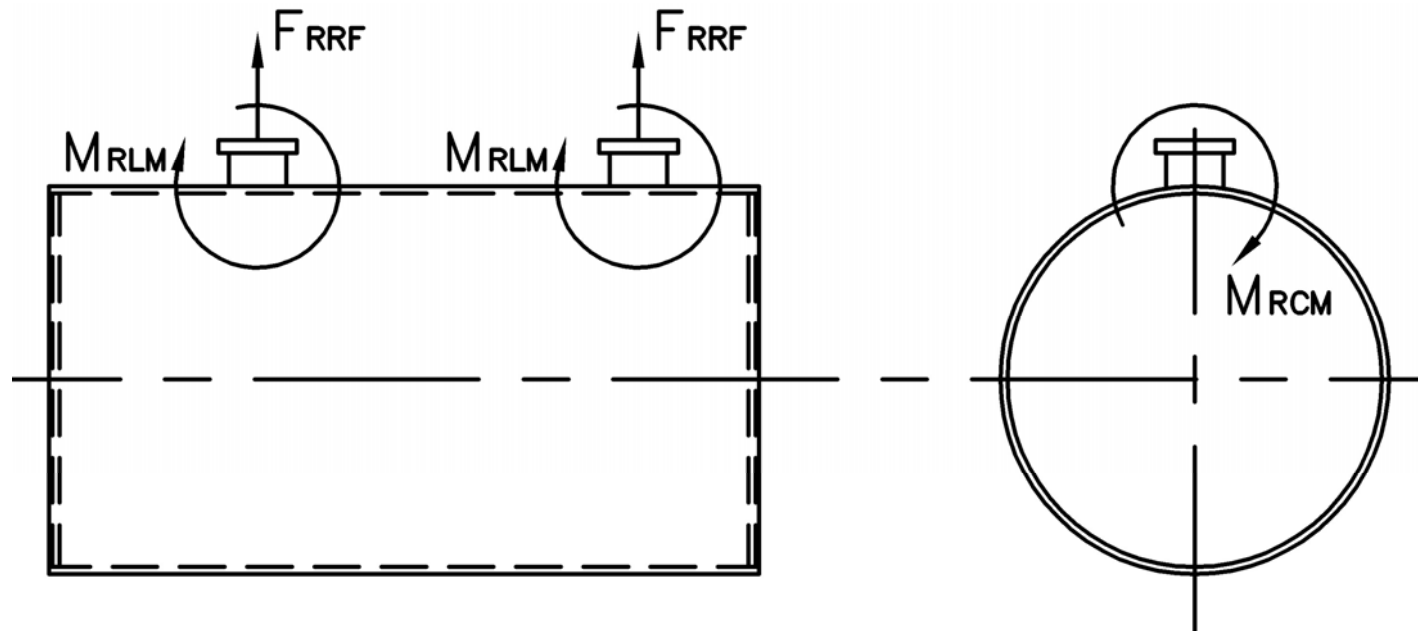


# MODEL: PFTA 125-4

## Nozzle Loadings

Maximum Allowable Load on Outlet & Return Nozzles				
	30# Design	60# Design	125# Design	160# Design
$F_{RRF}$ , lb	3,135	2,555	1,775	2,670
$M_{RCM}$ , in-lb	13,420	13,420	13,420	23,150
$M_{RLM}$ , in-lb	19,790	16,145	11,195	18,630



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	0.643	2.814
	30	0.036	0.175	0.768
	9	0.011	0.053	0.230
CO	50	0.037	0.18	0.790
CO <sub>2</sub>	2.55 lb/lb fuel	119.76	588	2,574
H <sub>2</sub> O	2.03 lb/lb fuel	106.16	521	2,281
Stack Emissions-#2 Oil** (140,000 Btu/gal)				
NO <sub>x</sub>	128	0.174	0.825	3.613
CO	50	0.037	0.174	0.762
CO <sub>2</sub>	3.20 lb/lb fuel	168.53	798	3,497
H <sub>2</sub> O	1.12 lb/lb fuel	71.20	337	1,477

