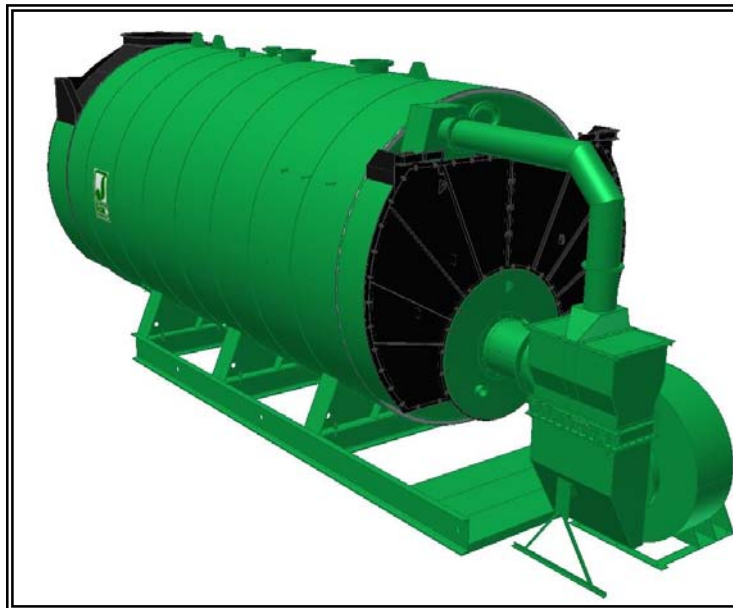




MODEL: PFTS 2500-3

3-Pass Hot Water Packaged Firetube Boiler



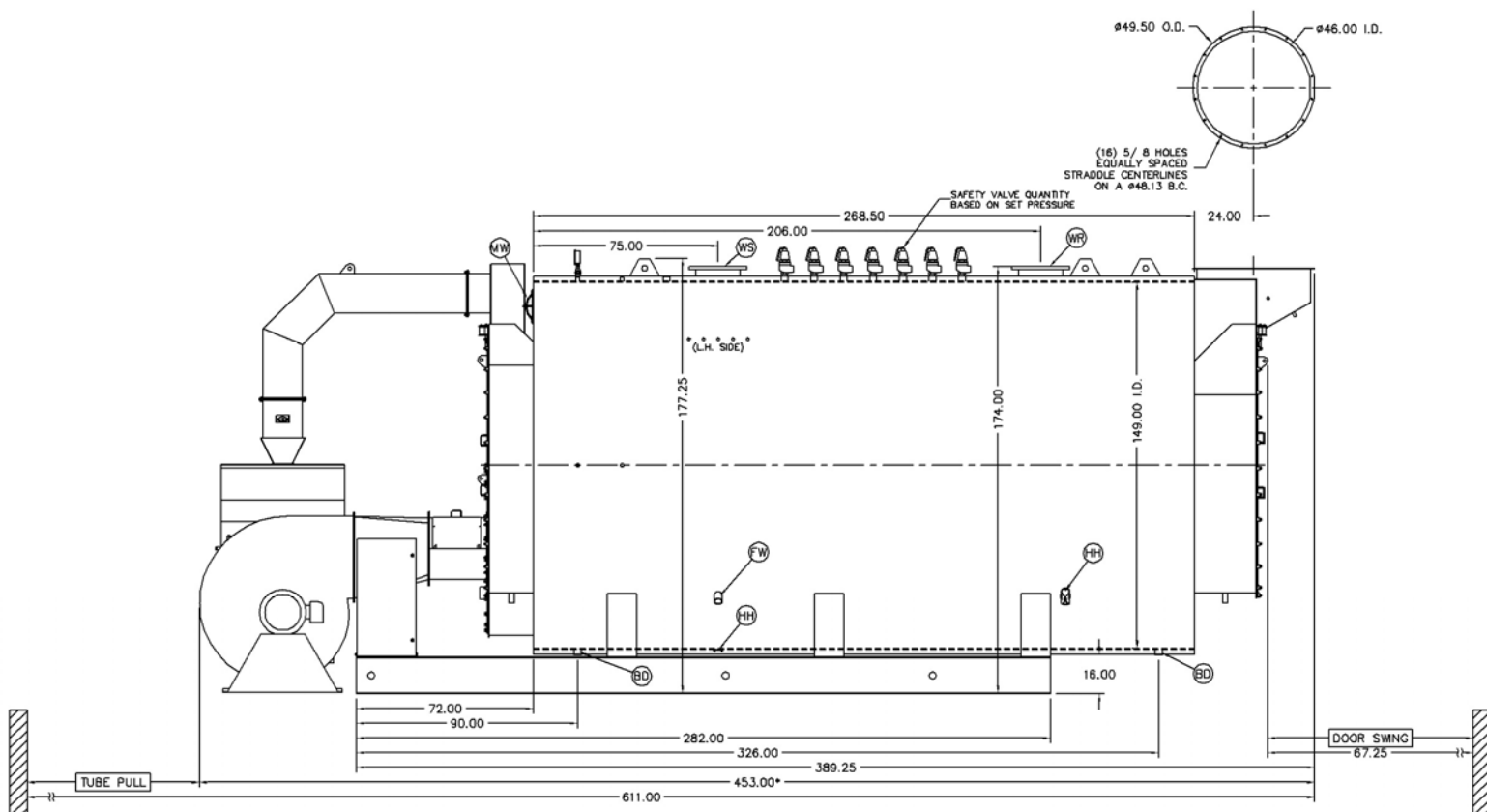
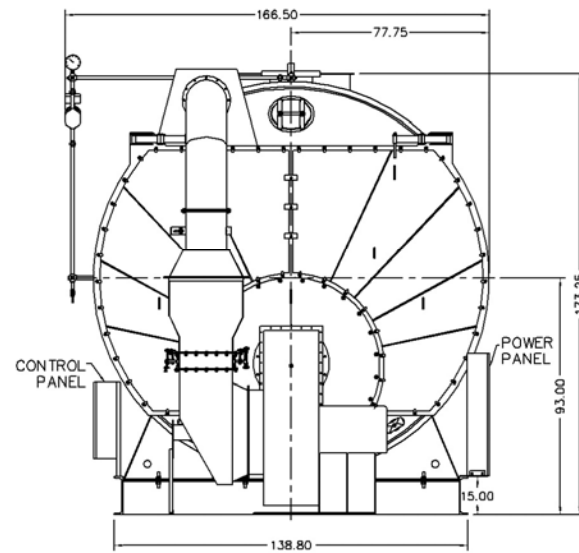
Ratings & Performance Data

