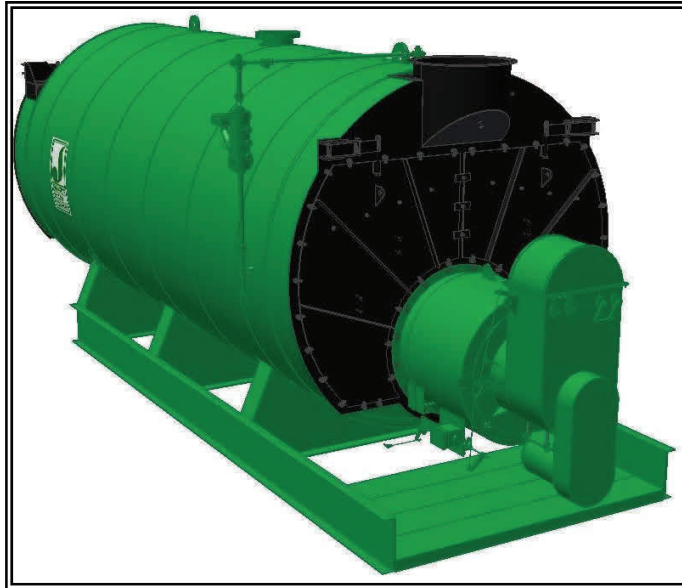


MODEL: PFTA 125-4

4-Pass Steam Packaged Firetube Boiler