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

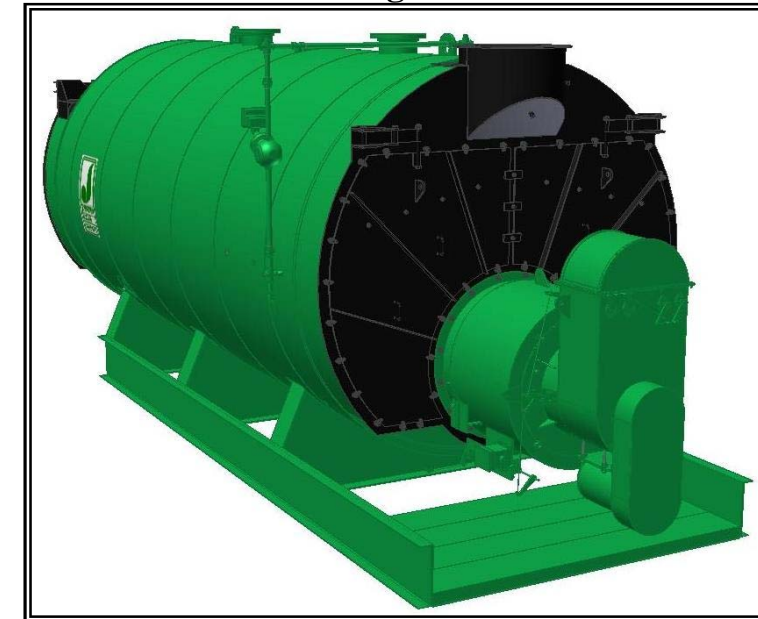
Distributed By:



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

# MODEL: PFTA 125-4

## 4-Pass Hot Water Packaged Firetube Boiler



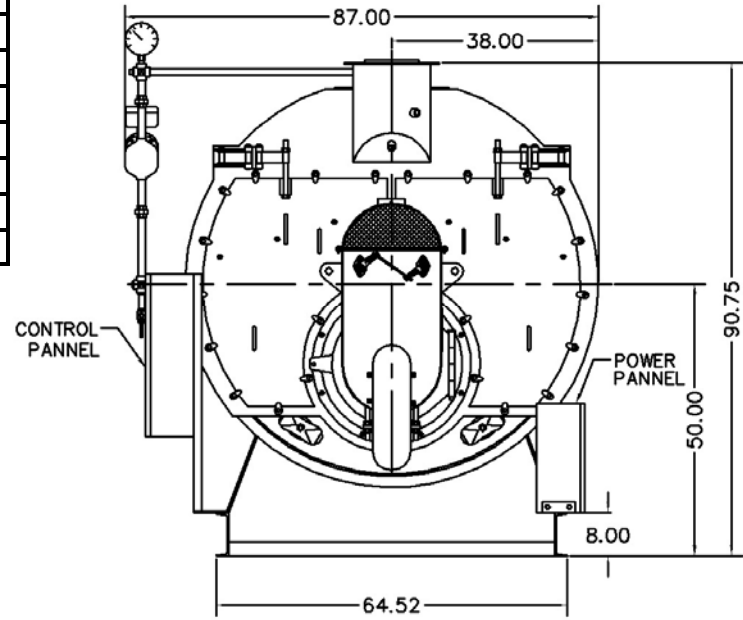
## Ratings & Performance Data

Horsepower 125		Natural Gas Flow, SCFH (1,000 Btu/ft <sup>3</sup> )**	4,907
Total Heating Surface, ft <sup>2</sup>	652	Combustion Air (15% Excess), SCFM***	898
Furnace Outside Diameter, in	30.5	Flue Gas Flow Rate, lb/hr***	4,279
Furnace Heat Release Rate, Btu/ft <sup>3</sup> hr**	157,000	Stack Flue Gas Velocity, ft/min***	1,274
Total Combustion Volume, ft <sup>3</sup>	52.5	#2 Oil Flow, gal/hr (140,000 Btu/gal)**	33.8
Total Heat Release Rate, Btu/ft <sup>3</sup> hr**	93,000	#6 Oil Flow, gal/hr (150,000 Btu/gal)**	31.2
Water Content Flooded, gal	1,177	Flue Gas Side Pressure Drop, in. H <sub>2</sub> O	2.6
Approx. Dry Weight 30#, lb	13,000	Approx. Operating Weight 30#, lb	22,800
Approx. Dry Weight 60#, lb	13,100	Approx. Operating Weight 60#, lb	22,900
Approx. Dry Weight 125#, lb	13,600	Approx. Operating Weight 125#, lb	24,000

