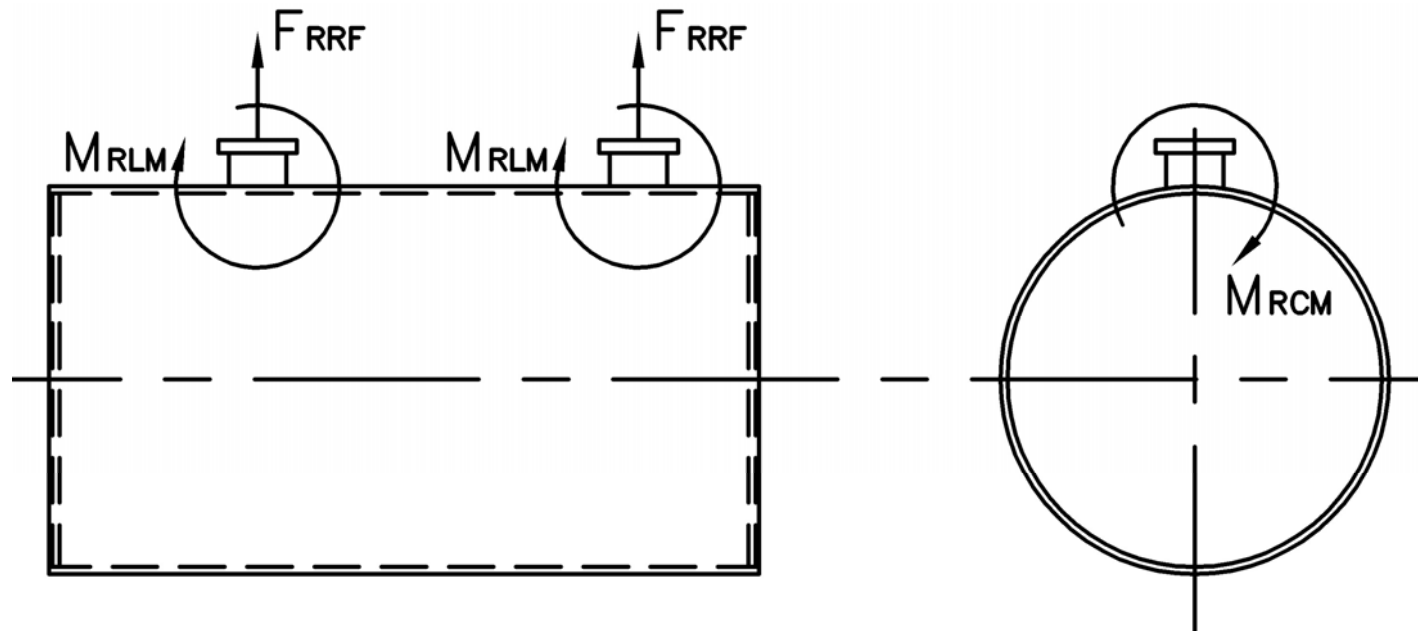


# MODEL: PFTA 750-4

## Nozzle Loadings

Maximum Allowable Load on Outlet & Return Nozzles				
	30# Design	60# Design	125# Design	160# Design
$F_{RRF}$ , lb	4,985	3,865	5,260	6,590
$M_{RCM}$ , in-lb	36,915	36,915	73,425	92,710
$M_{RLM}$ , in-lb	48,235	37,405	58,470	70,870



Stack Emissions-Natural Gas (1,000 Btu/CF)				
	PPMv (Corr to 3% O <sub>2</sub> )	lb/MBtu	lb/hr @ Full Rate	Ton/Yr @ Full Rate
NO <sub>x</sub> *	110	0.131	3.808	16.679
	30	0.036	1.039	4.549
	9	0.011	0.312	1.365
CO	50	0.037	1.07	4.679
CO <sub>2</sub>	2.55 lb/lb fuel	119.76	3,482	15,253
H <sub>2</sub> O	2.03 lb/lb fuel	106.16	3,087	13,521
Stack Emissions-#2 Oil** (140,000 Btu/gal)				
NO <sub>x</sub>	128	0.174	4.884	21.394
CO	50	0.037	1.031	4.514
CO <sub>2</sub>	3.20 lb/lb fuel	168.53	4,728	20,709
H <sub>2</sub> O	1.12 lb/lb fuel	71.20	1,998	8,749

