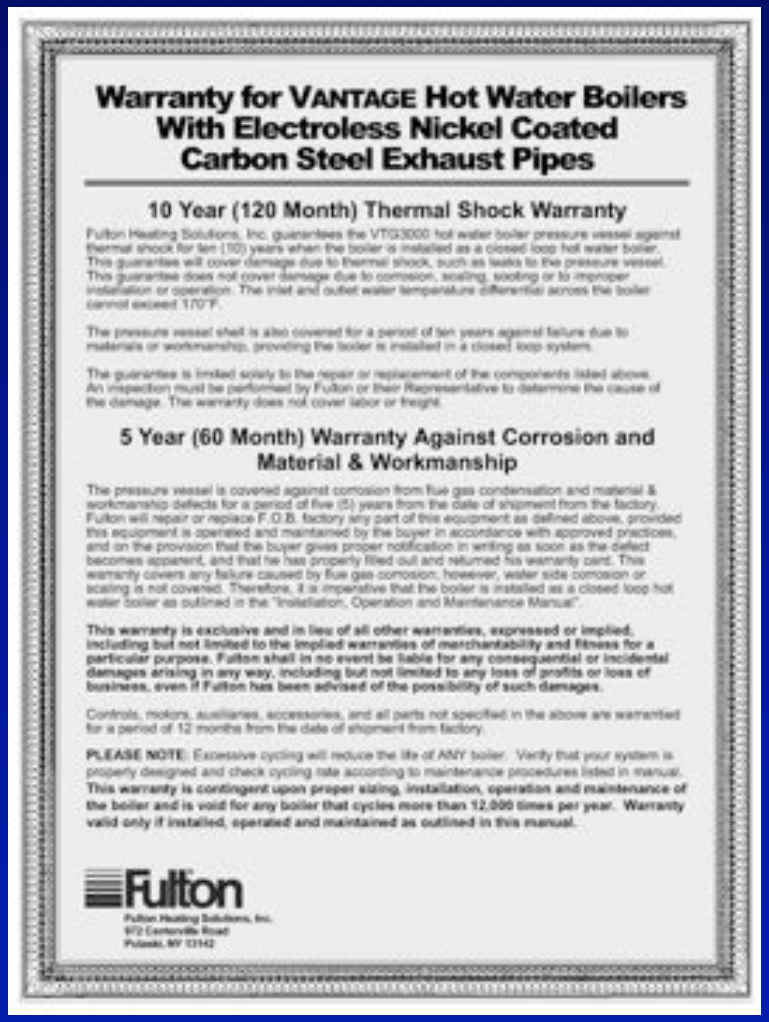
Fulton Vantage Boiler Features and Benefits

- **Flexible Venting Arrangements**
  - Sealed Combustion
  - Conventional Venting
  - Air Intake Piping
    - PVC
    - 50 Ft with 6 Elbows
  - Exhaust Venting
    - AL29-4C
    - 50 Ft with 6 Elbows



Fulton Vantage Boiler Warranty

- Ten Year Thermal Shock Warranty.
- Five Year Warranty: Flue Gas Corrosion, Material and Workmanship.



Warranty for VANTAGE Hot Water Boilers With Electroless Nickel Coated Carbon Steel Exhaust Pipes

10 Year (120 Month) Thermal Shock Warranty

Fulton Heating Solutions, Inc. guarantees the VTG3000 hot water boiler pressure vessel against thermal shock for ten (10) years when the boiler is installed as a closed loop hot water boiler. This guarantee will cover damage due to thermal shock, such as leaks to the pressure vessel. This guarantee does not cover damage due to corrosion, scaling, sooting or to improper installation or operation. The inlet and outlet water temperature differential across the boiler cannot exceed 170°F.

The pressure vessel shell is also covered for a period of ten years against failure due to materials or workmanship, providing the boiler is installed in a closed loop system.

The guarantee is limited solely to the repair or replacement of the components listed above. An inspection must be performed by Fulton or their Representative to determine the cause of the damage. The warranty does not cover labor or freight.

5 Year (60 Month) Warranty Against Corrosion and Material & Workmanship

The pressure vessel is covered against corrosion from flue gas condensation and material & workmanship defects for a period of five (5) years from the date of shipment from the factory. Fulton will repair or replace F.O.B. factory any part of this equipment as defined above, provided this equipment is operated and maintained by the buyer in accordance with approved practices, and on the provision that the buyer gives proper notification in writing as soon as the defect becomes apparent, and that he has properly filled out and returned his warranty card. This warranty covers any failure caused by flue gas corrosion; however, water side corrosion or scaling is not covered. Therefore, it is imperative that the boiler is installed as a closed loop hot water boiler as outlined in the "Installation, Operation and Maintenance Manual".

This warranty is exclusive and in lieu of all other warranties, expressed or implied, including but not limited to the implied warranties of merchantability and fitness for a particular purpose. Fulton shall in no event be liable for any consequential or incidental damages arising in any way, including but not limited to any loss of profits or loss of business, even if Fulton has been advised of the possibility of such damages.

Controls, motors, auxiliaries, accessories, and all parts not specified in the above are warranted for a period of 12 months from the date of shipment from factory.

PLEASE NOTE: Excessive cycling will reduce the life of ANY boiler. Verify that your system is properly designed and check cycling rate according to maintenance procedures listed in manual. **This warranty is contingent upon proper sizing, installation, operation and maintenance of the boiler and is void for any boiler that cycles more than 12,000 times per year. Warranty valid only if installed, operated and maintained as outlined in this manual.**