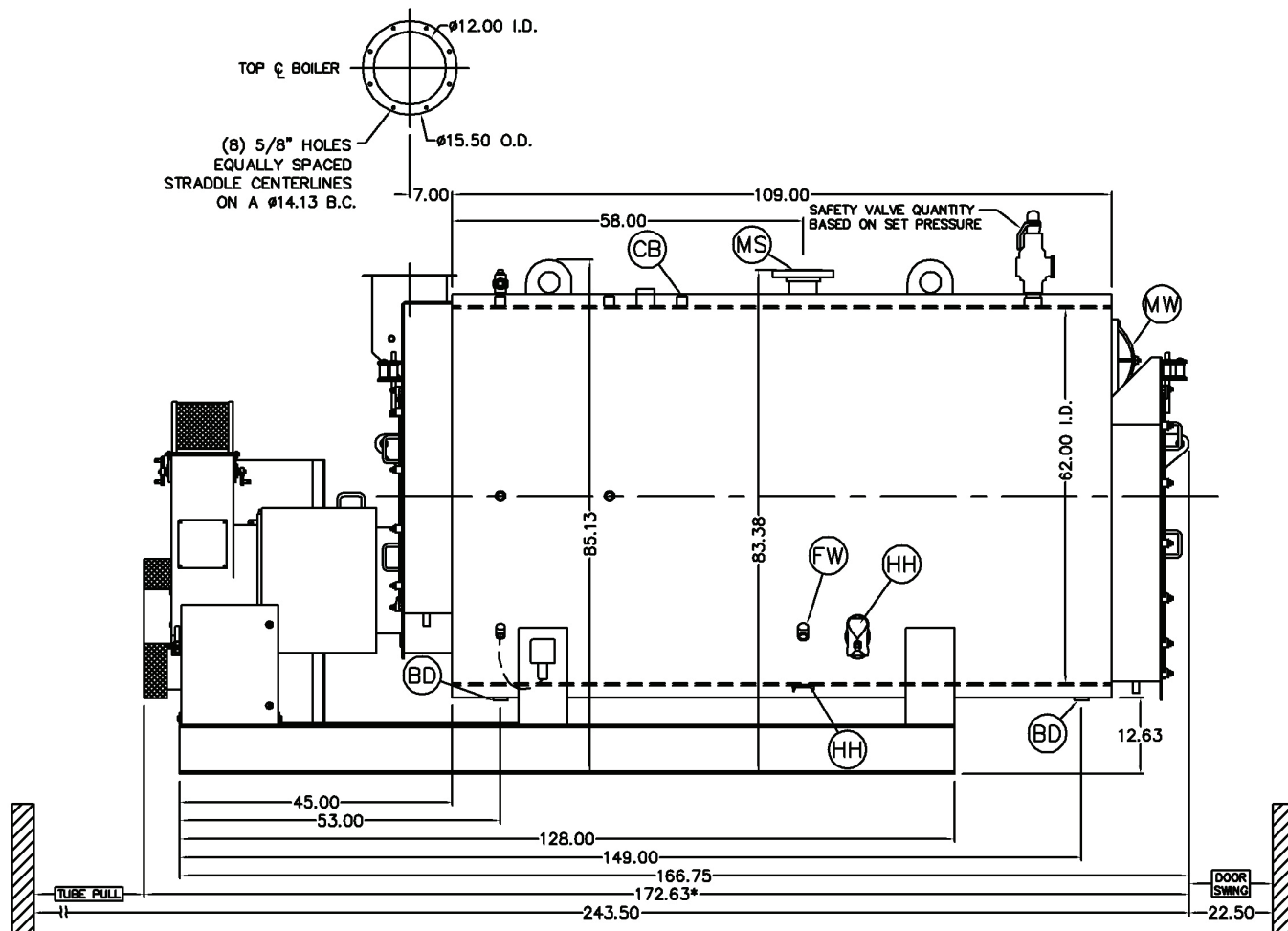
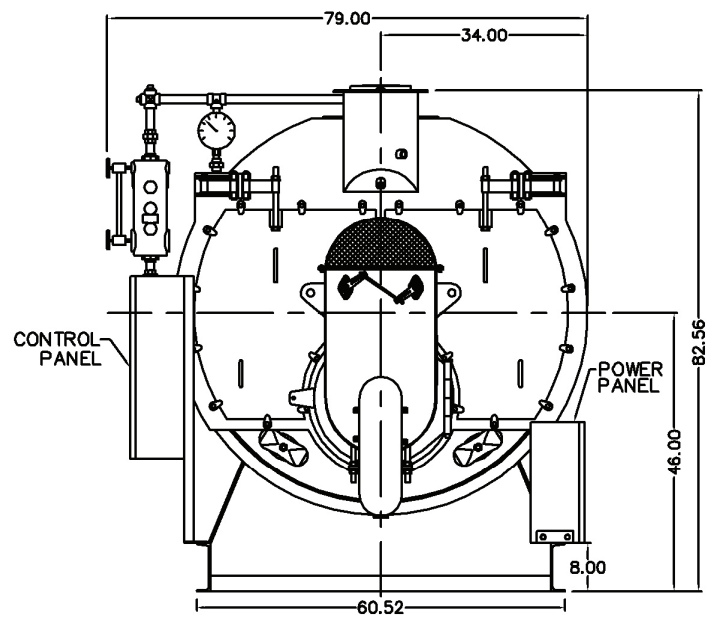
Ratings & Performance Data