\* 110 ppm "A" Burner, 30 ppm A-FGR Burner, 9 ppm FIR Burner  
 \*\*0.02% fuel bound Nitrogen

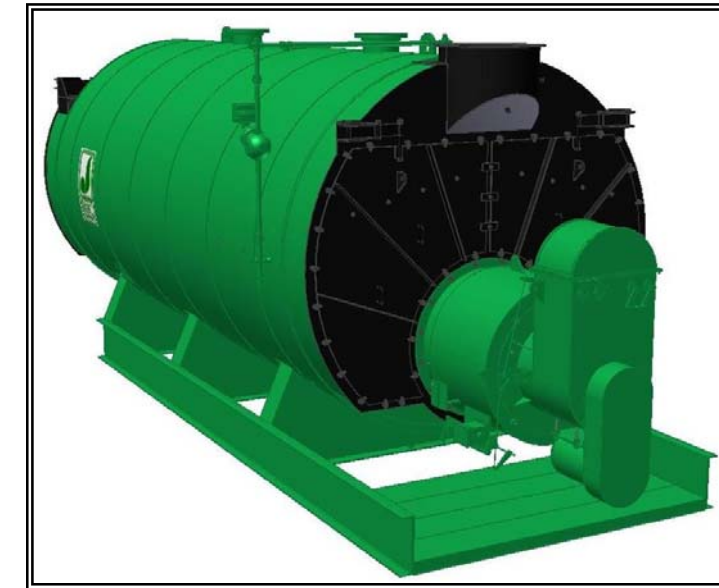
Distributed By:



300 Pine Street  
 P.O. Box 300  
 Ferrysburg, MI 49409-0300  
 Telephone: (616) 842-5050  
 Net: www.johnstonboiler.com

# MODEL: PFTA 750-4

## 4-Pass Hot Water Packaged Firetube Boiler



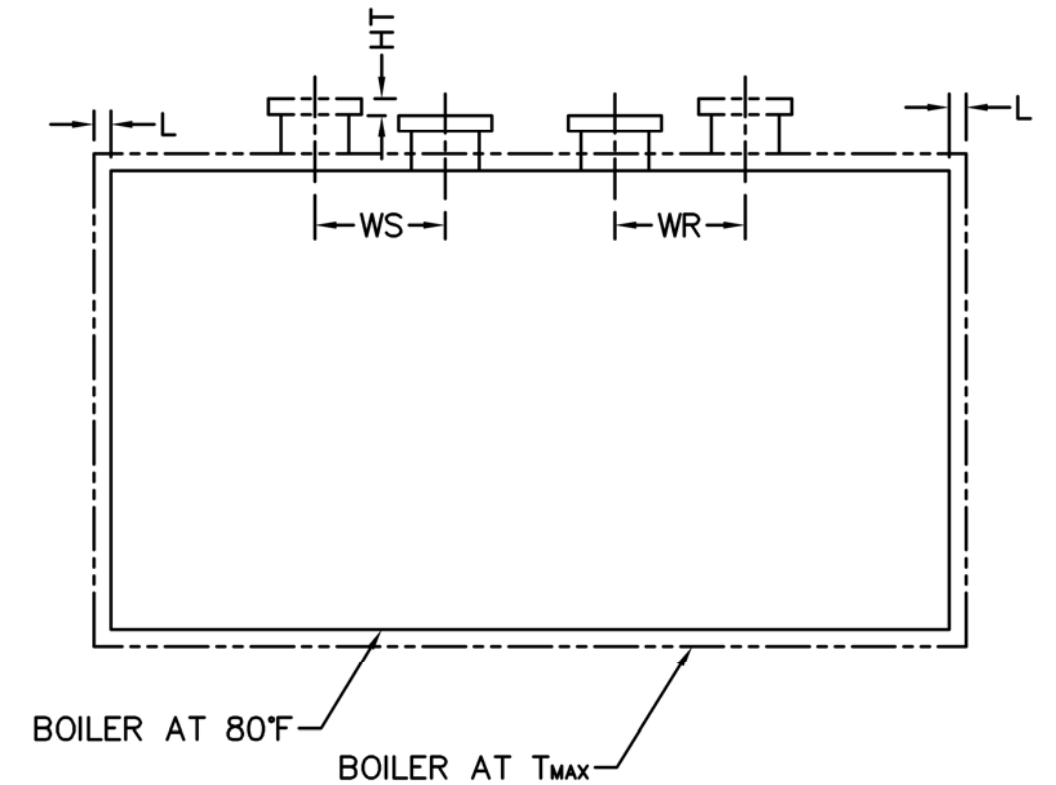
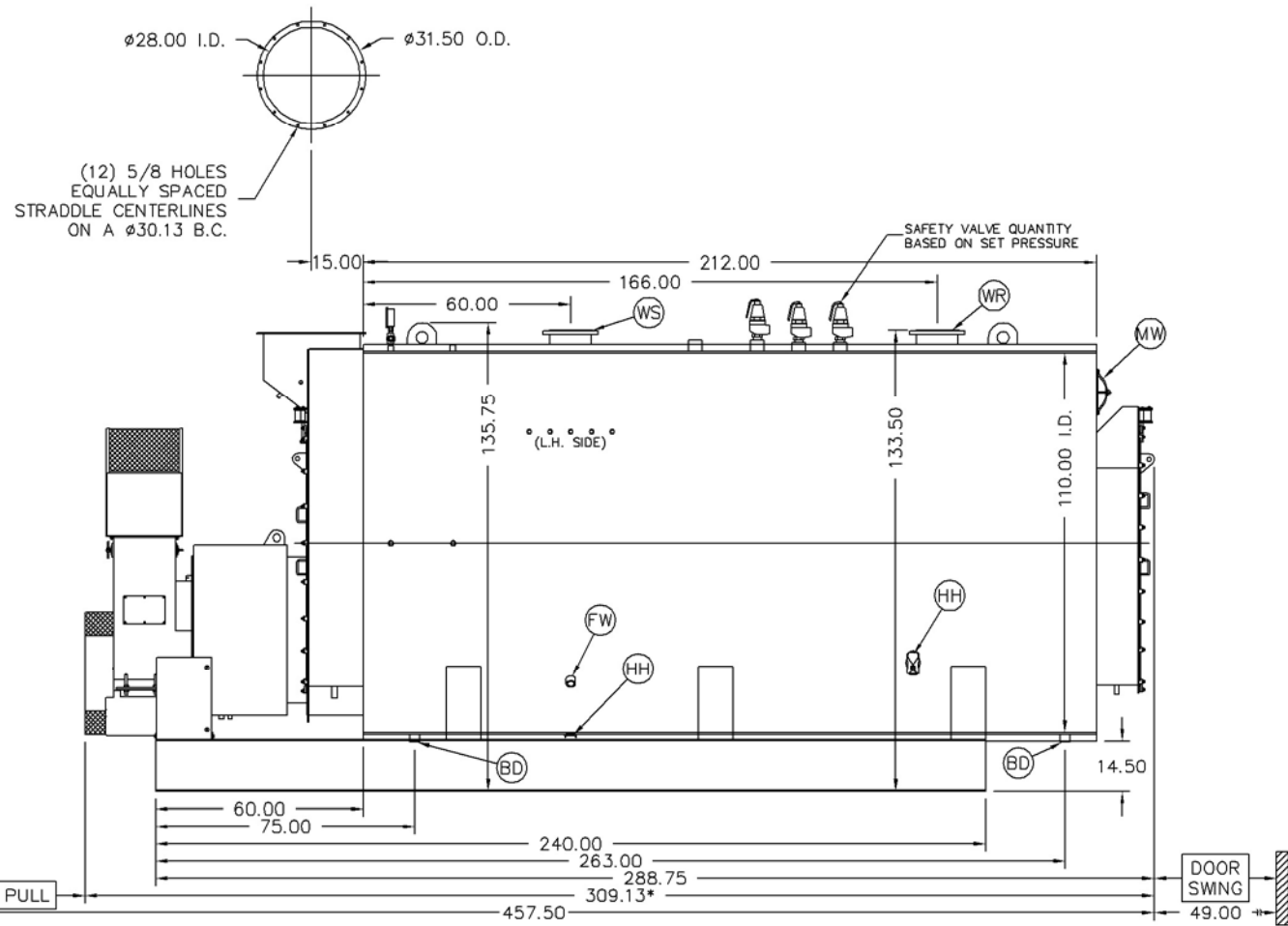
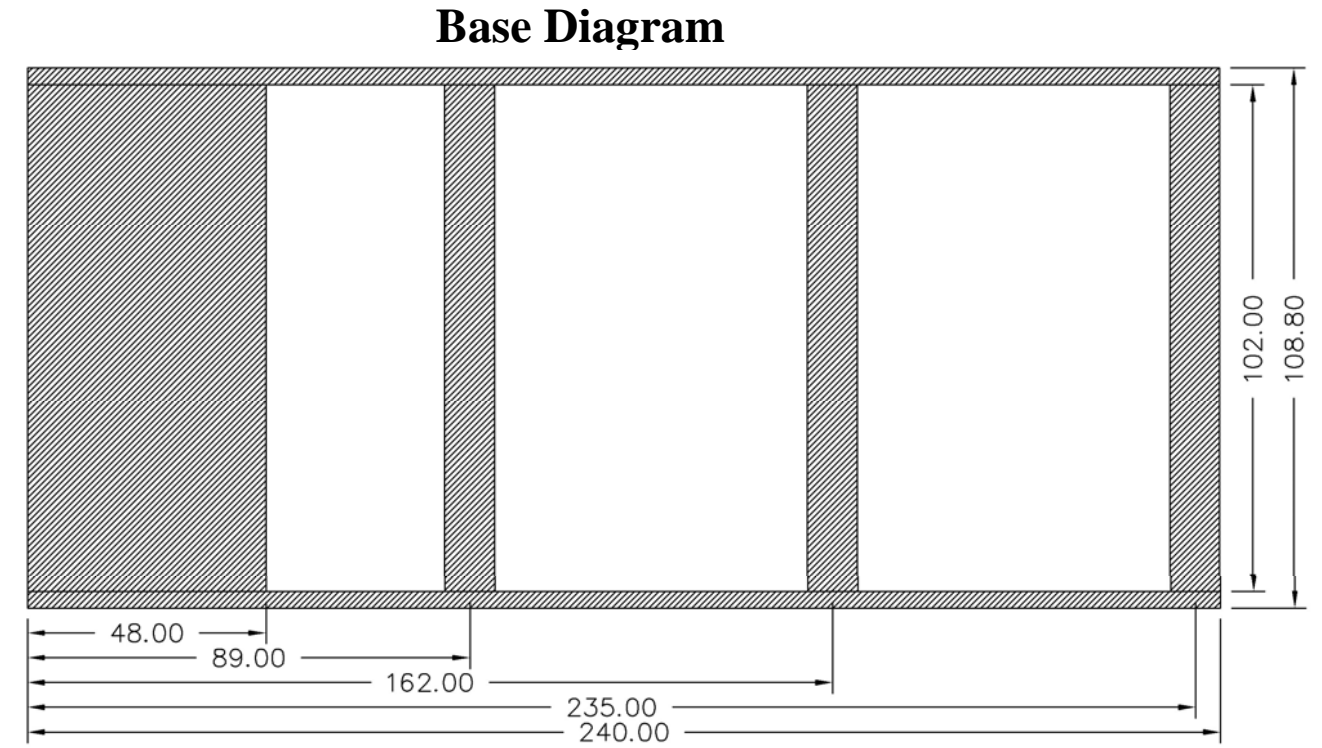
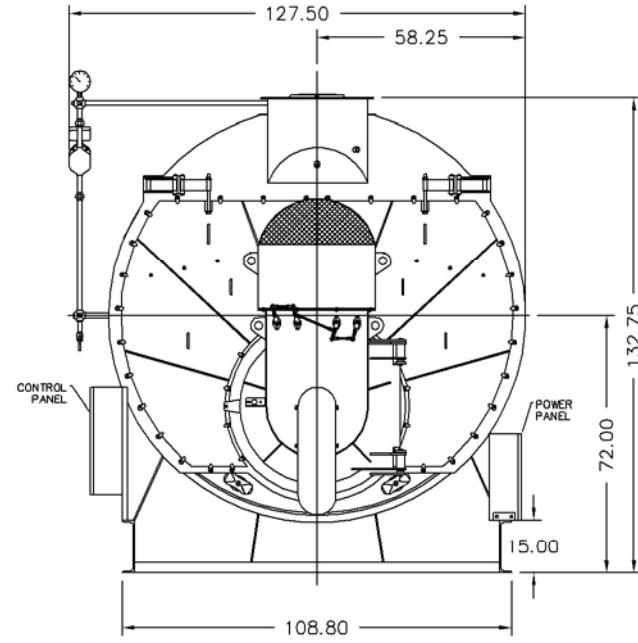
## Ratings & Performance Data