Fulton

Fulton Heating Solutions, Inc.
972 Centerville Road
Pulaski, NY 13142

Fulton Vantage Boiler

FULTON VANTAGE BOILER COMPARISON (3000MBH) JUNE 09

	Fulton VTG3000	Aerco BMK 3.0LN	Camus DFH3000 Cond	Viessmann CT3-89
Input (MBH)	3000	3000	3000	3351
Unit Dimensions (w/Trim)				
Length/Depth with Burner	120	79	34	132
Less Burner	N/A	N/A	N/A	94
Height (less pressure relief valve)	76	79	79	100
w/ Blower	84	N/A	N/A	N/A
Width	34	28	30	49
Clearances				
Front	36	24	24	59
Back	24	43	30	49
Sides	1"/12" [4]	24	12+	20-46
Top	24	18	24	?
Heat Exchanger Material	Carbon Steel & Duplex 2205SS	Carbon Steel & 304/316SS	Copper Fin Tube & SS	SS
Weight Dry (Lbs)	5200	3170	670	3644
Water Volume (Gal)	215	49	8	222
Vent Size (in.)	12	8	12	12
Intake Size (in.)	10	8	12	N/A ??
Combined Vent & Intake Distance (Ft)	160 [1]	140	200?	N/A ??
Operating Electrical Load (Amps)	12.9 @ 230V	11 @ 230V	14 @ 115V	6.3 @460/3
Recommended Service (Amps)	20	20	20	?
Min Return Water Temp (°F)	None	?	130	None
Min Flow Rate (GPM)	None	35	143.9	162
Max Flow Rate (GPM)	None	350	187.9	323
Thru Secondary HE	N/A	N/A	60	N/A
Pressure Drop @ 250GPM (Ft)	5.2	12.7	Can't Do	1
Multiple Water Connections	No	No	Yes [3]	Yes
Secondary Heat Exchanger	No	No	Yes	No
Max. Operating Pressure (PSI)	160	160	160	30
Max Water Temp (°F)	240	190	200	210
Max Delta T	170	?	35	40
Turndown	5:1	~~4b4~~ 5-7:1 [2]	~~4b4~~ 2.4:1	3:1
Fuels Available to Fire	Nat, LP, Oil or Comb	Nat Only or LP or Comb	Nat or LP	Nat or LP
Linkageless Air/Fuel Controller Std	YES	No	No	No
Warranty PV (Yrs)	10	7 + 3 Prorated	5 + 5 Prorated	?
Warranty Secondary HE (Yrs)	N/A	7 + 3 Prorated	5	?
Years on Market	5	3	2	2
Made in USA	YES	YES	NO	NO

Notes:

1. Combined distance increases if vent & intake pipes are increased.
2. Marketing literature states 15:1. However, service manual states start/stop levels of 20 & 14% firing rate which equates to 5-7:1 TurnDown.
3. Camus unit utilizes a secondary heat exchanger which must be piped separately thus having multiple piping connections.
4. Marketing literature states 5:1. However, VPD only goes to 40% which equates to 2.4:1.
5. 1" Clearance for gas only units using room air and all combination gas/oil units. Gas only units using ducted intake require 12".

3.9 START/STOP LEVELS

The start and stop levels are the fire rate percentages that start and stop the unit, based on load. These levels are Factory preset as follows:

Start Level: 20%

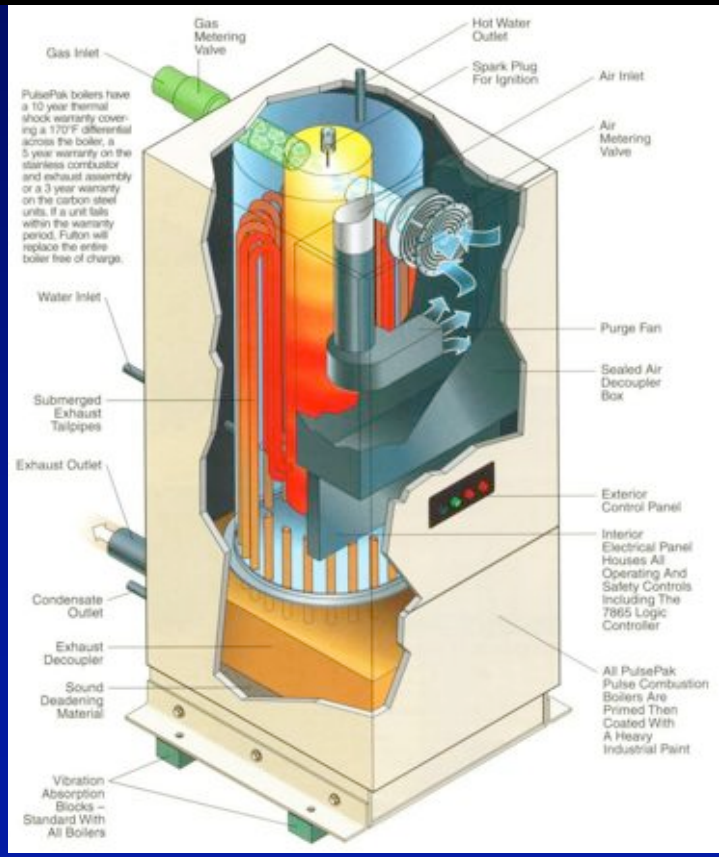
Stop Level: 14%

Normally, these settings should not require adjustment.

Camus adds a secondary Heat Exchanger to create their condensing boiler.

Fulton Pulse Boiler

- Fulton Pulse Boiler
- 30 – 160 PSI
- Up to 98% Efficiency
- 8 – 50 BHP
- No Min Return Water Temps
- No Min or Max Flow Requirements
- No Power Burner (<.5A Load)
- Fuels
  - Nat or LP
  - Combination Nat & LP
- No Expensive Service Parts
  - Air/Fuel Valves
  - Blower Motors



Fulton Pulse QT Boiler

- **Pulse Boiler**
  - Reduced Noise Levels and Vibration
  - Up to 75% Reduction
  - 1000, 1400 & 2000 MBH

Fulton Pulse Boiler

FULTON PULSE BOILER COMPARISON (1000MBH)

