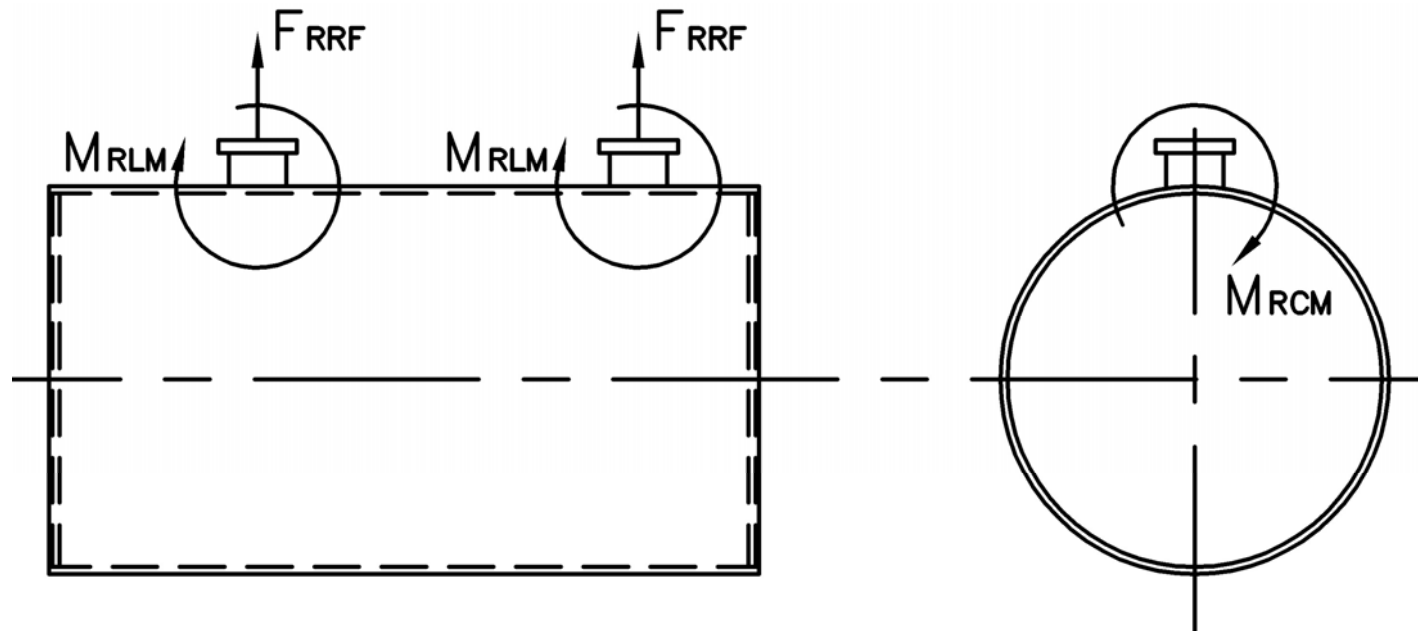


# MODEL: PFTX 50/80-4

## Nozzle Loadings

Maximum Allowable Load on Outlet & Return Nozzles				
	30# Design	60# Design	125# Design	160# Design
$F_{RRF}$ , lb	3,130	2,685	1,720	2,185
$M_{RCM}$ , in-lb	9,190	9,190	9,190	15,390
$M_{RLM}$ , in-lb	15,650	13,425	8,605	12,020



