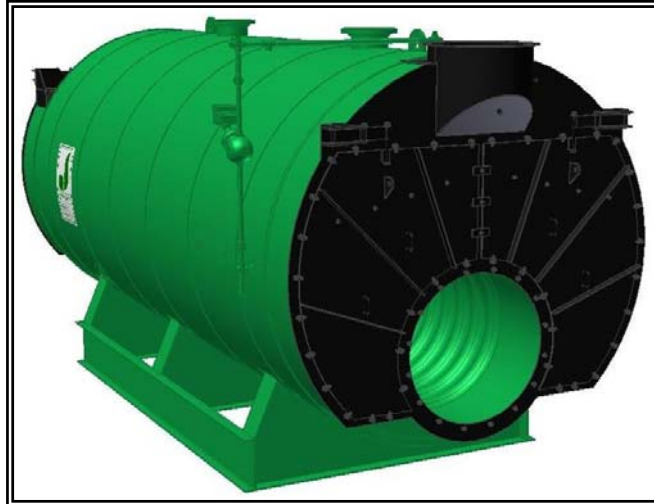


MODEL: PFTX 1500-4

4-Pass Hot Water Packaged Firetube Boiler

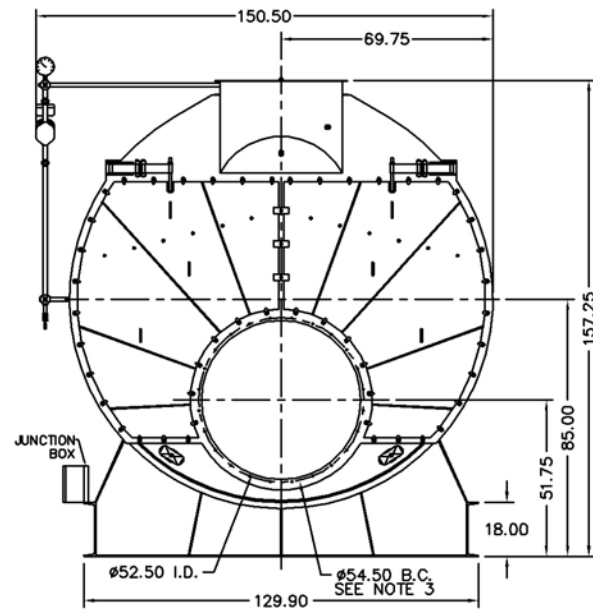


Ratings & Performance Data

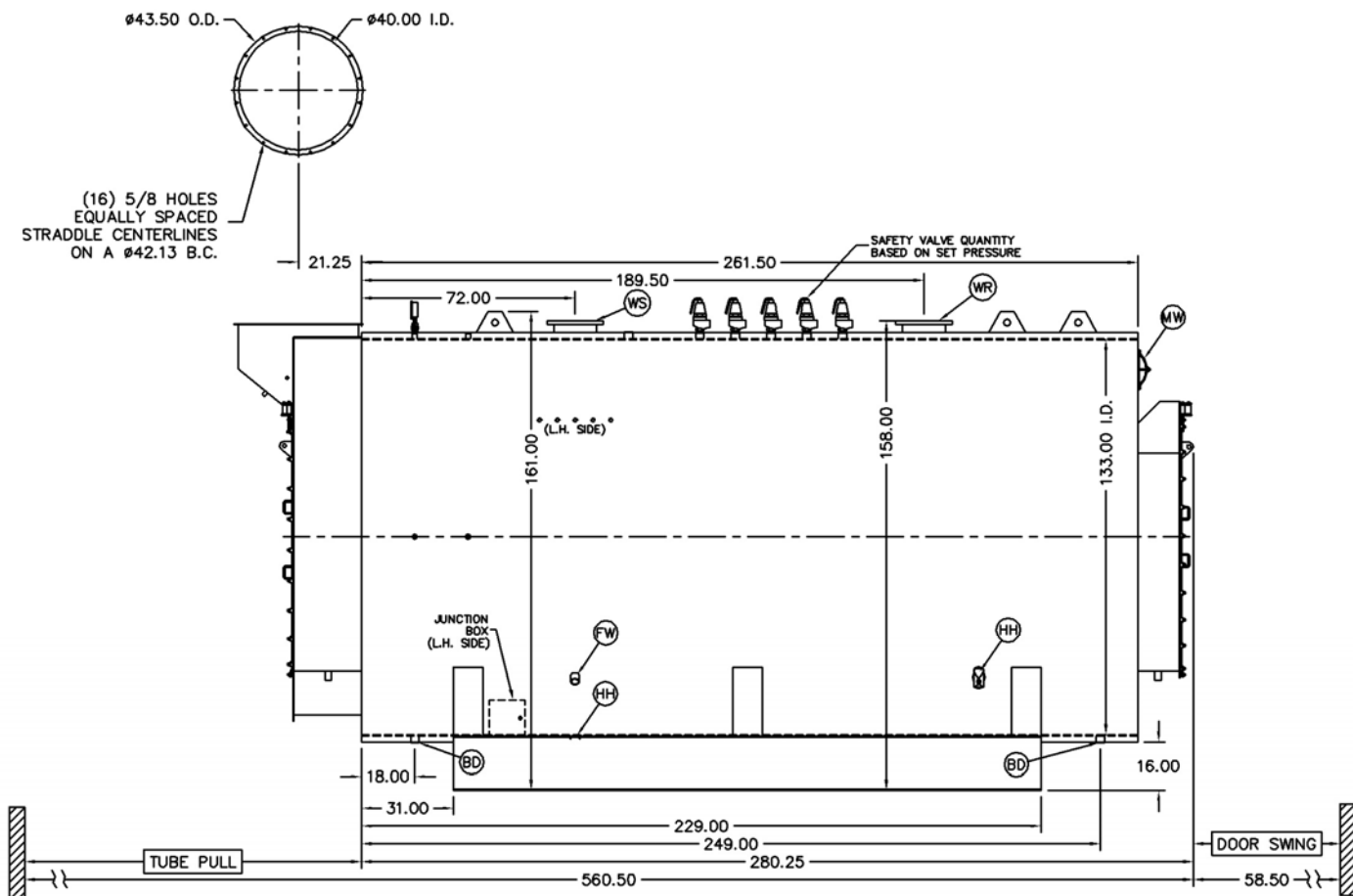
Horsepower 1500		Natural Gas Flow, SCFH (1,000 Btu/ft ³)**		57,909		
Total Heating Surface, ft ²	7,577	Combustion Air (15% Excess), SCFM***		10,596		
Furnace Outside Diameter, in	53.5	Flue Gas Flow Rate, lb/hr***		50,499		
Furnace Heat Release Rate, Btu/ft ³ hr**	210,000	Stack Flue Gas Velocity, ft/min***		1,720		
Total Combustion Volume, ft ³	388.8	#2 Oil Flow, gal/hr (140,000 Btu/gal)**		398.9		
Total Heat Release Rate, Btu/ft ³ hr**	149,000	#6 Oil Flow, gal/hr (150,000 Btu/gal)**		369.4		
Water Content Flooded, gal	9,587	Flue Gas Side Pressure Drop, in. H ₂ O		9.7		
Approx. Dry Weight 30#, lb	88,200	Approx. Operating Weight 30#, lb		167,800		
Approx. Dry Weight 60#, lb	88,500	Approx. Operating Weight 60#, lb		168,100		
Approx. Dry Weight 125#, lb	91,500	Approx. Operating Weight 125#, lb		171,100		
Performance Data						
Operating Temperature (F)	Natural Gas		#2 Oil		#6 Oil	
	Stack Temp (F)	%Eff	Stack Temp	%Eff	Stack Temp (F)	%Eff
180	208	87.2	215	90.4	223	91.1
200	228	86.7	235	89.9	243	90.6
220	248	86.2	255	89.4	263	90.1
240	268	85.8	275	88.9	283	89.6
*Based on 20°F difference in supply/return, ** Values calculated at 200°F operating temperature, ***Calculated Firing Natural Gas						

Drawings - 4-Pass Hot Water Packaged Firetube Boiler

Connection & Opening Schedule			
Conn.	Description	Type	Qty
FW	Feedwater Inlet	2.00 FNPT	2
WS	Water Supply	14.00 150#RF	1
WR	Water Return	14.00 150#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			



NOTE: (24) 5/8 UNC X 1.500 LONG STUDS EQUALLY SPACED STRADDLE CENTERLINES. STUDS FOR BURNER REFRACTORY (DRY OVEN) MOUNTING. REFRACTORY MUST EXTEND 27.00" MINIMUM PAST MOUNTING FLANGE.