Horsepower 125							
Steam Storage, ft ³	28.9	Natural Gas Flow, SCFH (1,000 Btu/ft ³)**	5,116				
Steam Disengaging Area, ft ²	39.9	Combustion Air (15% Excess), SCFM***	936				
Total Heating Surface, ft ²	652	Flue Gas Flow Rate, lb/hr***	4,461				
Furnace Outside Diameter, in	30.5	Stack Flue Gas Velocity, ft/min***	1,534				
Furnace Heat Release Rate, Btu/ft ³ hr**	163,000	#2 Oil Flow, gal/hr (140,000 BTU/gal)**	35.2				
Total Combustion Volume, ft ³	52.5	#6 Oil Flow, gal/hr (150,000 BTU/gal)**	32.5				
Total Heat Release Rate, Btu/ft ³ hr**	97,000	Flue Gas Side Pressure Drop, in. H ₂ O	2.6				
Water Content N.W.L., gal	961	Water Content Flooded, gal.	1,177				
Approx. Dry Weight 15#, lb	13,000	Approx. Operating Weight 15#, lb.	21,000				
Approx. Dry Weight 150#, lb	13,800	Approx. Operating Weight 150#, lb.	21,800				
Approx. Dry Weight 200#, lb	14,900	Approx. Operating Weight 200#, lb.	22,900				
Approx. Dry Weight 250#, lb	15,800	Approx. Operating Weight 250#, lb.	23,800				
Approx. Dry Weight 300#, lb	16,700	Approx. Operating Weight 300#, lb.	24,700				
Performance Data*							
Operating Pressure (psig)	Steam Rate (lb/hr)	Natural Gas		#2 Oil		#6 Oil	
		Stack Temp (F)	%Eff	Stack Temp (F)	%Eff	Stack Temp (F)	%Eff
10	4,342	294	84.3	303	87.4	288	88.3
50	4,262	351	82.8	360	85.9	349	86.8
100	4,220	391	81.8	400	84.8	392	85.8
150	4,197	419	81.1	428	84.1	422	85.0
200	4,184	441	80.5	450	83.5	446	84.4
250	4,176	459	80.0	468	83.0	466	83.9
300	4,172	475	79.6	484	82.6	483	83.5
*Based on 228°F feedwater and 3% O ₂ , ** Values calculated at 100 psi operating pressure, ***Calculated Firing Natural Gas							

Drawings - 4-Pass Steam Packaged Firetube Boiler

Connection & Opening Schedule			
Conn.	Description	Type	Qty
FW	Feedwater Inlet	1.50 FNPT	2
MS*	Main Steam	4.00 300# RF	1
CB	Continuous Blowoff	1.00 FNPT	1
BD	Blowdown Outlet	1.50 FNPT	2
MW	Manway	12 X 16	1
HH	Hand Hole	4 X 6	6

*8.00 150#RF Flange on 15 psig Design



Notes:

150# Steam design shown, all dimensions given in inches.

