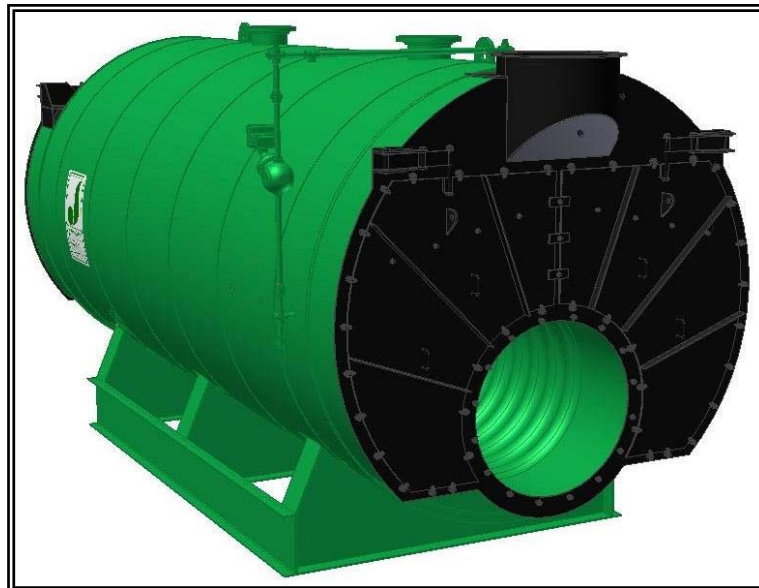




## MODEL: PFTX 100-4

### 4-Pass Hot Water Packaged Firetube Boiler

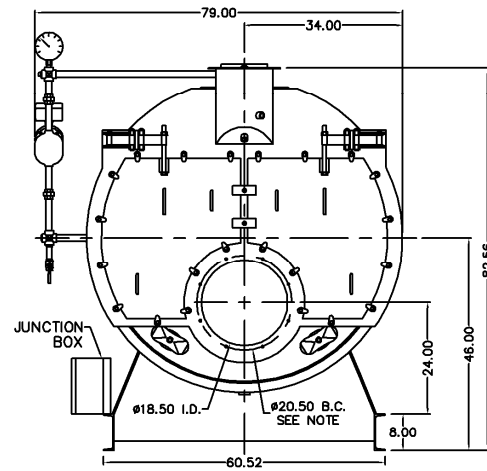


### Ratings & Performance Data

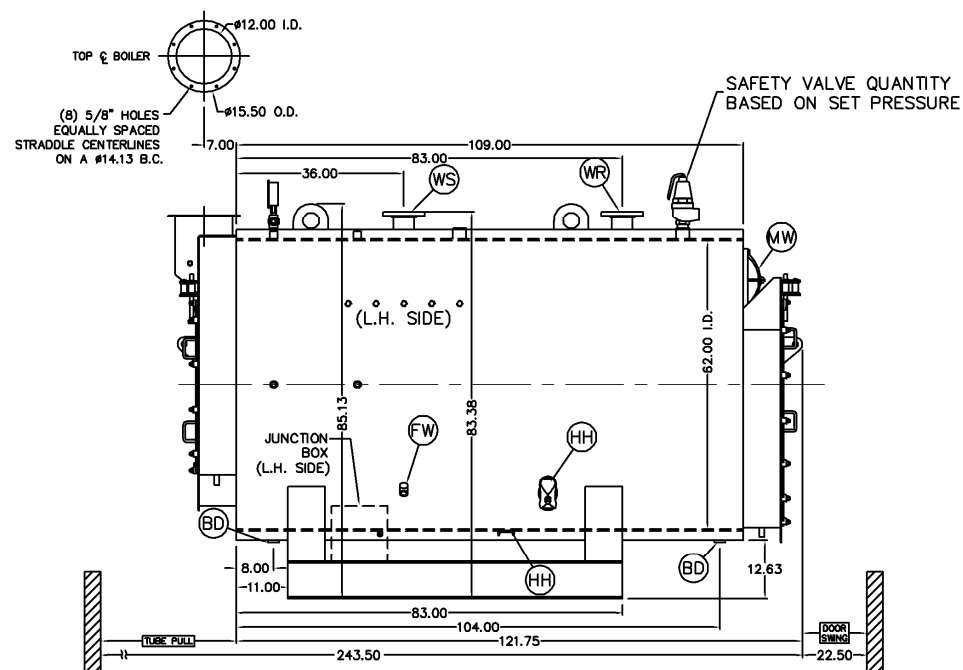
|                                                                                                                                   |                |                                                       |            |        |                |      |
|-----------------------------------------------------------------------------------------------------------------------------------|----------------|-------------------------------------------------------|------------|--------|----------------|------|
| Horsepower 100                                                                                                                    |                | Natural Gas Flow, SCFH (1,000 Btu/ft <sup>3</sup> )** |            | 3,929  |                |      |
| Total Heating Surface, ft <sup>2</sup>                                                                                            | 507            | Combustion Air (15% Excess), SCFM***                  |            | 719    |                |      |
| Furnace Outside Diameter, in                                                                                                      | 24.0           | Flue Gas Flow Rate, lb/hr***                          |            | 3,427  |                |      |
| Furnace Heat Release Rate, Btu/ft <sup>3</sup> hr**                                                                               | 206,000        | Stack Flue Gas Velocity, ft/min***                    |            | 1,393  |                |      |
| Total Combustion Volume, ft <sup>3</sup>                                                                                          | 33.8           | #2 Oil Flow, gal/hr (140,000 Btu/gal)**               |            | 27.1   |                |      |
| Total Heat Release Rate, Btu/ft <sup>3</sup> hr**                                                                                 | 116,000        | #6 Oil Flow, gal/hr (150,000 Btu/gal)**               |            | 25.0   |                |      |
| Water Content Flooded, gal                                                                                                        | 982            | Flue Gas Side Pressure Drop, in. H <sub>2</sub> O     |            | 2.8    |                |      |