Horsepower 2500		Natural Gas Flow, SCFH (1,000 Btu/ft ³)**		98,018		
Total Heating Surface, ft ²	9,926	Combustion Air (15% Excess), SCFM***		17,936		
Furnace Outside Diameter, in	66.5	Flue Gas Flow Rate, lb/hr***		85,477		
Furnace Heat Release Rate, Btu/ft ³ hr**	225,000	Stack Flue Gas Velocity, ft/min***		2,355		
Total Combustion Volume, ft ³	627.9	#2 Oil Flow, gal/hr (140,000 Btu/gal)**		676.3		
Total Heat Release Rate, Btu/ft ³ hr**	156,000	#6 Oil Flow, gal/hr (150,000 Btu/gal)**		626.7		
Water Content Flooded, gal	11,188	Flue Gas Side Pressure Drop, in. H ₂ O		3.6		
Approx. Dry Weight 30#, lb	107,200	Approx. Operating Weight 30#, lb		202,400		
Approx. Dry Weight 60#, lb	112,000	Approx. Operating Weight 60#, lb		207,200		
Approx. Dry Weight 125#, lb	116,500	Approx. Operating Weight 125#, lb		211,700		
Performance Data						
Operating Temperature (F)	Natural Gas		#2 Oil		#6 Oil	
	Stack Temp (F)	%Eff	Stack Temp	%Eff	Stack Temp (F)	%Eff
180	257	85.8	272	88.8	283	89.5
200	276	85.4	291	88.4	302	89.0
220	295	84.9	310	87.9	321	88.6
240	315	84.5	329	97.5	340	88.1
*Based on 20°F difference in supply/return, ** Values calculated at 200°F operating temperature, ***Calculated Firing Natural Gas						

Drawings - 3-Pass Hot Water Packaged Firetube Boiler

Connection & Opening Schedule			
Conn.	Description	Type	Qty
FW	Feedwater Inlet	2.50 FNPT	2
WS	Water Supply	16.00 150#RF	1
WR	Water Return	16.00 150#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.