Notes:

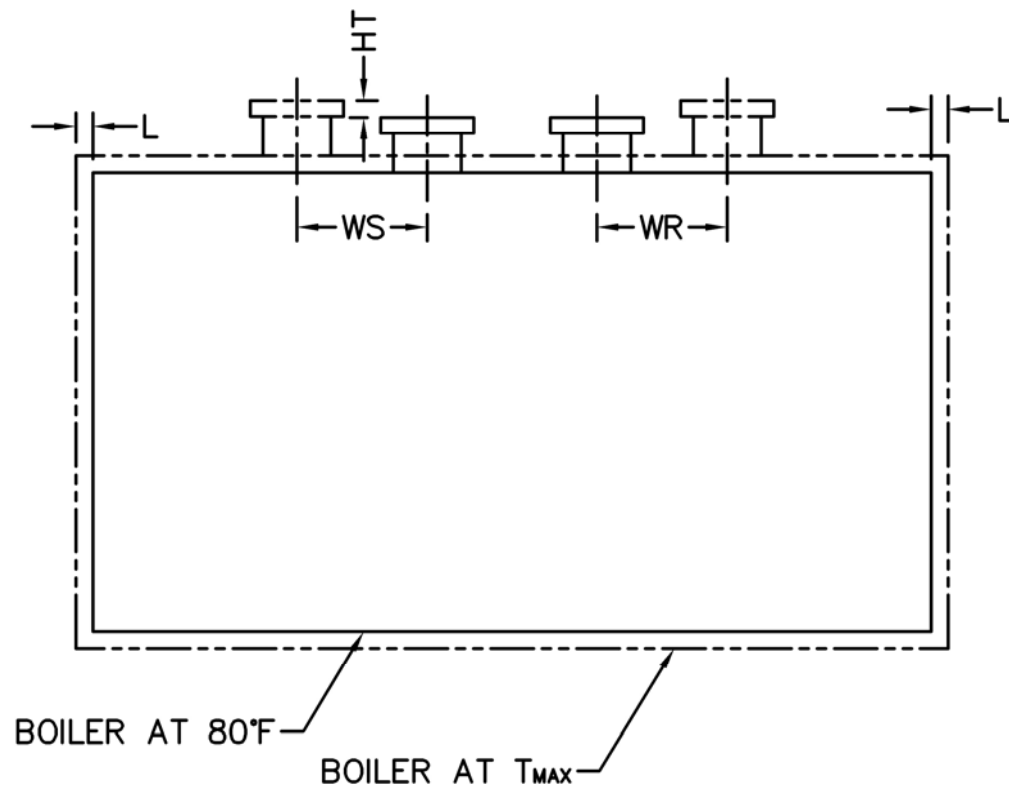
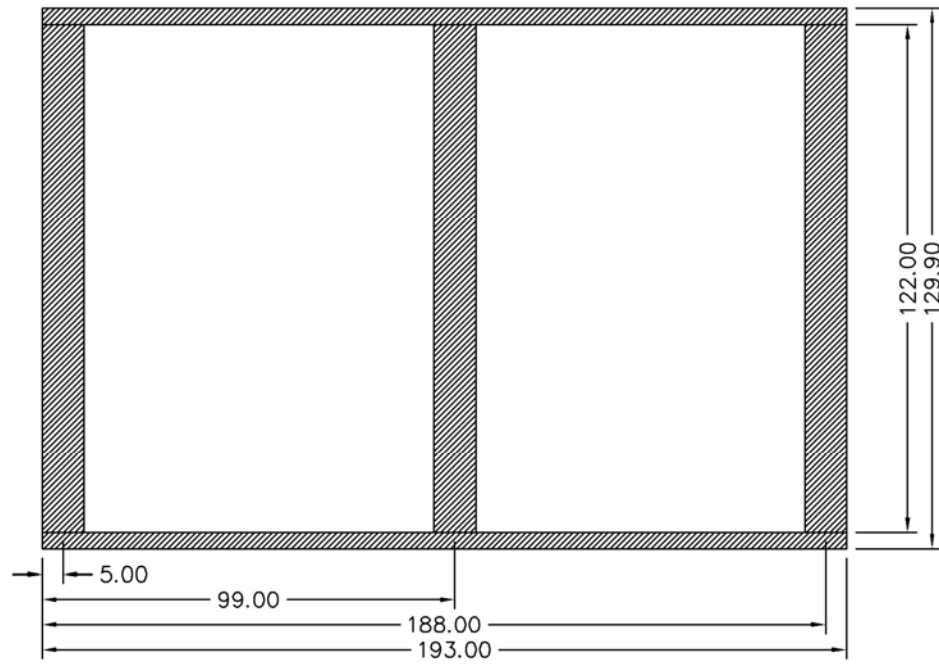
30# Hot Water design shown, all dimensions given in inches.