| Approx. Dry Weight 30#, lb                                                                                                        | 11,900         | Approx. Operating Weight 30#, lb                      |            | 20,100 |                |      |
| Approx. Dry Weight 60#, lb                                                                                                        | 12,000         | Approx. Operating Weight 60#, lb                      |            | 20,200 |                |      |
| Approx. Dry Weight 125#, lb                                                                                                       | 12,400         | Approx. Operating Weight 125#, lb                     |            | 20,600 |                |      |
| Performance Data*                                                                                                                 |                |                                                       |            |        |                |      |
| Operating Temperature (F)                                                                                                         | Natural Gas    |                                                       | #2 Oil     |        | #6 Oil         |      |
|                                                                                                                                   | Stack Temp (F) | %Eff                                                  | Stack Temp | %Eff   | Stack Temp (F) | %Eff |
| 180                                                                                                                               | 260            | 85.7                                                  | 273        | 88.7   | 270            | 89.7 |
| 200                                                                                                                               | 279            | 85.2                                                  | 292        | 88.2   | 289            | 89.2 |
| 220                                                                                                                               | 298            | 84.7                                                  | 311        | 87.7   | 309            | 88.7 |
| 240                                                                                                                               | 317            | 84.2                                                  | 330        | 87.2   | 328            | 88.2 |
| *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 | 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 |                 |             |     |