	Fulton PHW1000	Fulton PHW1000QT	PK C-1050	Aerco KC-1000	HydroTherm KN-10	CB CFC-1000
Unit Dimensions (w/Trim)						
Length/Depth	52	52	55	57	44	64
Height	84	84	56	77	53	76
Width	28	28	28	30	30	37
Clearances						
Front	32	32	36	18	36	36
Back	24	24	24	18	24	8
Sides	1	1	24	24	24	20
Top	12	12	24	18	24	12
Heat Exchanger Material	Carbon Steel & Corten	Carbon Steel & Corten	Aluminum [5]	Cupro-Nickel [6]	Cast Iron [7]	Steel, SS, Alum
Weight Dry (Lbs)	1800	2400	780	1000	985	1554
Water Volume (Gal)	42	42	7.3	23	14	87
Vent Size (in.)	4	4	8	6	6	8
Intake Size (in.)	4	4	6	6 [1]	6	6 [1]
Combined Vent & Intake Distance (Ft)	100 / 260 [2]	100 / 260 [2]	?	140	160	120
Operating Electrical Load (Amps@115	0.5	0.5	5	8	8	5.5
Recommended Service (Amps)	15	15	15	20	15	?
Max. Operating Temp. (F)	240	240	195	200	210	194
Max. ΔT	180	180	40	74	100	100
Min Flow Rate (GPM)	None	None	52	25	15	18
Max Flow Rate (GPM)	None	None	105	150	150	None
Max. Operating Pressure (PSI)	160	160	80	150	100	60
Max dBA	69.2	63.1				
O2 Reading at Low Fire	4-6%	4-6%	5%	10-12%	6.5-7.8%	7%
Turndown	5:1	5:1	5:1	20-4, 6:1, 5:1 [3]	5:1 [4]	5:1
Warranty PV (Yrs)	7 Full + 3 Prorated	7 Full + 3 Prorated	1	10	5 Full + 5 Prorated	10
Warranty HE (Yrs)	7 Full + 3 Prorated	7 Full + 3 Prorated	5	5	5 Full + 5 Prorated	10
Years on Market	20	20	4	13	3	2

Notes:

1. Must purchase optional adaptor for ducted combustion air intake.
2. Combined distance increases to 260ft if vent & intake pipes are increased to 6".
3. Marketing literature states 20:1. However, service manual states 6:1 with normal operation at 5:1.
4. Marketing literature states 5:1. However, Calibration sheet used to indicate 3:1.
5. pH must be between 6.0 and 8.5. Glycol and other additives must be approved by chemical manufacturer to be used with Aluminum.
6. Cupro-Nickel is very corrosive. Heat exchanger must be inspected annually and cleaned every 3 years on average.
7. Hydrotherm burner inspection requires the use of tightly fitted mask due to crystalline silica fibers being carcinogenic.

3.9. START/STOP LEVELS

The start and stop levels are the fire rate percentages that start and stop the unit, based on load. These levels are Factory preset as follows:

- Start Level: 20%
- Stop Level: 16%

Normally, these settings should not require adjustment.

Since the boiler is iron, under condensate producing conditions, it will corrode. However, due to its proper condensing design, the time to failure will far exceed conventional iron boilers operating under the same conditions.

Fulton Pulse Boiler

FULTON PULSE BOILER COMPARISON (2000MBH) Jun-09

	Fulton PHW2000	Fulton PHW2000-QT	Aerco BMH 2.0	HydroTherm KN-20	PK Mach C-2000
Unit Dimensions (w/Trim)					
Length/Depth	70	70	64	66	77
Height	89	89	79	58	60
Width	34	34	28	29	31
Clearances					
Front	38	38	24	36	30
Back	24	24	42	24	18
Sides	1	1	24	24	18
Top	24	24	18	24	12
Heat Exchanger Material	Carbon Steel & Corten	Carbon Steel & Corten	Steel & 316 SS	Cast Iron [4]	Aluminum [4]
Weight Dry (Lbs)	2800	3785	1680	1900	1400
Water Volume (Gal)	75	75	27	26	25
Vent Size (in.)	6	6	8	9	10
Intake Size (in.)	6	6	6 [1]	9	10
Combined Vent & Intake Distance (Ft)	110 / 260 [2]	110 / 260 [2]	140	160	200 [5]
Operating Electrical Load (Amps)	0.5/120	0.5/120	10/220	11/220	<15/120
Recommended Service (Amps)	15	15	20	20	?
Max. Operating Temp. (F)	240	240	190	210	195
Max. ΔT	180	180	150	100	40
Min Flow Rate (GPM)	None	None	25	30	94
Max Flow Rate (GPM)	None	None	350	300	188
Max. Operating Pressure (PSI)	160	160	160	100	100
Max dBA	71.9	64.9			
O2 Reading at Low Fire	4-6%	4-6%	12%	6.5-7.8%	5%
Turndown	5:1	5:1	~~20:1~~, 4:1, 5:1 [3]	5:1	5:1
Warranty PV (Yrs)	7 Full + 3 Prorated	7 Full + 3 Prorated	7 Full + 3 Prorated	5 Full + 5 Prorated	1
Warranty HE (Yrs)	7 Full + 3 Prorated	7 Full + 3 Prorated	7 Full + 3 Prorated	5 Full + 5 Prorated	5
Years on Market	21	21	14	4	2
Average Parts Costs					
Gas Valve	$850	$850	$2,500	$1,000	
Flame Rod	$25	$25	$135	$40	

Notes:

1. Must purchase optional adaptor for ducted combustion air intake.
2. Combined distance increases to 260ft if vent & intake pipes are increased to 8".
3. Marketing literature states 20:1. However, service manual states start/stop levels of 4:1 & 5:1.
4. pH must be between 6.0 and 8.5. Glycol and other additives must be approved by chemical manufacturer to be used with Aluminum.
5. Can not direct vent vertically. Can not vent sidewall with room air intake.
6. Hydrotherm burner inspection requires the use of tightly fitted mask due to crystalline silica fibers being carcinogenic.