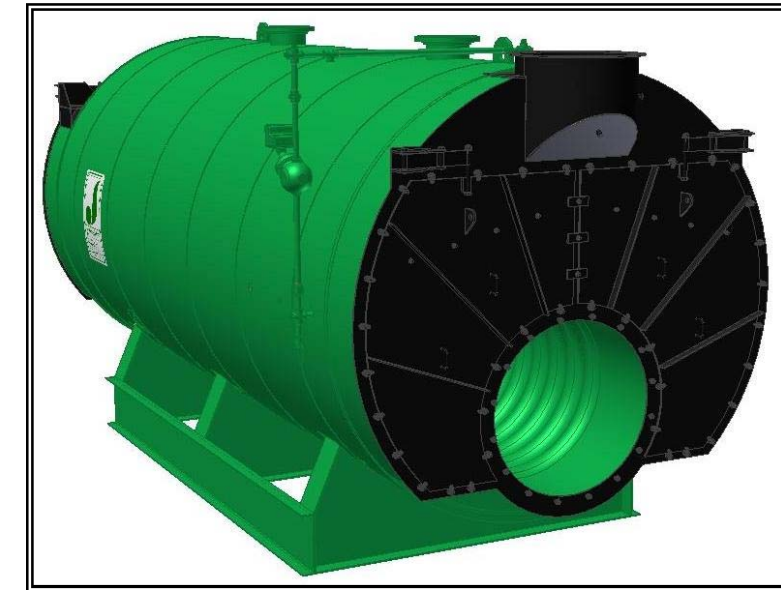
Distributed By:



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

# MODEL: PFTX 50/80-4

## 4-Pass Hot Water Packaged Firetube Boiler



## Ratings & Performance Data

Horsepower 50-80			
Total Heating Surface, ft <sup>2</sup>	399	Natural Gas Flow, SCFH (1,000 Btu/ft <sup>3</sup> )**	3,125
Furnace Outside Diameter, in	24.0	Combustion Air (15% Excess), SCFM***	572
Furnace Heat Release Rate, Btu/ft <sup>3</sup> hr**	164,000	Flue Gas Flow Rate, lb/hr***	1,144
Total Combustion Volume, ft <sup>3</sup>	32.2	Stack Flue Gas Velocity, ft/min***	1,340
Total Heat Release Rate, Btu/ft <sup>3</sup> hr**	97,000	#2 Oil Flow, gal/hr (140,000 Btu/gal)**	21.5
Water Content Flooded, gal	770	Flue Gas Side Pressure Drop, in. H <sub>2</sub> O	3.0
Approx. Dry Weight 30#, lb	10,000	Approx. Operating Weight 30#, lb	16,500
Approx. Dry Weight 60#, lb	10,200	Approx. Operating Weight 60#, lb	16,700
Approx. Dry Weight 125#, lb	10,500	Approx. Operating Weight 125#, lb	17,000

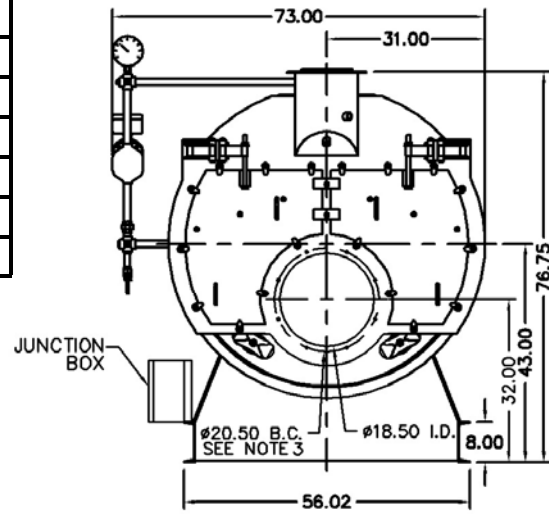
Performance Data*				
Operating Temperature (F)	Natural Gas		#2 Oil	
	Stack Temp (F)	%Eff	Stack Temp (F)	%Eff
180	236	86.2	245	89.4
200	255	85.7	265	88.8
220	275	85.2	284	88.3
240	294	84.7	304	87.8