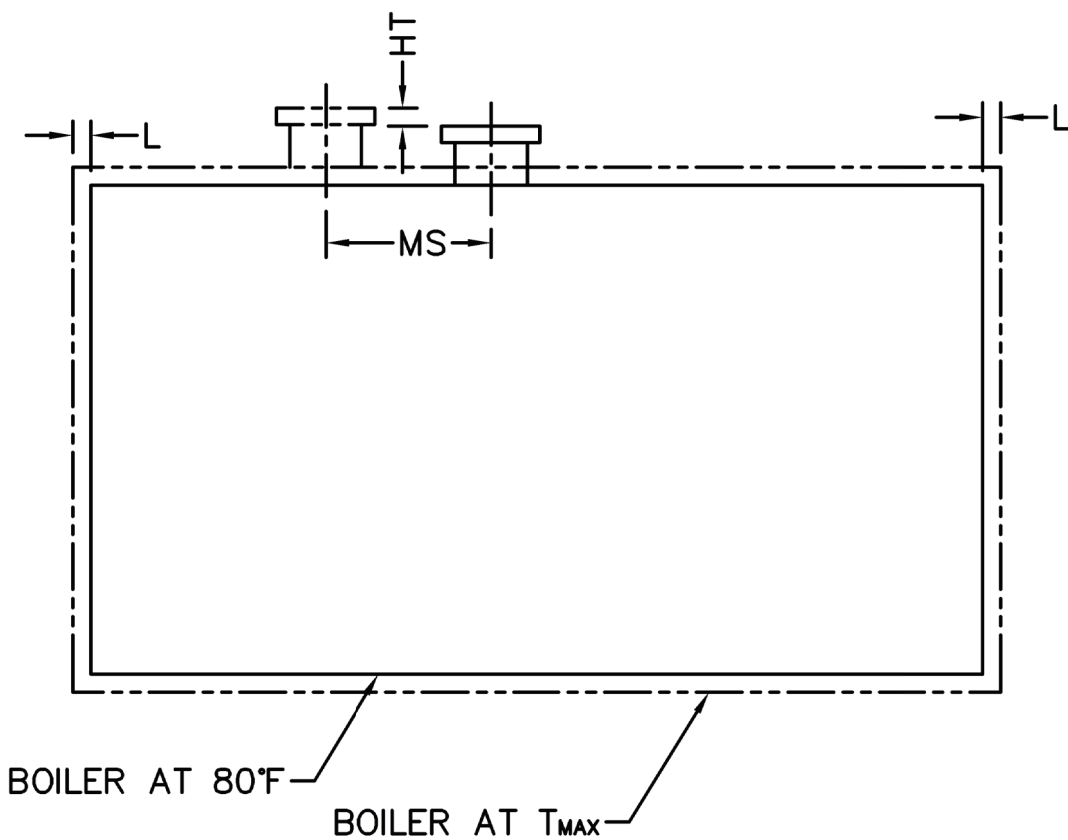
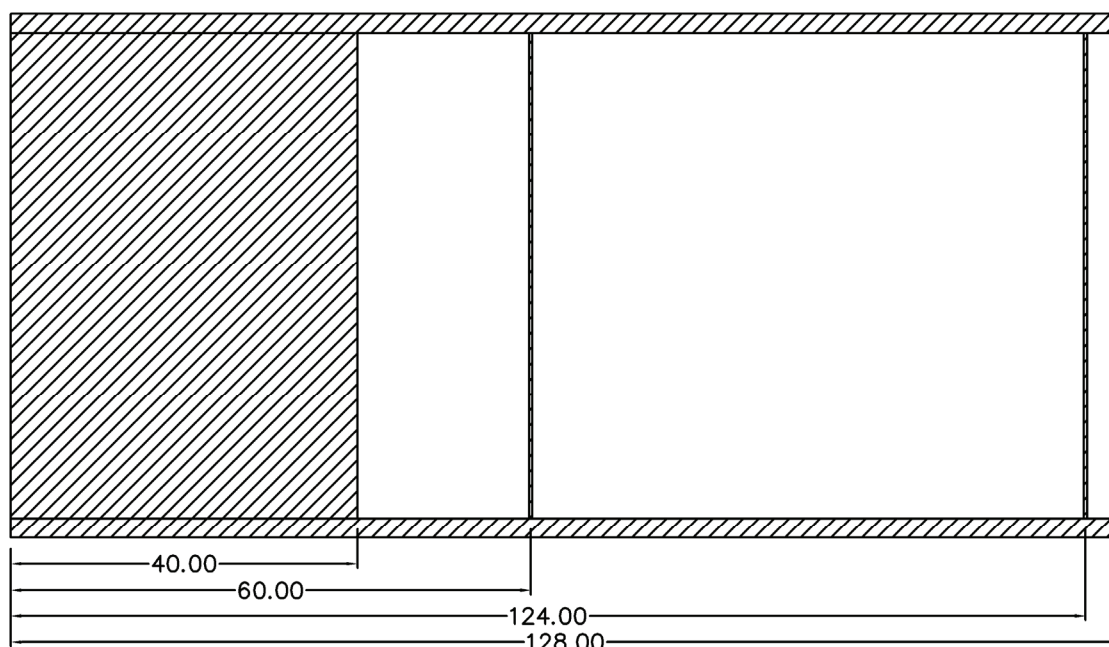
Fuel piping and/or optional boiler trim may increase overall width.

Specifications subject to change to incorporate engineering advances.