Fulton Capabilities

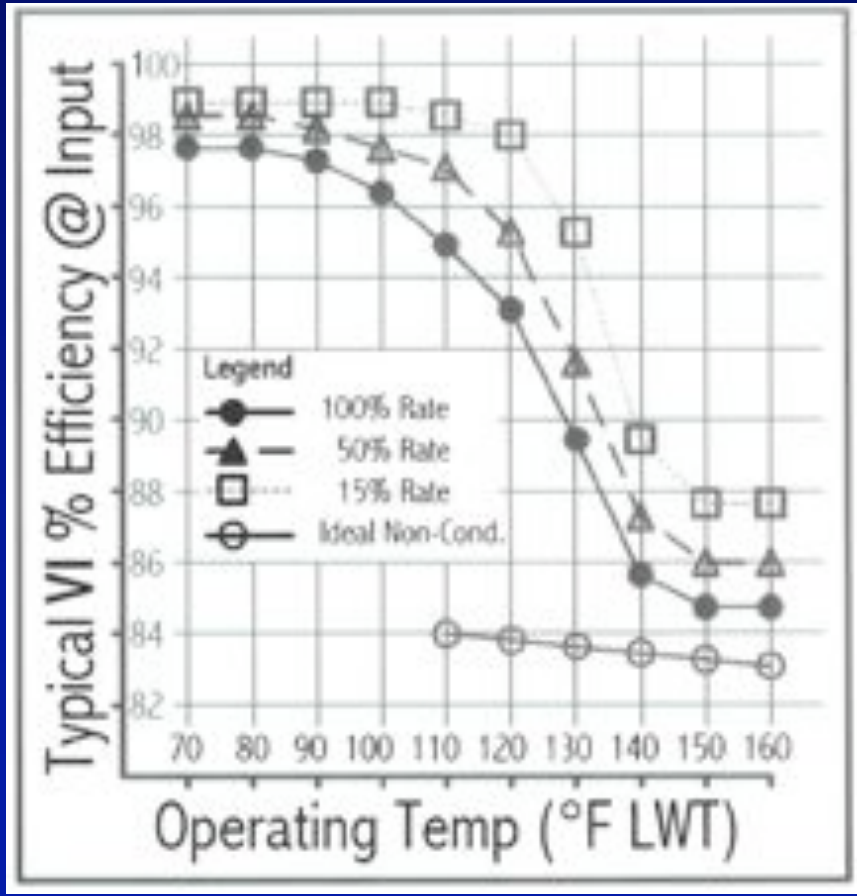
L.E.S.

- Series VI

LES Series VI

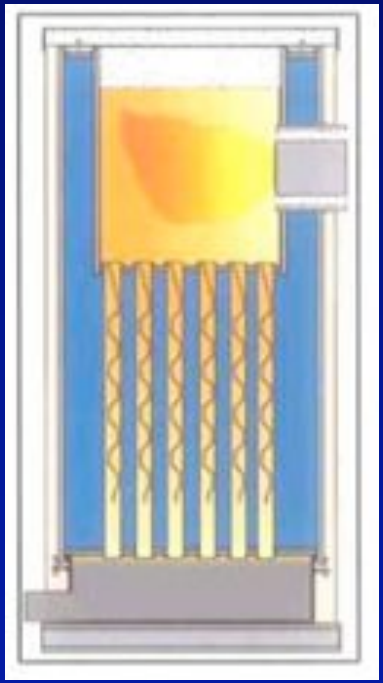
- **Features**
  - High Efficiency
  - Full Condensing
  - Up to 99% Eff
  - Modulating Burner
  - 5:1 Turndown
  - Six Sizes 500-2000MBH
  - 5 Year Warranty

LES Series VI



LES Series VI

- **Design & Construction**
  - Steel Firetube
  - ASME Certified with H Stamp
  - 30 or 100 PSI MWP
  - Min of 4 Sqft of Heating Surface per BHP
  - Supply, Return & Waterside Inspection Openings in Front
  - Power Flame HTD Burner
    - JA HTA
    - C HTD
  - No Temperature Differential Limitation
  - No Minimum Flows
  - No Propriety Parts