Calculations based on 80 horsepower design

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

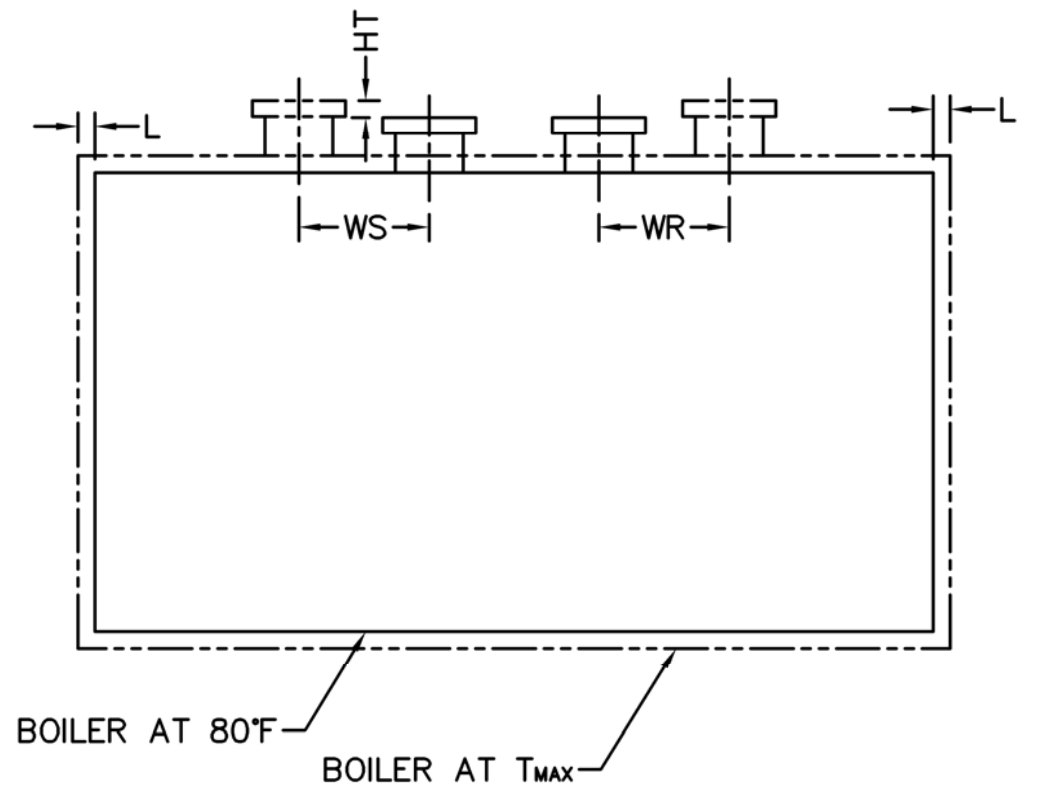
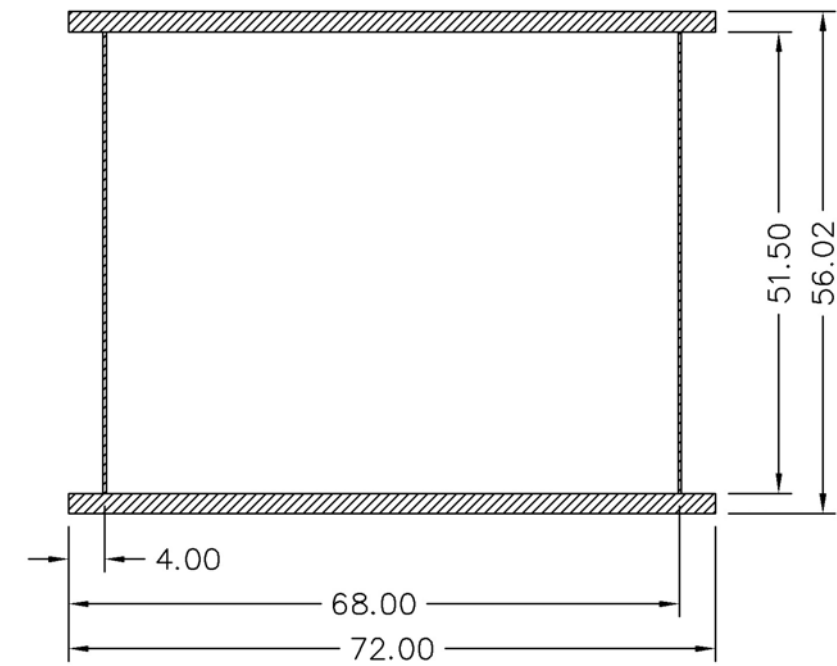
Connection & Opening Schedule			
Conn.	Description	Type	Qty
FW	Feedwater Inlet	1.00 FNPT	2
WS	Water Supply	4.00 150#RF	1
WR	Water Return	4.00 150#RF	1
DO	Drain Outlet	1.50 FNPT	2
MW	Manway	12 X 16	1
HH	Hand Hole	4 X 6	6