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

Specifications subject to change to incorporate engineering advances.

MODEL: PFTX 1500-4

Base Diagram

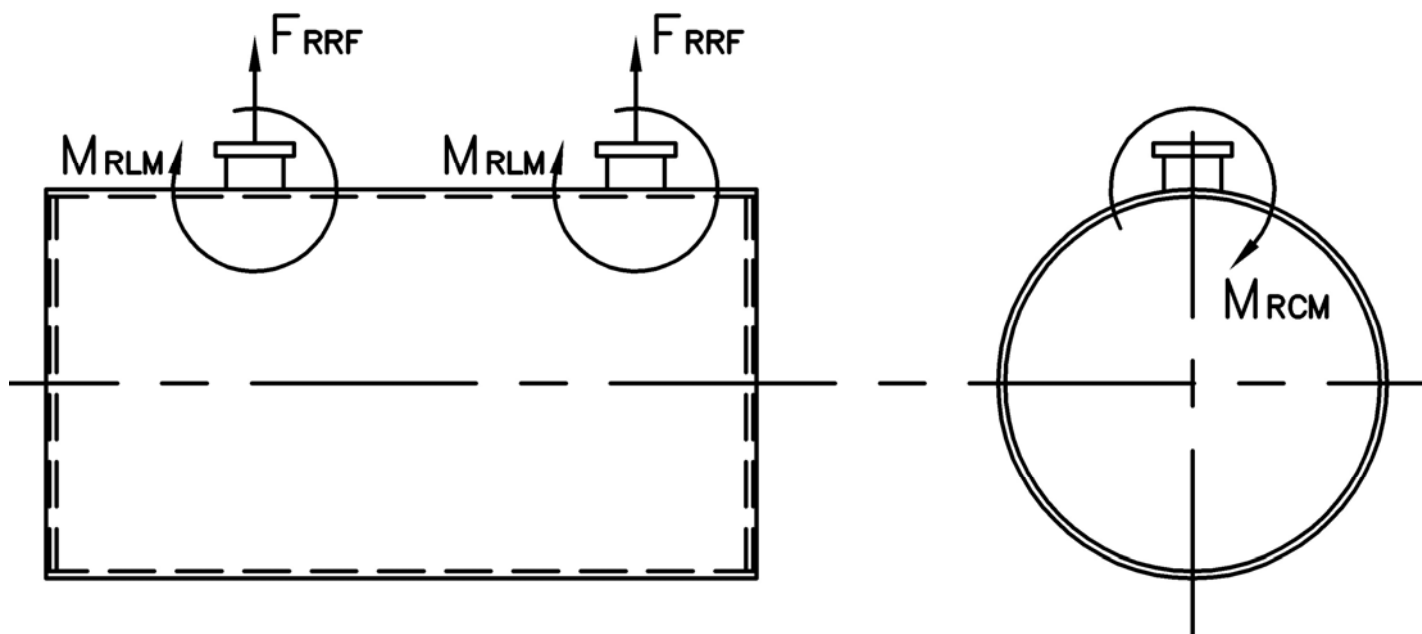


Thermal Expansion				
Metal T_{MAX} (F)	180	200	220	240
L (in)	0.079	0.094	0.110	0.126
WS (in)	0.028	0.034	0.039	0.045
WR (in)	0.059	0.071	0.083	0.095
HT (in)	0.080	0.096	0.112	0.128

MODEL: PFTX 1500-4

Nozzle Loadings

Maximum Allowable Load on Outlet & Return Nozzles				
	30# Design	60# Design	125# Design	160# Design
F_{RRF} , lb	5,675	4,055	7,120	10,155
M_{RCM} , in-lb	67,535	67,535	123,845	208,520
M_{RLM} , in-lb	96,035	68,680	102,560	162,545



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