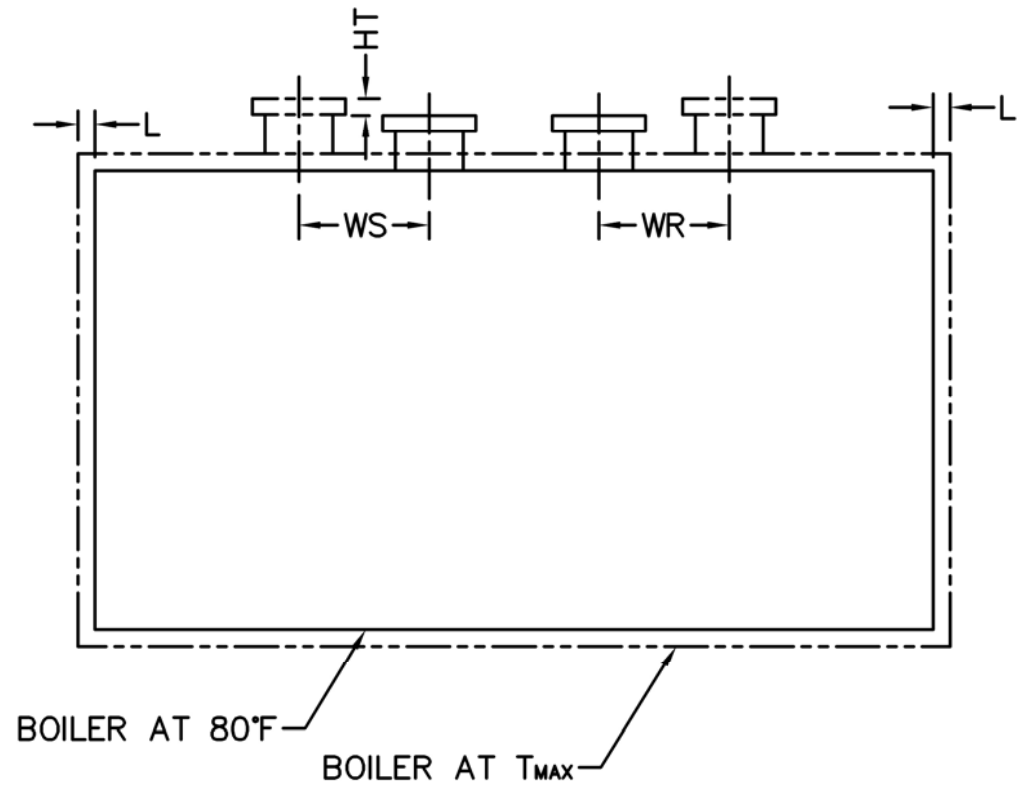
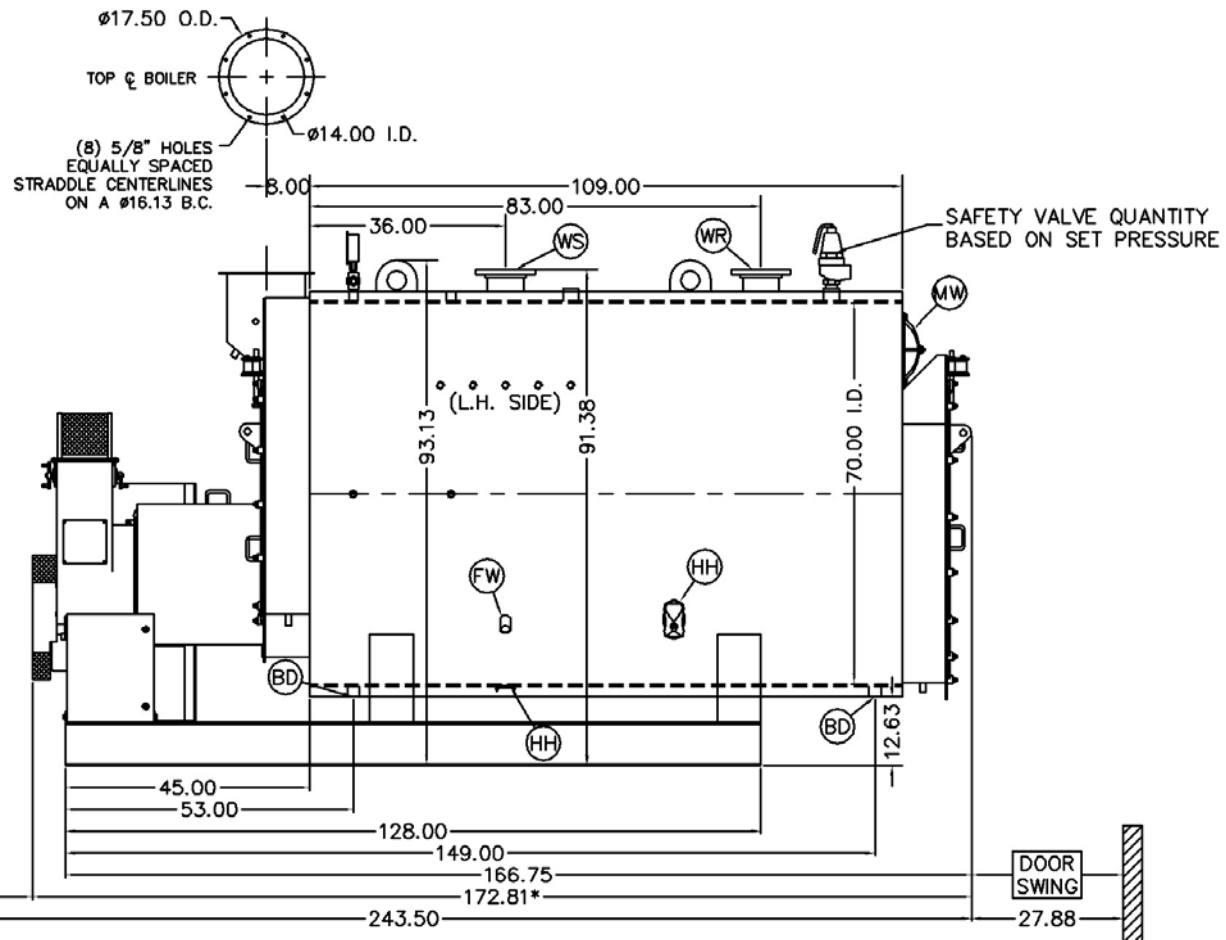
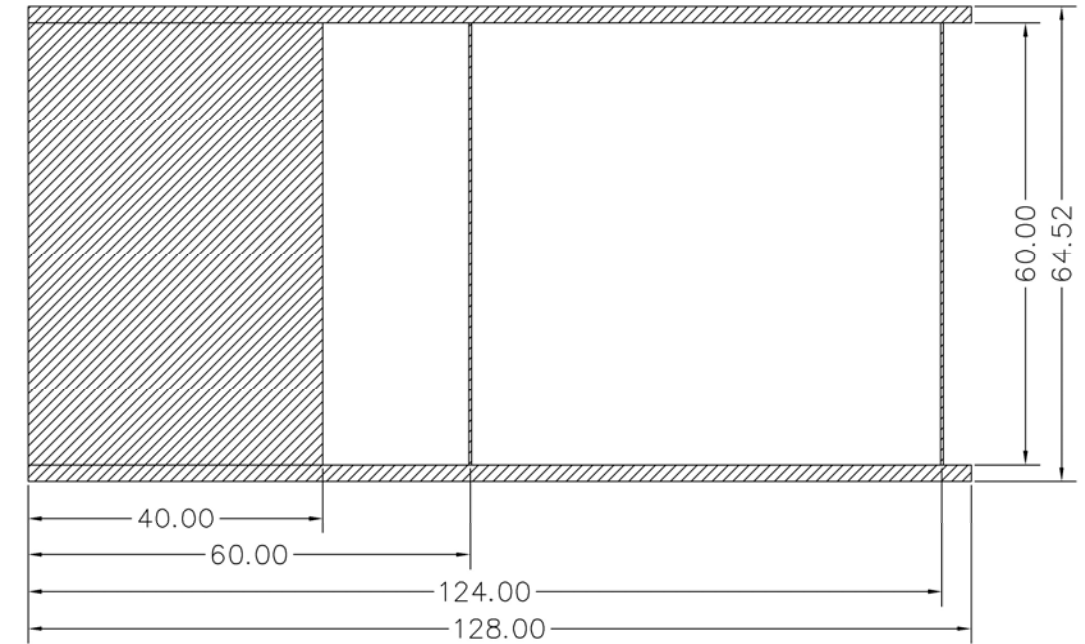
Performance Data*						
Operating Temperature (F)	Natural Gas		#2 Oil		#6 Oil	
	Stack Temp (F)	%Eff	Stack Temp	%Eff	Stack Temp (F)	%Eff
180	258	85.8	271	88.8	266	89.8
200	277	85.3	290	88.3	286	89.3
220	296	84.8	309	87.8	305	88.8
240	314	84.3	328	87.3	325	88.4

\*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	1.50 FNPT	2
WS	Water Supply	6.00 150#RF	1
WR	Water Return	6.00 150#RF	1
DO	Drain Outlet	1.50 FNPT	2
MW	Manway	12 X 16	1
HH	Hand Hole	4 X 6	6
Supply and return outlets ASME flanged drilling			



Base Diagram



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)	0.033	0.039	0.046	0.052
WS (in)	0.011	0.013	0.016	0.018
WR (in)	0.017	0.021	0.024	0.027
HT (in)	0.042	0.051	0.059	0.068