Supply and return outlets ASME flanged drilling

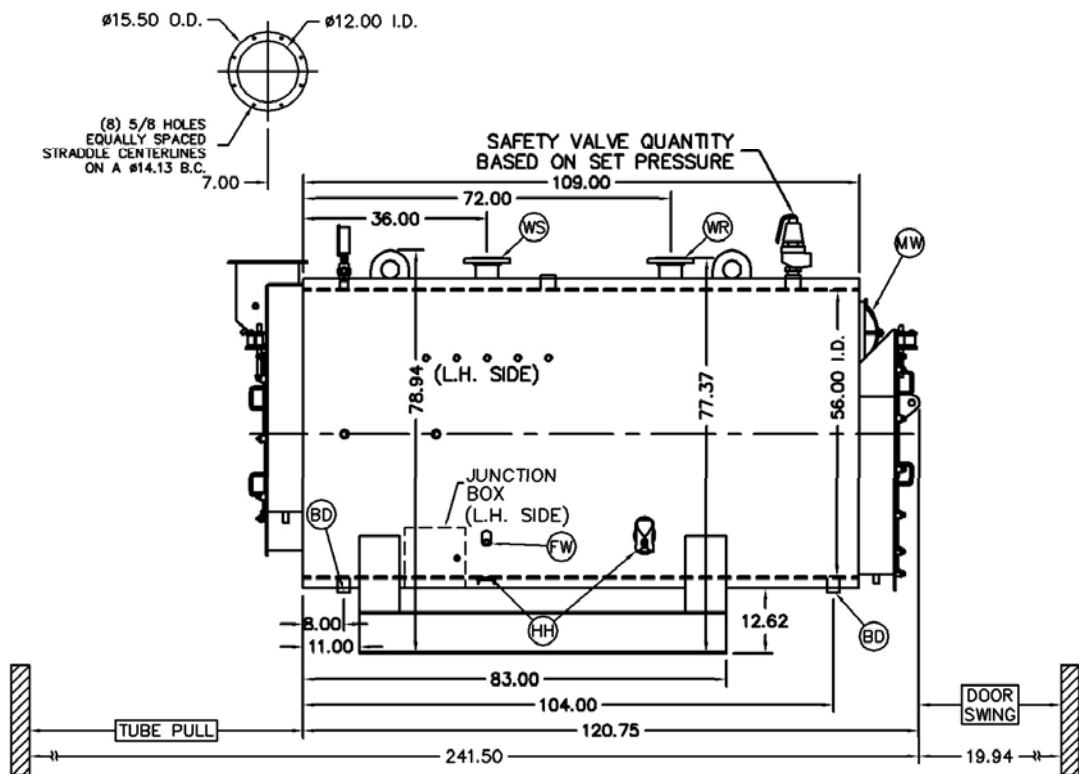


NOTE: (8) 1/2 UNC X 1.375 LONG STUDS EQUALLY SPACED STRADDLE CENTERLINES. STUDS FOR BURNER REFRACTORY (DRY OVEN) MOUNTING. REFRACTORY MUST EXTEND 11.25" MINIMUM PAST MOUNTING FLANGE.

Base Diagram



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)	0.011	0.013	0.015	0.017
HT (in)	0.034	0.041	0.047	0.054



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.