*May vary on low-NO_x designs

MODEL: PFTA 125-4

Base Diagram

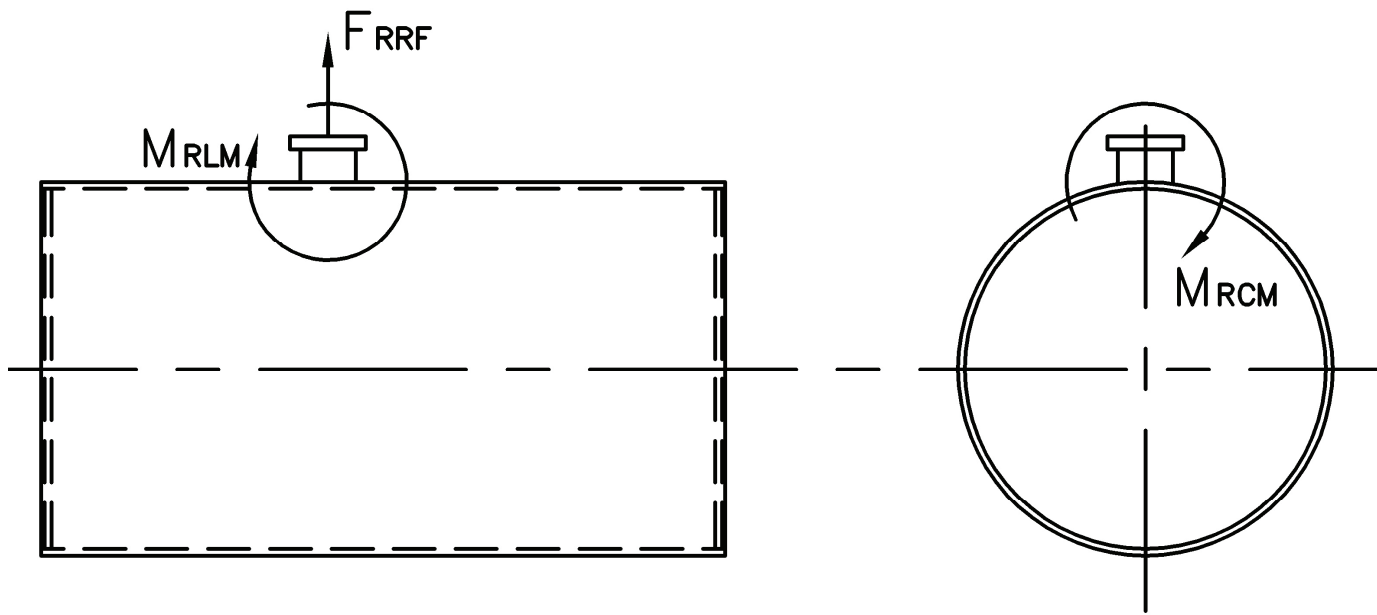


Thermal Expansion					
psig	15	150	200	250	300
Metal T _{MAX} (F)	240	366	388	406	421
L (in)	0.055	0.093	0.101	0.107	0.112
MS (in)	0.004	0.006	0.006	0.007	0.007
HT (in)	0.072	0.121	0.130	0.138	0.145

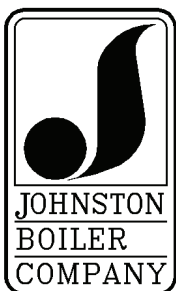
MODEL: PFTA 125-4

Nozzle Loadings

Maximum Allowable Load on Boiler Steam Nozzle					
	15# Design	150# Design	200# Design	250# Design	300# Design
F_{RRF} , lb	4,030	1,280	1,280	2,135	2,135
M_{RCM} , in-lb	19,615	8,645	8,645	14,800	14,800
M_{RLM} , in-lb	30,560	6,655	6,655	13,355	13,355



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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	0.670	2.934
	30	0.036	0.183	0.800
	9	0.011	0.055	0.240
CO	50	0.037	0.19	0.823
CO ₂	2.55 lb/lb fuel	119.76	613	2,684
H ₂ O	2.03 lb/lb fuel	106.16	543	2,379
Stack Emissions-#2 Oil** (140,000 Btu/gal)				
NO _x	128	0.174	0.859	3.762
CO	50	0.037	0.181	0.794
CO ₂	3.20 lb/lb fuel	168.53	831	3,641
H ₂ O	1.12 lb/lb fuel	71.20	351	1,538
* 110 ppm "A" Burner, 30 ppm A-FGR Burner, 9 **0.02% fuel bound Nitrogen				