

# MODEL: PFTX 1800-3



## 3-Pass Hot Water Packaged Firetube Boiler



### Ratings & Performance Data

Horsepower 1800		Natural Gas Flow, SCFH (1,000 Btu/ft <sup>3</sup> )**	70,730
Total Heating Surface, ft <sup>2</sup>	8,962	Combustion Air (15% Excess), SCFM***	12,942
Furnace Outside Diameter, in	66.5	Flue Gas Flow Rate, lb/hr***	61,680
Furnace Heat Release Rate, Btu/ft <sup>3</sup> hr**	181,000	Stack Flue Gas Velocity, ft/min***	1,708
Total Combustion Volume, ft <sup>3</sup>	581.4	#2 Oil Flow, gal/hr (140,000 Btu/gal)**	487.9
Total Heat Release Rate, Btu/ft <sup>3</sup> hr**	122,000	#6 Oil Flow, gal/hr (150,000 Btu/gal)**	452.1
Water Content Flooded, gal	10,133	Flue Gas Side Pressure Drop, in. H <sub>2</sub> O	4.8
Approx. Dry Weight 30#, lb	98,900	Approx. Operating Weight 30#, lb	185,100
Approx. Dry Weight 60#, lb	105,000	Approx. Operating Weight 60#, lb	191,200
Approx. Dry Weight 125#, lb	125,000	Approx. Operating Weight 125#, lb	211,200

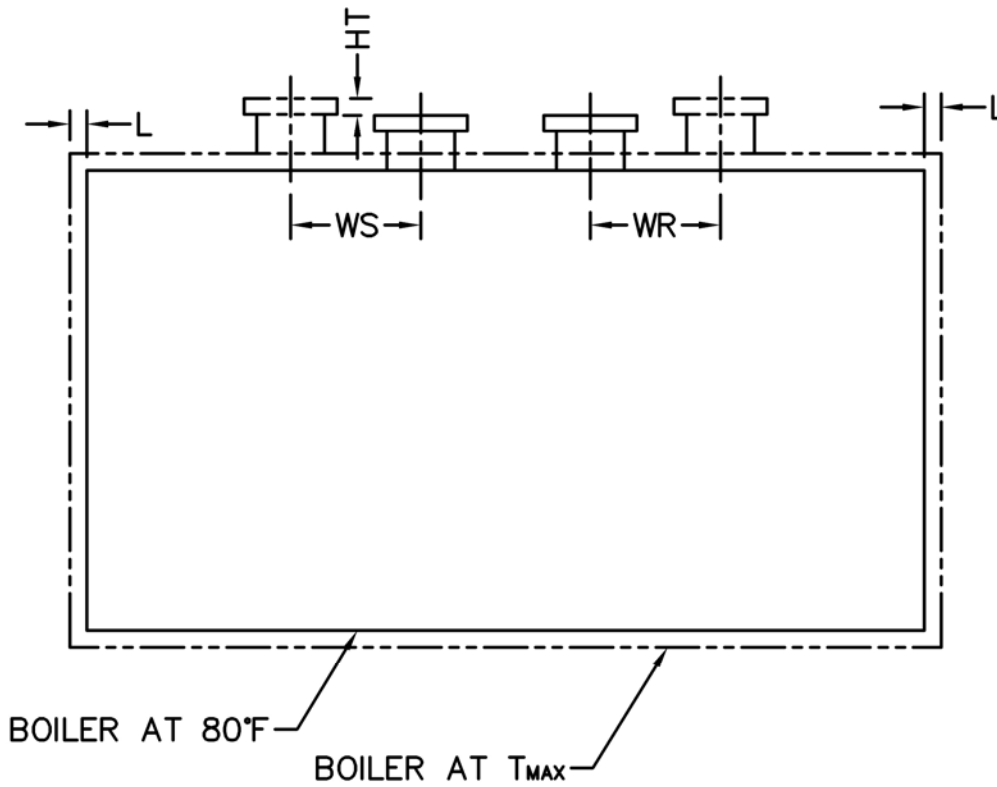
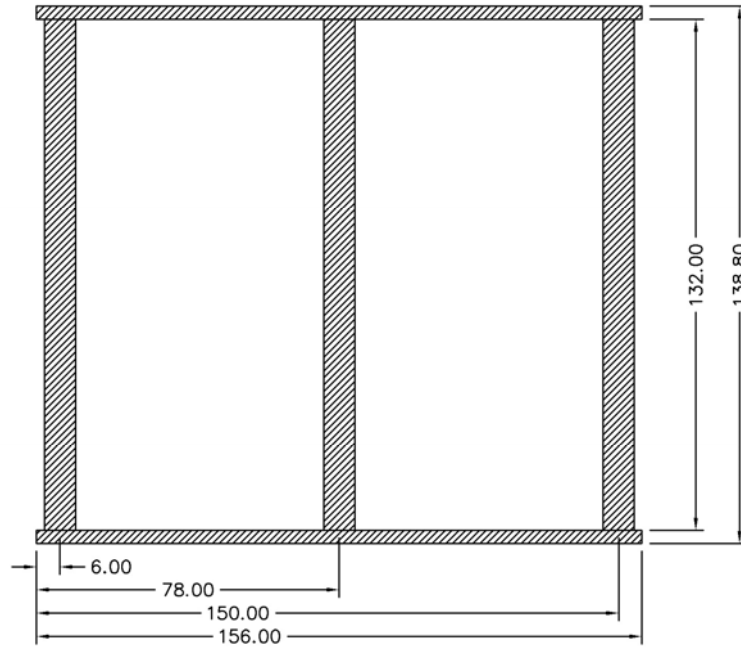
#### Performance Data