Horsepower 750		Natural Gas Flow, SCFH (1,000 Btu/ft <sup>3</sup> )**	29,078
Total Heating Surface, ft <sup>2</sup>	3,727	Combustion Air (15% Excess), SCFM***	5,321
Furnace Outside Diameter, in	49.5	Flue Gas Flow Rate, lb/hr***	25,358
Furnace Heat Release Rate, Btu/ft <sup>3</sup> hr**	154,000	Stack Flue Gas Velocity, ft/min***	1,796
Total Combustion Volume, ft <sup>3</sup>	252.5	#2 Oil Flow, gal/hr (140,000 Btu/gal)**	200.4
Total Heat Release Rate, Btu/ft <sup>3</sup> hr**	115,000	#6 Oil Flow, gal/hr (150,000 Btu/gal)**	185.5
Water Content Flooded, gal	5,197	Flue Gas Side Pressure Drop, in. H <sub>2</sub> O	6.1
Approx. Dry Weight 30#, lb	51,000	Approx. Operating Weight 30#, lb	93,500
Approx. Dry Weight 60#, lb	51,200	Approx. Operating Weight 60#, lb	93,700
Approx. Dry Weight 125#, lb	53,200	Approx. Operating Weight 125#, lb	95,700

Operating Temperature (F)	Natural Gas		#2 Oil		#6 Oil	
	Stack Temp (F)	%Eff	Stack Temp	%Eff	Stack Temp (F)	%Eff
180	222	86.8	231	90.0	237	90.7
200	241	86.3	250	89.5	257	90.2
220	261	85.9	270	89.0	276	89.7
240	281	85.4	289	88.5	296	89.2

\*Based on 20°F difference in supply/return, \*\* Values calculated at 200°F operating temperature, \*\*\*Calculated Firing Natural Gas

Connection & Opening Schedule			
Conn.	Description	Type	Qty
FW	Feedwater Inlet	2.00 FNPT	2
WS	Water Supply	10.00 150#RF	1
WR	Water Return	10.00 150#RF	1
DO	Drain Outlet	2.00 FNPT	2
MW	Manway	12 X 16	1
HH	Hand Hole	4 X 6	7
Supply and return outlets ASME flanged drilling			



**Notes:**  
 30# Hot Water design shown, all dimensions given in inches.  
 Fuel piping and/or optional boiler trim may increase overall width.  
 Specifications subject to change to incorporate engineering advances.  
 \*May vary on low-NO<sub>x</sub> designs.

Thermal Expansion				
Metal T <sub>MAX</sub> (F)	180	200	220	240
L (in)	0.064	0.076	0.089	0.102
WS (in)	0.028	0.033	0.039	0.044
WR (in)	0.036	0.043	0.050	0.058
HT (in)	0.066	0.080	0.093	0.106