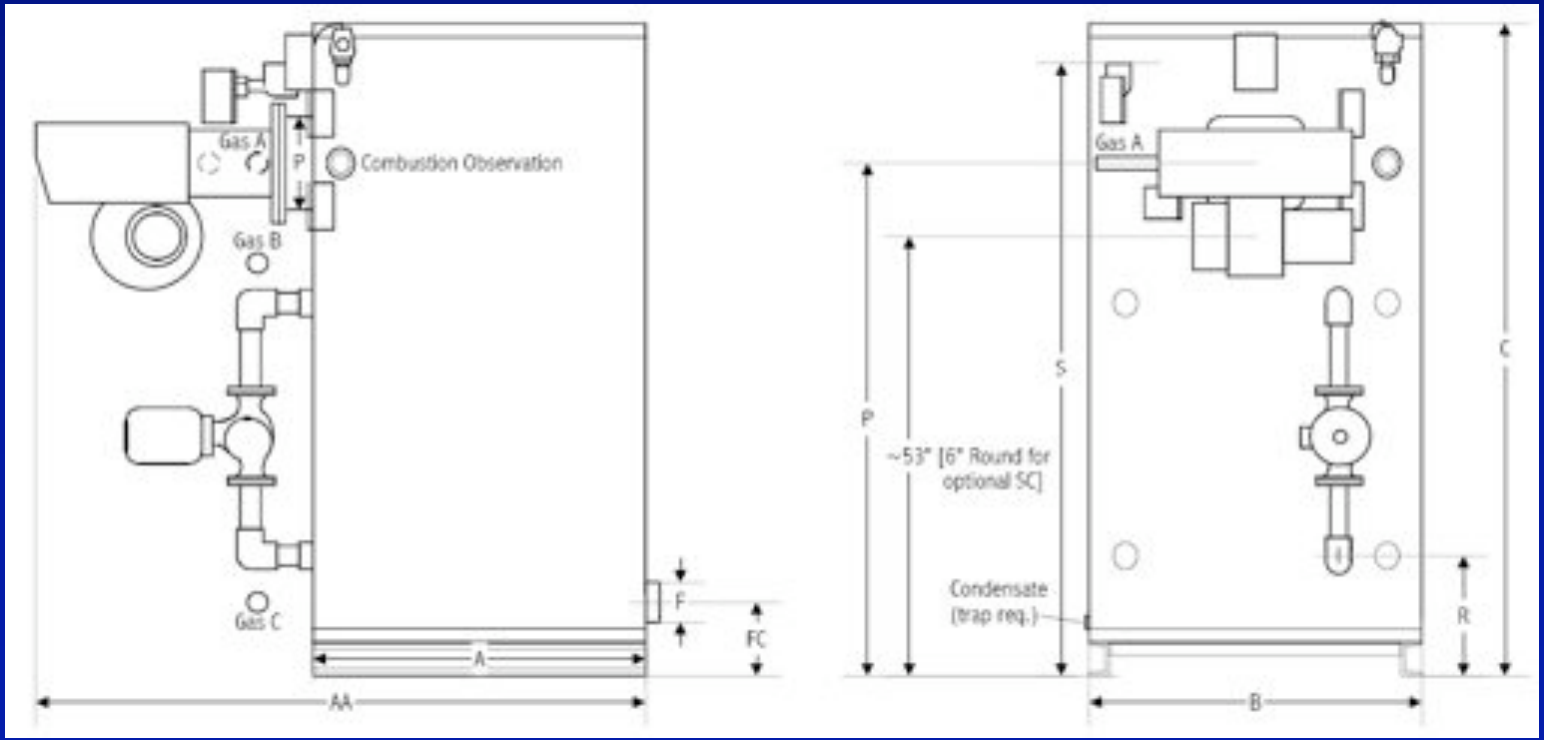


VI Boiler

Model: VI-	60	90	100	120	200	240
Input						
Gas (MB/CF) CFH	500	750	850	1000	1500	2000
Output						
MBH @ 180°F LWT	425	638	723	850	1275	1700
Nominal Boiler HP	12.7	19.0	21.6	25.4	38.1	50.7
MBH @ 90°F LWT	483	724	820	965	1448	1930
Gas Burner Motor HP	.25	.33	.33	.33	.50	.75
Available Air Handling ["wc] †	0.9	1.2	1.5	1.0	2.3	0.8
Recirculating Pump FLA	1.70	1.70	2.15	2.15	2.15	4.80
Package Full Load Amps	11.5	12.5	15.0	15.0	20.0	23.5
Sq.Ft. Htg. Surface						
Primary	12.6	14.3	16.6	17.4	25.8	25.3
Total Fireside	55	82	91	110	183	214
Total Waterside	60	91	100	121	201	236
Boiler Data						
Furnace Vol. (Cu.Ft.)	3.9	5.0	6.5	7.1	13.7	13.7
Water Cap. (Gal; Full)	95	101	138	127	220	211
Dry Weight (LBS)	1200	1200	1400	1500	2425	2600

Dimensions in Inches							
A	Skid Length	30¼	30¼	34¼	34¼	45	45
AA	Overall Length	56	56	60	60	75	75
B	Width	28	30¼	34¼	34¼	45	45
C	Height	76½	76½	76½	76½	77½	77½
F	Flue Conn. Size	3	4	4	4	6	6
FC	Flue Conn. Height	7	7	7	7	8½	8½
G	Gas Conn. Size*	1	1	1¼	1¼	1¼	1½
P	Burner Port Height	60	60	60	60	61	61
	Burner Port ID	9	9	9	9	9	9
R	Return Size	2	3	4	4	4	4
	Return Height	14	14	14	14	14	14
S	Supply Size	2	3	4	4	4	4
	Supply Height	74½	74½	75	75	76	76

* 7" W.C. (min) available. Gas A connection height = P. † Inlet + Exhaust [OR consult factory].



Lochinvar®

High Efficiency Water Heaters, Boilers and Pool Heaters

- Knight
- Sync

Lochinvar Knight Boiler

- **Knight Residential / Commercial Boilers**
  - Fully Condensing with 96% AFUE Efficiency
  - Modulating with 5:1 Turndown
  - Stainless Steel Heat Exchanger
  - 12 Year Warranty

Lochinvar Knight Boiler

- **Floor Mount Boiler Models (BTU Input)**
  - KBN080 = 16,000 - 80,000
  - KBN105 = 21,000 - 105,000
  - KBN150 = 30,000 - 150,000
  - KBN210 = 42,000 - 210,000
  - KBN285 = 57,000 - 285,000

  XL Sizes
  - KBN399 = 79,800 - 399,000
  - KBN500 = 100,000 - 500,000
  - KBN600 = 120,000 - 600,000
  - KBN700 = 140,000 - 700,000
  - KBN800 = 160,000 - 800,000

Water Heater version available in sizes 150-800 (Armor)

Lochinvar Knight Boiler

- **Wall Mount Boiler Models (BTU Input)**
  - WBN050 = 10,000 - 50,000
  - WBN080 = 16,000 - 80,000
  - WBN105 = 21,000 - 105,000
  - WBN150 = 30,000 - 150,000
  - WBN210 = 42,000 - 210,000

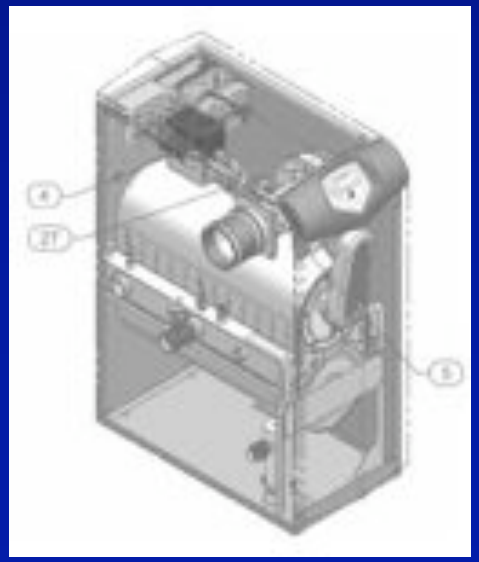
Lochinvar Knight Boiler

- **Smart System Controller**
  - 5:1 Burner Turndown – Down to 20% of Input
  - 2 Line, 16 Character Display – Uses Real Words, Not Codes
  - 2 Levels of Password Security – Installer & User
  - Pump Relay w/ Freeze Protection – Even if boiler is turned off
  - Domestic Hot Water Prioritization (DHWP)
  - Low Water Flow Indication
  - Outdoor Reset – Includes Sensor
  - Contacts on Any Failure
  - Inlet & Outlet Water Temperature Sensors
  - F or C Display
  - Boiler Set Point
  - Night Setback
  - Lead Lag up to 8 boilers

SMART SYSTEM™

Lochinvar Knight Boiler

- **Knight Boiler Venting**
  - Direct Vent
  - True Sealed Combustion
  - Air Intake Piping
    - PVC
    - Up to 100 Ft
  - Exhaust Venting
    - PVC
    - Up to 100 Ft