Operating Temperature (F)	Natural Gas		#2 Oil		#6 Oil	
	Stack Temp (F)	%Eff	Stack Temp (F)	%Eff	Stack Temp (F)	%Eff
180	261	85.6	275	88.7	286	89.3
200	280	85.2	294	88.2	305	88.9
220	299	84.7	313	87.8	323	88.4
240	318	84.3	332	87.3	342	88.0

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



## Base Diagram

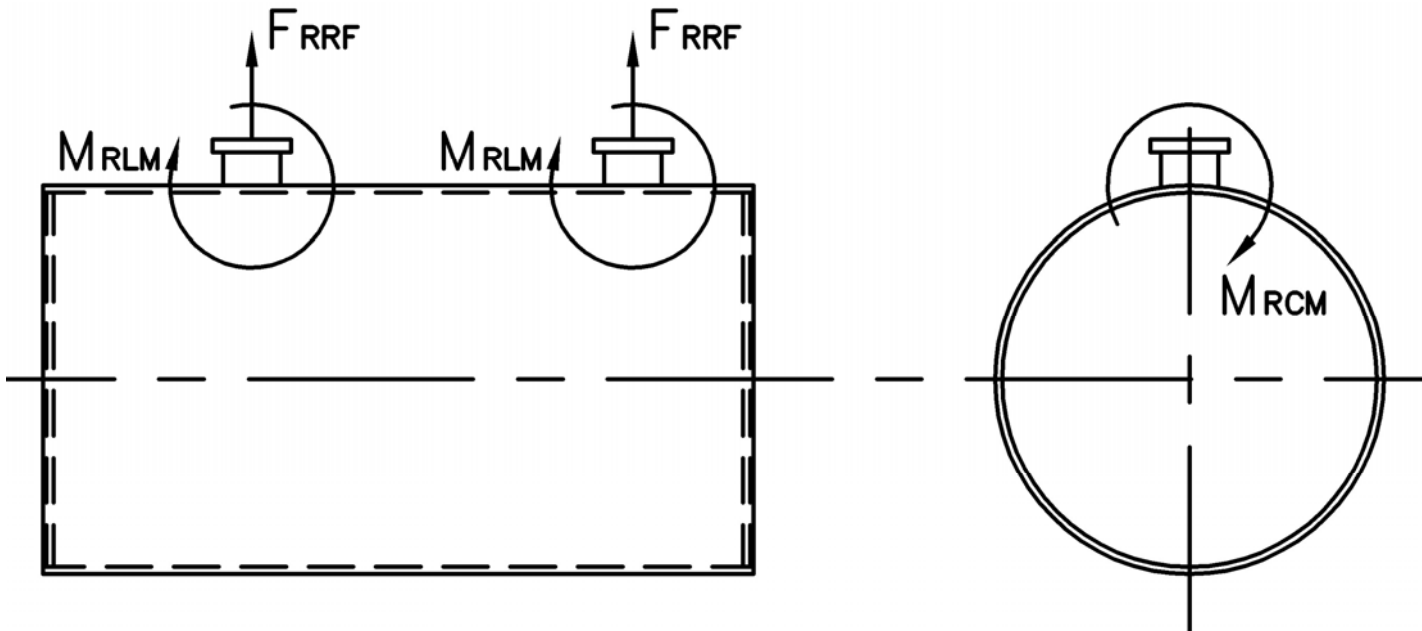


Thermal Expansion				
Metal $T_{MAX}$ (F)	180	200	220	240
L (in)	0.073	0.088	0.103	0.117
WS (in)	0.011	0.013	0.015	0.017
WR (in)	0.053	0.064	0.075	0.085
HT (in)	0.090	0.108	0.126	0.144

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## Nozzle Loadings

Maximum Allowable Load on Outlet & Return Nozzles				
	30# Design	60# Design	125# Design	160# Design
FRRF, lb	6,570	4,400	10,060	24,695
MRCM, in-lb	73,145	73,145	211,650	352,760
MRLM, in-lb	104,275	69,825	168,525	451,605



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