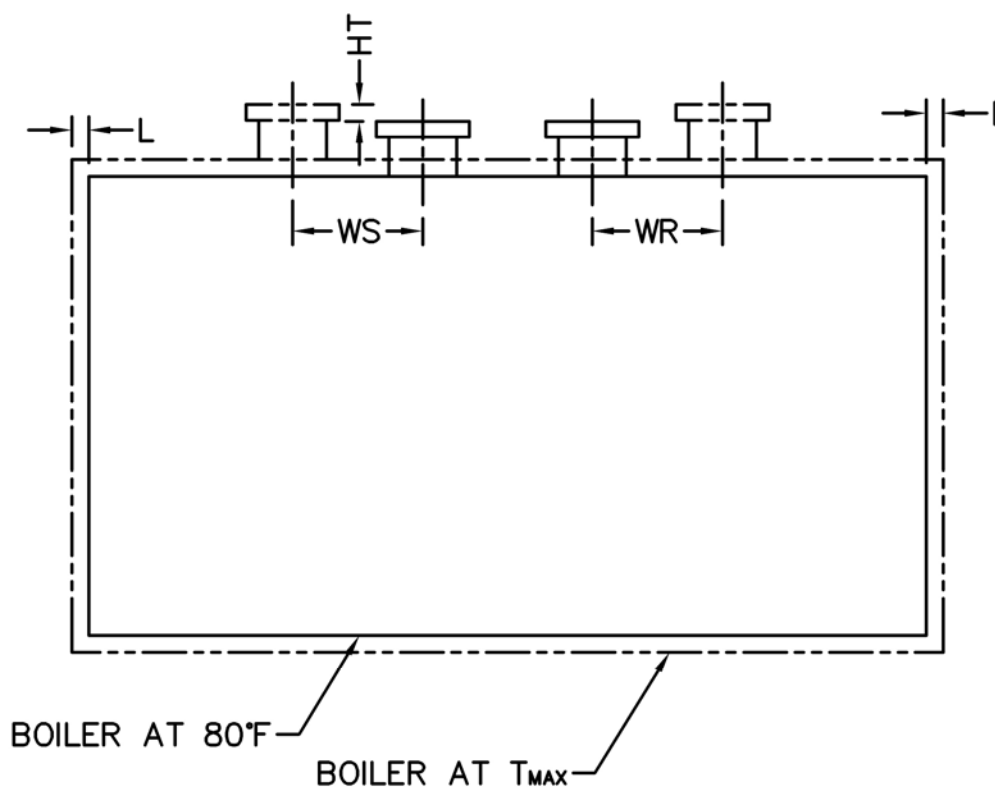
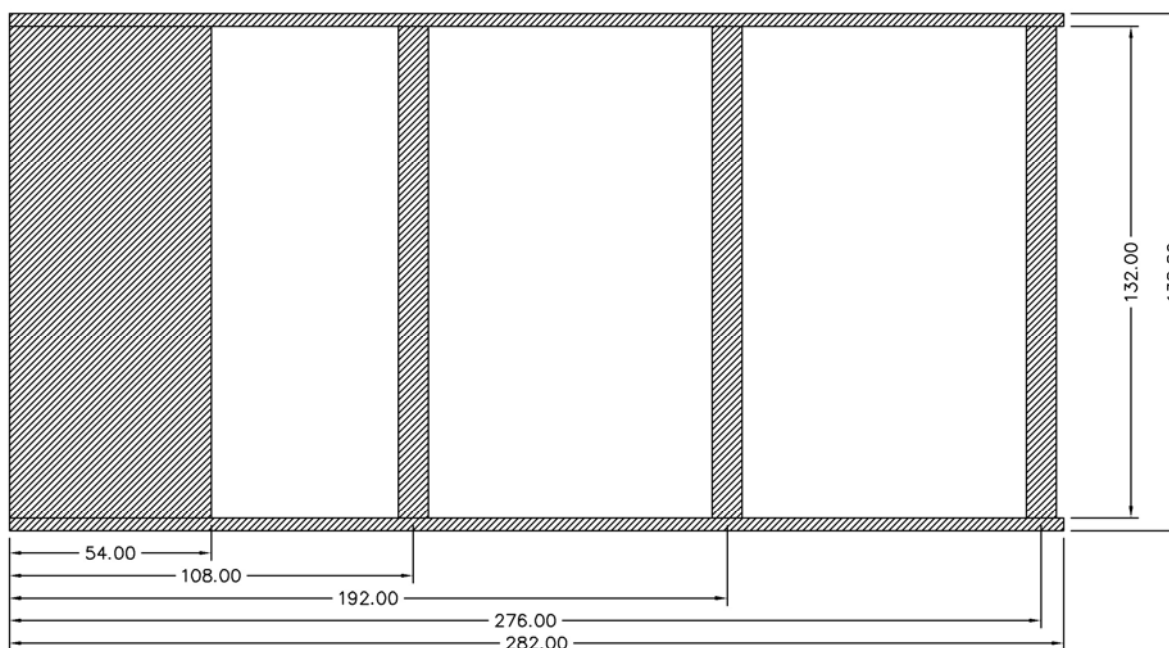
Fuel piping and/or optional boiler trim may increase overall width.

Specifications subject to change to incorporate engineering advances.

*May vary on low-NO_x designs.