Lochinvar Knight Boiler

Knight Comparison

Jan 08

	Knight	Munchkin	Weil McLain Ultra	Buderus GB142	Trinity / ATI	Viessmann Vitodens 200
Unit Sizes (MBH Input)	80	50	80	64.9		
	105	80	105	106	100	91
	150	140	155	140.9	150	124
	210	199	200	198.8	200	172
	285		310			200
	399	399			399	
	505					
	630					
	750					
	850					
Turndown	5:1	2.4:1 [1]	5:1	3:1	5.8:1 [1]	3:1
Venting Material	PVC	PVC	PVC	PVC	PVC	Factory Concentric
Venting Distance (ft)	100	85-125 Combined [2]	100	60-100	30-105	20-35
Intake Distance (ft)	100		100	60-100	30-105	20-35
Sealed Combustion	Yes	No/Yes [3]	No/Yes [3]	No/Yes [3]	Yes	No/Yes [3]
Enclosure Material	Steel	Plastic	Plastic	Plastic	Steel	Plastic
Heat Exchanger Material	SS	SS	Aluminum	Aluminum	SS	SS
ASME	Std All Models	Auto SS-100 Std 399	Std	?	Std	Std
Header Orings/Gaskets/Bands	NONE	Yes	?	Yes	?	?
Max Working Pressure (PSI)	60	30	30	44	30	45
Included Features						
Boiler Circulator Pump	Yes 50-285	No	Yes 80-310	Yes	No	Yes
Outdoor Reset	Yes	Yes	Yes	No	Yes	Yes
Night Setback	Yes	No	No	No	No	Yes
Domestic HW Control	Yes	Yes	Yes	Yes	Yes	Yes
Multiple Boiler Sequencer	Yes	No/Yes - Vision III [4]	No	No	No	No/Yes (up to 4) [5]
Warranty	12 Year Prorated	12 Year Prorated	15 Year Prorated	15 Year Prorated	10 Year Prorated	?
Representative	Ryan	Hot Water Products	?	Michel Sales	Mondale & Assoc	Wise Energy
Distributor	Goodin	Hot Water Products	Ferguson, DPS	Goodin, Pipeline		DPS

Notes

1. Turndown varies on size/model
2. Munchkin's have a combined exhaust and intake distance. 85ft with standard size pipe and 125ft with increased size.
3. Unit uses the jacket as part of its sealed combustion. This does not allow for servicing while the unit is running and it may be a source for potential leakage
4. Munchkin boilers must be ordered with their Vision III control to get multiple boiler sequencer
5. Viessmann boilers must be ordered with Vitocontrol-S WB-2 Master Controller

Sync Boiler


SYNC
CONDENSING BOILER
SMART TOUCH
TOUCHSCREEN OPERATING CONTROL
FEATURING A BUILT-IN CASCADING SEQUENCER
1.0, 1.3 AND 1.5 MILLION BTU/HR
FIRING RATE MODULATION TO 10:1
DIRECT-VENT FLEXIBILITY TO 100 FEET
UP TO 98%
THERMAL EFFICIENCY

Sync Boiler

- **Features**
  - 94% Thermal Eff
  - Up to 98% in Low Temp Applications
  - Modulating Burner with 10:1 Turndown
    - Direct Spark Ignition
    - Low NOx Operation
    - Low Pressure Operation
  - ASME Stainless Steel Heat Exchanger
    - H Stamp
    - 160PSI MWP
  - PVC Venting up to 100Ft
  - 10 Year Warranty
  - Smart Touch Control

Sync Boiler

- **Smart Touch Features**
  - Full Color Touchscreen Display
  - Built-in Cascading Sequencer for up to 8 Boilers
  - BMS 0-10VDC Input
  - Modbus Communications
  - Dual Level Password Security

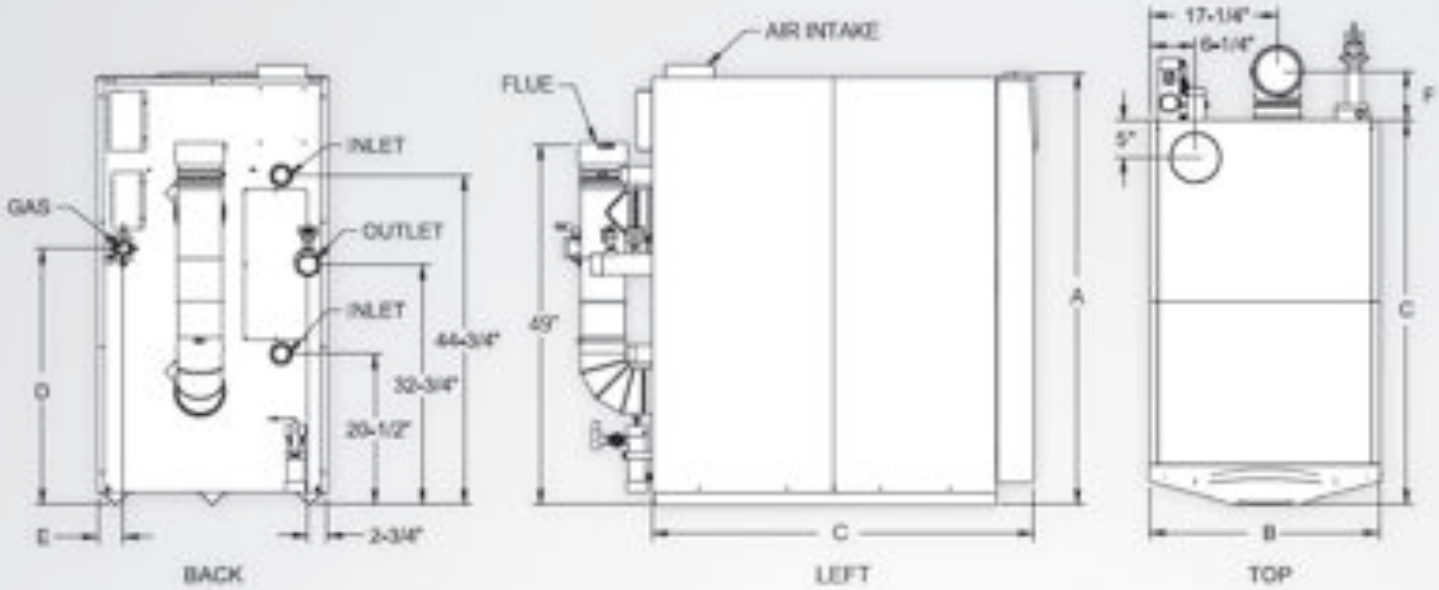
Sync Boiler

- **Smart Touch Features**
  - Outdoor Reset
  - Domestic Hot Water Prioritization
  - Low Flow Control
  - Inlet & Outlet Temp Readout
  - Freeze Protection
  - Service Reminder
  - Time Clock
  - Night Setback
  - Data Logging