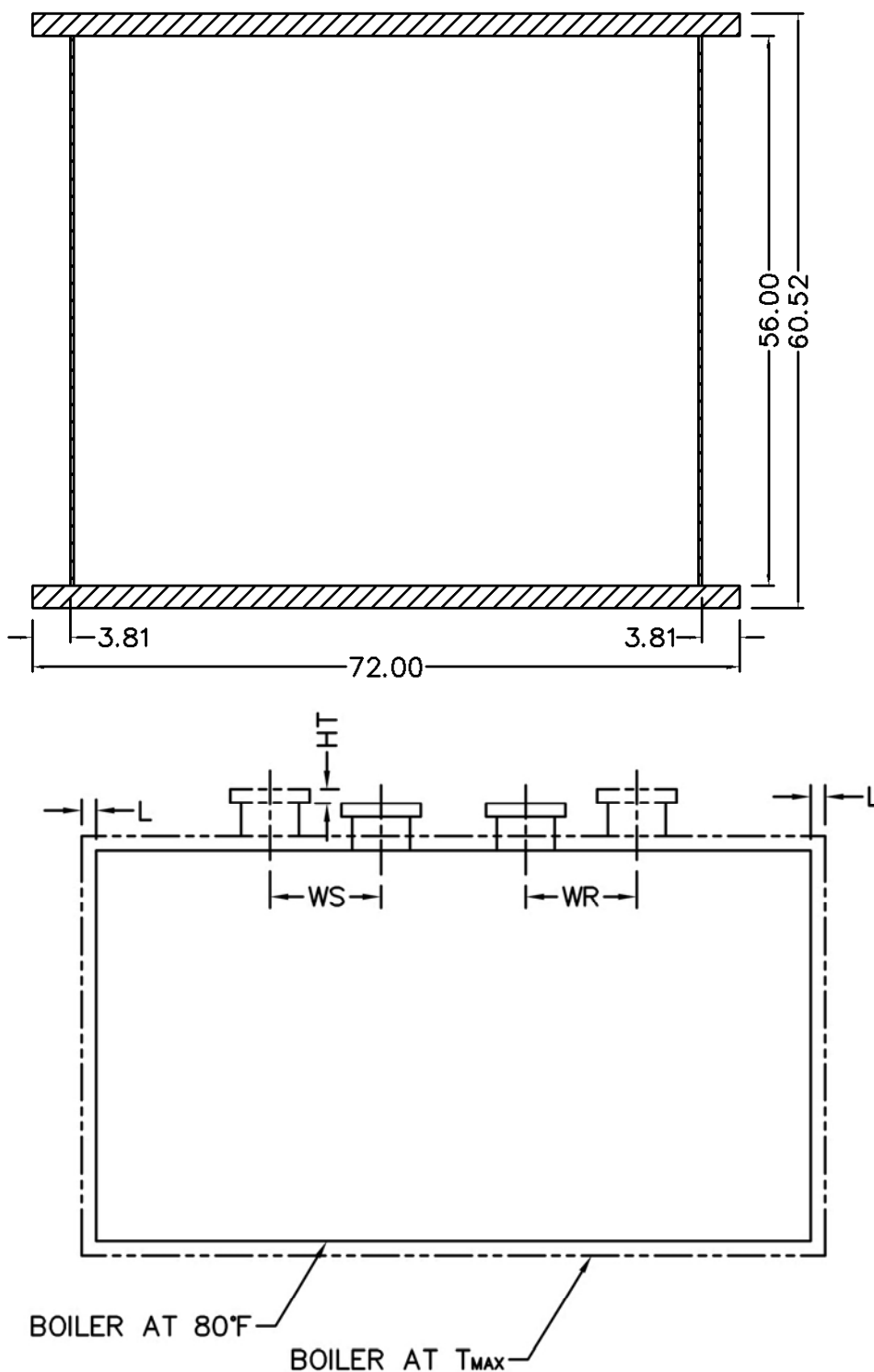
NOTE: (8) 1/2 UNC X 1.375 LONG STUDS EQUALLY SPACED STRADDLE CENTERLINES. STUDS FOR BURNER REFRACTORY (DRY OVEN) MOUNTING. REFRACTORY MUST EXTEND 12.25" MINIMUM PAST MOUNTING FLANGE.