MODEL: PFTS 2500-3

Base Diagram

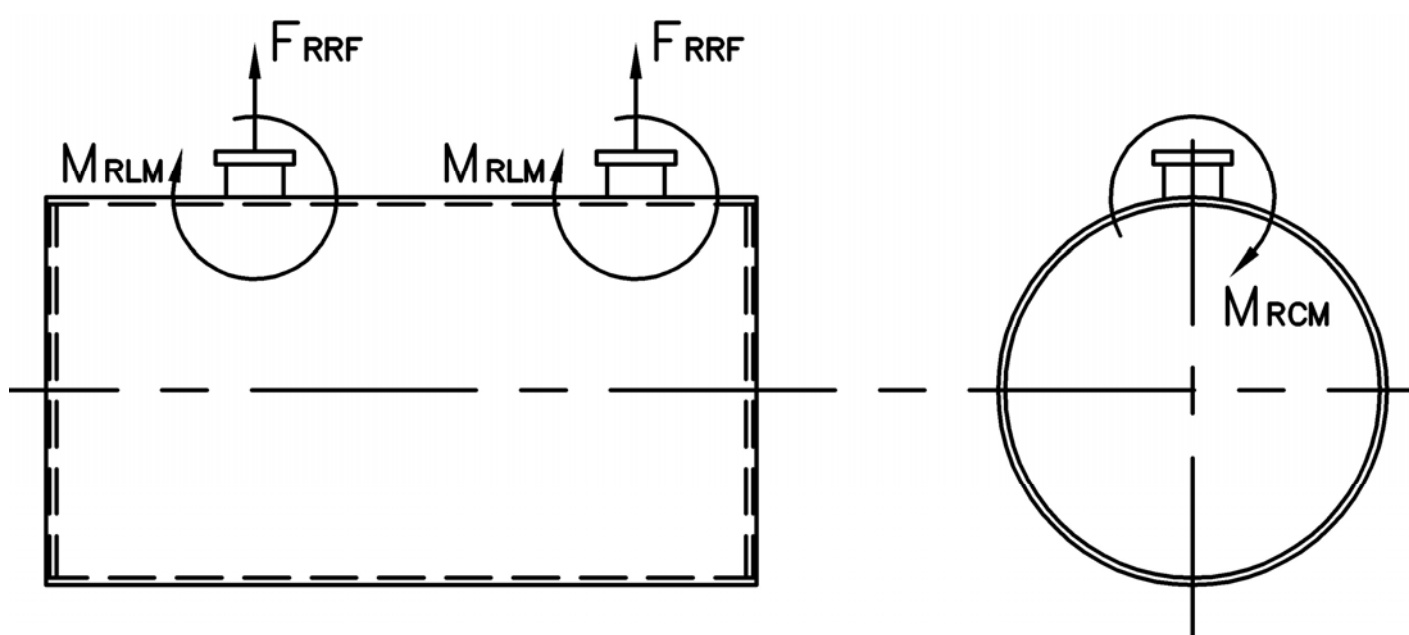


Thermal Expansion				
Metal T_{MAX} (F)	180	200	220	240
L (in)	0.081	0.097	0.113	0.129
WS (in)	0.011	0.013	0.015	0.017
WR (in)	0.068	0.081	0.095	0.108
HT (in)	0.090	0.108	0.126	0.144

MODEL: PFTS 2500-3

Nozzle Loadings

Maximum Allowable Load on Outlet & Return Nozzles				
	30# Design	60# Design	125# Design	160# Design
FRRF, lb	6,570	4,400	11,495	24,695
MRCM, in-lb	73,145	73,145	252,720	352,760
MRLM, in-lb	104,275	69,825	208,555	451,605



Distributed By:



300 Pine Street
P.O. Box 300
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Telephone: (616) 842-5050
Net: www.johnstonboiler.com

Stack Emissions-Natural Gas (1,000 Btu/CF)				
	PPMv (Corr to 3% O ₂)	lb/MBtu	lb/hr @ Full Rate	Ton/Yr @ Full Rate
NO _x *	110	0.131	12.836	56.220
	30	0.036	3.501	15.333
	9	0.011	1.050	4.600
CO	50	0.037	3.60	15.772
CO ₂	2.55 lb/lb fuel	119.76	11,739	51,415
H ₂ O	2.03 lb/lb fuel	106.16	10,406	45,576
Stack Emissions-#2 Oil** (140,000 Btu/gal)				
NO _x	128	0.174	16.484	72.201
CO	50	0.037	3.478	15.235
CO ₂	3.20 lb/lb fuel	168.53	15,956	69,889
H ₂ O	1.12 lb/lb fuel	71.20	6,741	29,526

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