Sync Boiler


SMART TOUCH
COMPLETE OPERATIONS AT YOUR FINGERTIPS
STATUS SCREEN
Status Screen gives you a quick, convenient overview of current boiler operation.
CASCADE SCREEN
Control up to 8 boilers with real-time information on cascading operations at your fingertips.
TEMPERATURE SCREEN
Precisely monitor every aspect of temperature from virtually every point in the system.

Sync Boiler



Model Number Guide

SB	N	1500	M13
Model	Natural Gas	Btu/hr Input	Firing Controls

SYNC Boiler,
Natural Gas,
1,500,000 Btu/hr input,
M13 firing controls

Sync Heating Boiler

Dimensions and Specifications

Model Number	Input MBH Min.	Input MBH Max.	Thermal Efficiency %	Output MBH	A	B	C	D	E	F	Gas Conn.	Inlet Water Conn.	Outlet Water Conn.	Air Inlet	Vent Size	Shipping Wt. (lbs.)
SBN1000	100	1,000	94	940	58-3/4"	31"	48"	35"	4-1/2"	15"	1-1/2"	2" x 2"	2-1/2"	6"	6"	710
SBN1300	130	1,300	94	1,222	58-3/4"	31"	52-3/4"	34-3/4"	3-1/2"	6-3/4"	1-1/2"	2" x 2"	2-1/2"	6"	6"	790
SBN1500	150	1,500	94	1,410	58-3/4"	31"	56-1/2"	34-3/4"	3-1/2"	6-3/4"	1-1/2"	2" x 2"	2-1/2"	6"	6"	880

Not All HE Boilers are Equal

- **Condensing?**
- **Material**
  - Type
  - Amount
- **True Sealed Combustion**
- **Venting**
  - Material
  - Size
  - Max Length
- **Physical Size**
- **Clearances**
- **Serviceability**
  - Access
  - Parts
    - Qty
    - Proprietary
- **Operating Parameters**
  - Flow Rates (Min/Max)
  - Min Return Water Temp
  - Operating Electrical Load
  - Max ΔT
  - Max Operating Pressure
- **Fuels**
  - Nat
  - LP
  - Nat & LP
  - (Nat or LP) & Oil
- **Turndown**
- **Included Features/Controls**
- **Years in Service**

New Products

- Bryan TripleFlex Condensing Boiler
- Power Flame Burners & Oil Pumpsets
- Lochinvar Armor Water Heater Larger Sizes
- Lochinvar Shield
- LES HF & HW Series Larger Sizes

Bryan Triple-Flex

- Ultra High Efficiency Condensing Boiler
- Guaranteed Min Thermal Eff of 90% at Max Load (180-160 at High Fire)
- Up to 99% Eff with Low Return Water Temps

Bryan Triple-Flex

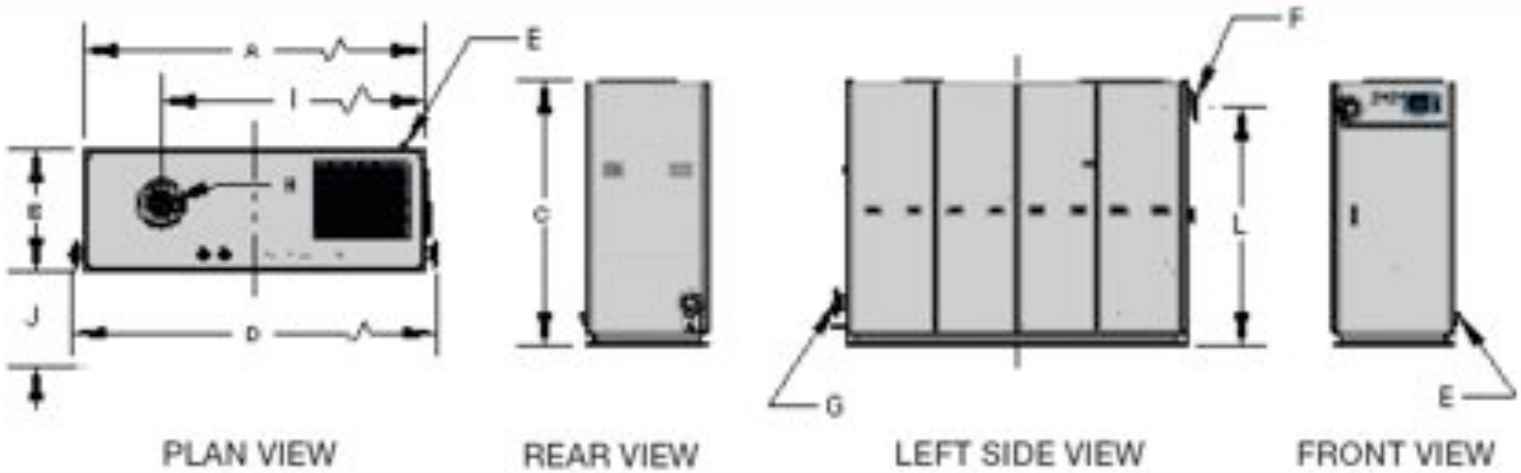
- 316 Stainless Steel PV & Tubes
- 5:1 Turndown Burner
- Lifetime Warranty on Vessel due to Thermal Shock
- One Size at this time 3000 MBH Input.