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 100-4

## Base Diagram

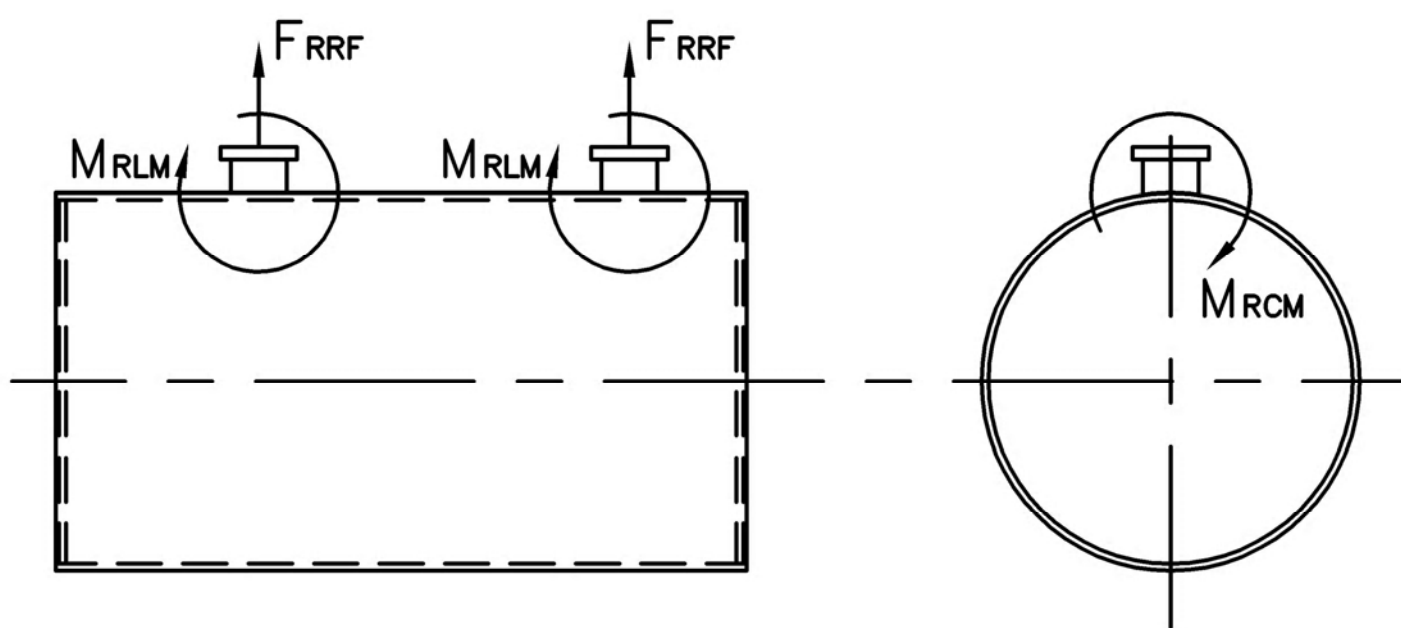


| Thermal Expansion          |       |       |       |       |
|----------------------------|-------|-------|-------|-------|
| Metal T <sub>MAX</sub> (F) | 180   | 200   | 220   | 240   |
| L (in)                     | 0.033 | 0.039 | 0.046 | 0.052 |
| WS (in)                    | 0.011 | 0.013 | 0.016 | 0.018 |
| WR (in)                    | 0.017 | 0.021 | 0.024 | 0.027 |
| HT (in)                    | 0.037 | 0.045 | 0.052 | 0.060 |

# MODEL: PFTX 100-4

## Nozzle Loadings

| Maximum Allowable Load on Outlet & Return Nozzles |            |            |             |             |
|---------------------------------------------------|------------|------------|-------------|-------------|
|                                                   | 30# Design | 60# Design | 125# Design | 160# Design |
| $F_{RRF}$ , lb                                    | 2,200      | 1,865      | 1,230       | 2,100       |
| $M_{RCM}$ , in-lb                                 | 8,380      | 8,380      | 8,380       | 14,645      |
| $M_{RLM}$ , in-lb                                 | 12,130     | 10,190     | 6,720       | 10,495      |



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