Bryan Triple-Flex™ Series Specifications

BOILER MODEL	INPUT MBH (KW)	OUTPUT[1]		APPROX. SHIP LBS. (KG)
		MBH (KW)	HP (KW)	
TF 300	3,000 (879)	2,700 (791)	81 (792.6)	4,080 (1,850)

NOTE: (1) Output and horsepower based on an minimum thermal efficiency of 90%.

Bryan Triple-Flex



BOILER MODEL NUMBER	BOILER DIMENSIONS in inches (cm)										
	A	B	C	D	E*	F	G	H	I	J	L
	Length Of Jacket	Width Outside Jacket	Height Over Jacket	Overall Length	Gas Train Connection	Return Nozzle	Supply Nozzle	Flue Size	Flue Location	Min. Tube Removal Clearance	Floor to Flow Nozzle
TF 300	144 1/4 (366.4)	34 3/4 (88.3)	74 1/4 (191.1)	150 1/8 (381.3)	2 NPT (5.1)	3 FLG (7.6)	3 FLG (7.6)	8 (20.3)	122 1/4 (310.5)	27 (68.6)	67 3/4 (172.1)

NOTE: *Gas train dimensions will vary depending on job specifications and conditions.

Dimensions and specifications are subject to change without notice. Consult factory for certified dimensions.

No Sealed Combustion at this time

Power Flame Burners

- **Forced Draft Burners up to 63,000,000 BTU/HR**
- **Fuels**
  - Gases: Nat, LP, Mixed, Digester
  - Oils: No 2-6, Waste
  - Combinations
- **Applications**
  - Boilers: Firetube, Watertube, Cast Iron
  - Dryers
  - Airheaters
  - Incinerators
  - Solid Fuel Ignitors

Power Flame Oil Pumpsets

- High Pressure Remote Mounted Burner
- Low and Intermediate Pressure Transfer
- Simplex or Duplex

Lochinvar Armor WH

- Increased sizes up to 800MBH Input
- Features
  - Up to 98% Thermal Efficiency
  - Full Modulating with 5:1 Turndown
  - Stainless Steel Heat Exchanger
  - PVC Vented (100 equivalent feet Intake & Exhaust)
  - Smart System Controller with Cascading Sequencer - Controls up to 8 Units
  - Models - 150 - 800 MBH Input
  - Skid mounted packages available

Lochinvar Shield WH

SHIELD Condensing Water Heater

- The Shield utilizes a separate heater and tank concept which eliminates lime scale build up and ensures the highest efficiency through out its life.

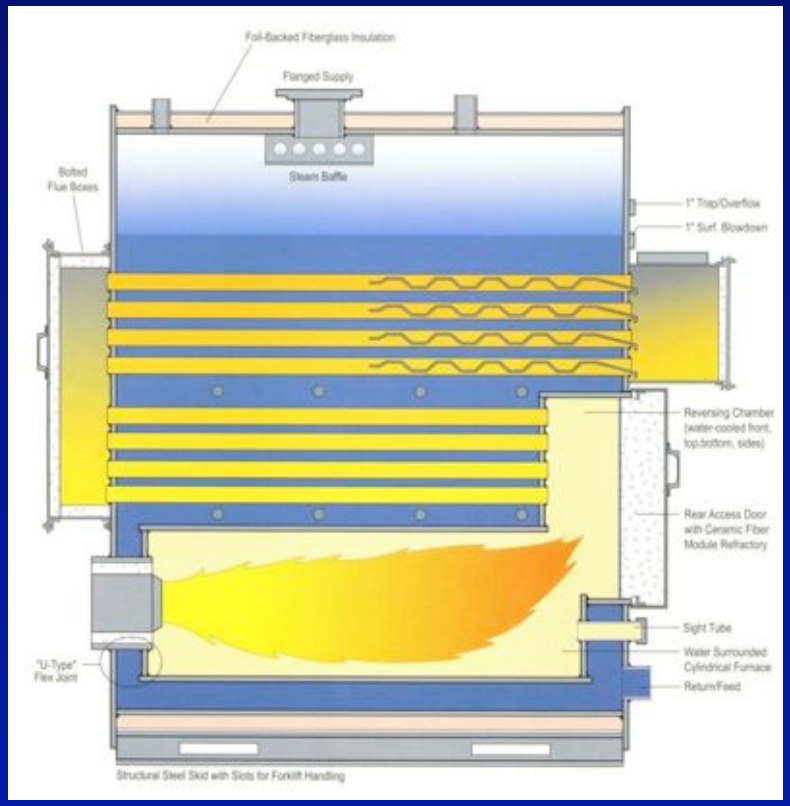
SHIELD™
COMMERCIAL WATER HEATER

Shield Features

- 96% Thermal Efficiency
- Modulating Burner with 5:1 Turndown
- Operates up to 180°F for Sanitizing Applications
- Stainless Steel Heat Exchanger
- 160 PSI Working Pressure
- PVC Venting up to 100Ft
- Smart Controller
  - **Time Clock**
  - **Night Setback**
  - **Alarm Contacts**
  - **Runtime Contacts**
- 5 Models: 150-500 MBH Input
- 6 Foot Power Cord
- 3 Year Warranty

LES Boilers

- Scotch Box Style Steam & Water Boilers
- Now up to 124 BHP through a 36” door
- HF Series up to 120 BHP
- HW Series up to 110 BHP
- HCW Series up to 124 BHP



What We Can Do For You

- Sizing & Selection of Boiler Room Components
- Seminars / Lunch & Learns
- Drawings in Electronic Format
- Specifications in Electronic Format
- Jobsite Visits
- Factory Visits
- www.ryancompanyinc.com

Ryan Product Lines

- **Boilers**
  - Bryan Boiler
  - Burnham
  - English Boiler
  - Fulton Boiler Works
  - L.E.S. Inc.
  - Lochinvar
- **Thermal Fluid Systems**
  - Fulton Boiler Works
- **Chimney Systems**
  - Heat-Fab
  - ProTech
  - Schebler
  - Suscon
- **Commercial Water Heaters**
  - Aldrich
  - Lochinvar
- **Booster Heaters**
  - Lochinvar
- **Retrofit Burners**
  - Power Flame
- **Deaerators / Boiler Feed Systems / Pumps & Accessories**
  - Shipco
- **Stack Heat Recovery**
  - Cain Industries
  - Ludell