

MODEL: PFTX 750-4

4-Pass Steam Packaged Firetube Boiler

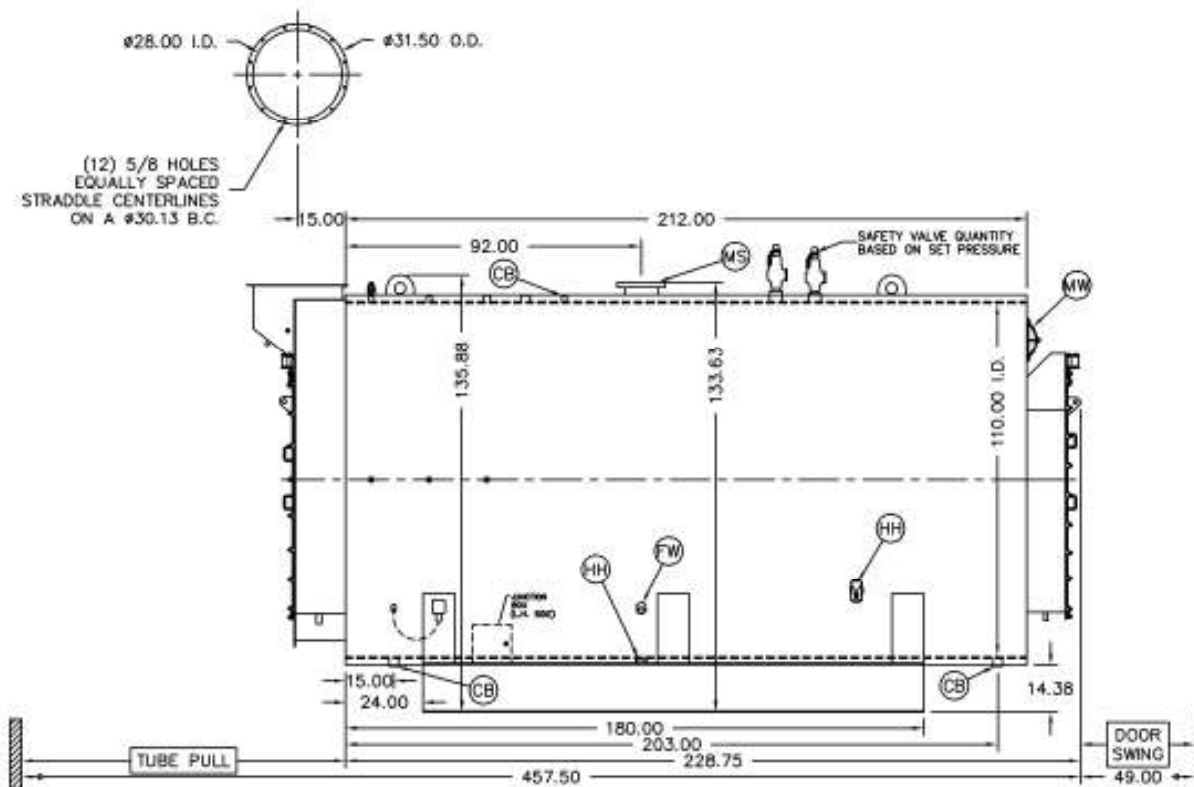
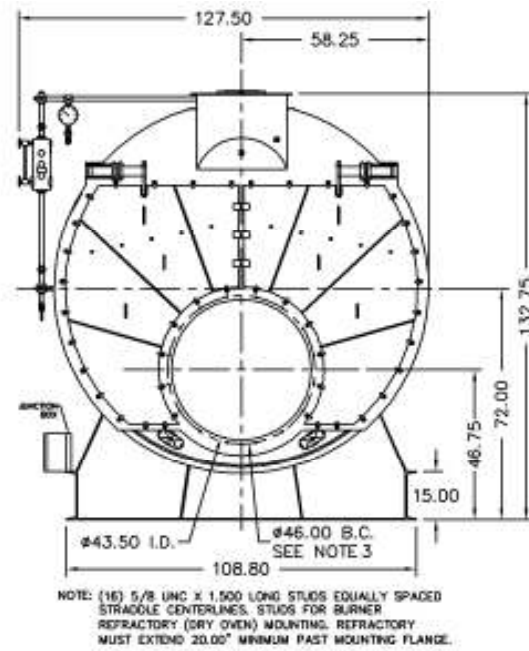


Ratings & Performance Data

| Horsepower 750 | | | | | | | |
|--|--------------------|---|---------|----------------|------|----------------|------|
| Steam Storage, ft ³ | 148.8 | Natural Gas Flow, SCFH (1,000 Btu/ft ³)** | 30,263 | | | | |
| Steam Disengaging Area, ft ² | 125.1 | Combustion Air (15% Excess), SCFM*** | 5,538 | | | | |
| Total Heating Surface, ft ² | 3,727 | Flue Gas Flow Rate, lb/hr*** | 26,391 | | | | |
| Furnace Outside Diameter, in | 49.5 | Stack Flue Gas Velocity, ft/min*** | 2,231 | | | | |
| Furnace Heat Release Rate, Btu/ft ³ hr** | 161,000 | #2 Oil Flow, gal/hr (140,000 BTU/gal)** | 208.3 | | | | |
| Total Combustion Volume, ft ³ | 252.5 | #6 Oil Flow, gal/hr (150,000 BTU/gal)** | 192.8 | | | | |
| Total Heat Release Rate, Btu/ft ³ hr** | 120,000 | Flue Gas Side Pressure Drop, in. H ₂ O | 6.1 | | | | |
| Water Content N.W.L., gal | 4,084 | Water Content Flooded, gal. | 5,197 | | | | |
| Approx. Dry Weight 15#, lb | 51,000 | Approx. Operating Weight 15#, lb. | 84,200 | | | | |
| Approx. Dry Weight 150#, lb | 55,300 | Approx. Operating Weight 150#, lb. | 88,500 | | | | |
| Approx. Dry Weight 200#, lb | 59,300 | Approx. Operating Weight 200#, lb. | 92,500 | | | | |
| Approx. Dry Weight 250#, lb | 63,900 | Approx. Operating Weight 250#, lb. | 97,100 | | | | |
| Approx. Dry Weight 300#, lb | 69,400 | Approx. Operating Weight 300#, lb. | 102,600 | | | | |
| 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 | 26,046 | 280 | 85.4 | 289 | 88.5 | 296 | 89.3 |
| 50 | 25,541 | 337 | 84.0 | 346 | 87.1 | 354 | 87.8 |
| 100 | 25,268 | 377 | 83.0 | 386 | 86.1 | 394 | 86.8 |
| 150 | 25,116 | 405 | 82.3 | 414 | 85.4 | 422 | 86.1 |
| 200 | 25,021 | 427 | 81.7 | 436 | 84.8 | 445 | 85.5 |
| 250 | 24,960 | 445 | 81.3 | 454 | 84.4 | 463 | 85.1 |
| 300 | 24,921 | 461 | 80.9 | 470 | 84.0 | 480 | 84.7 |
| *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

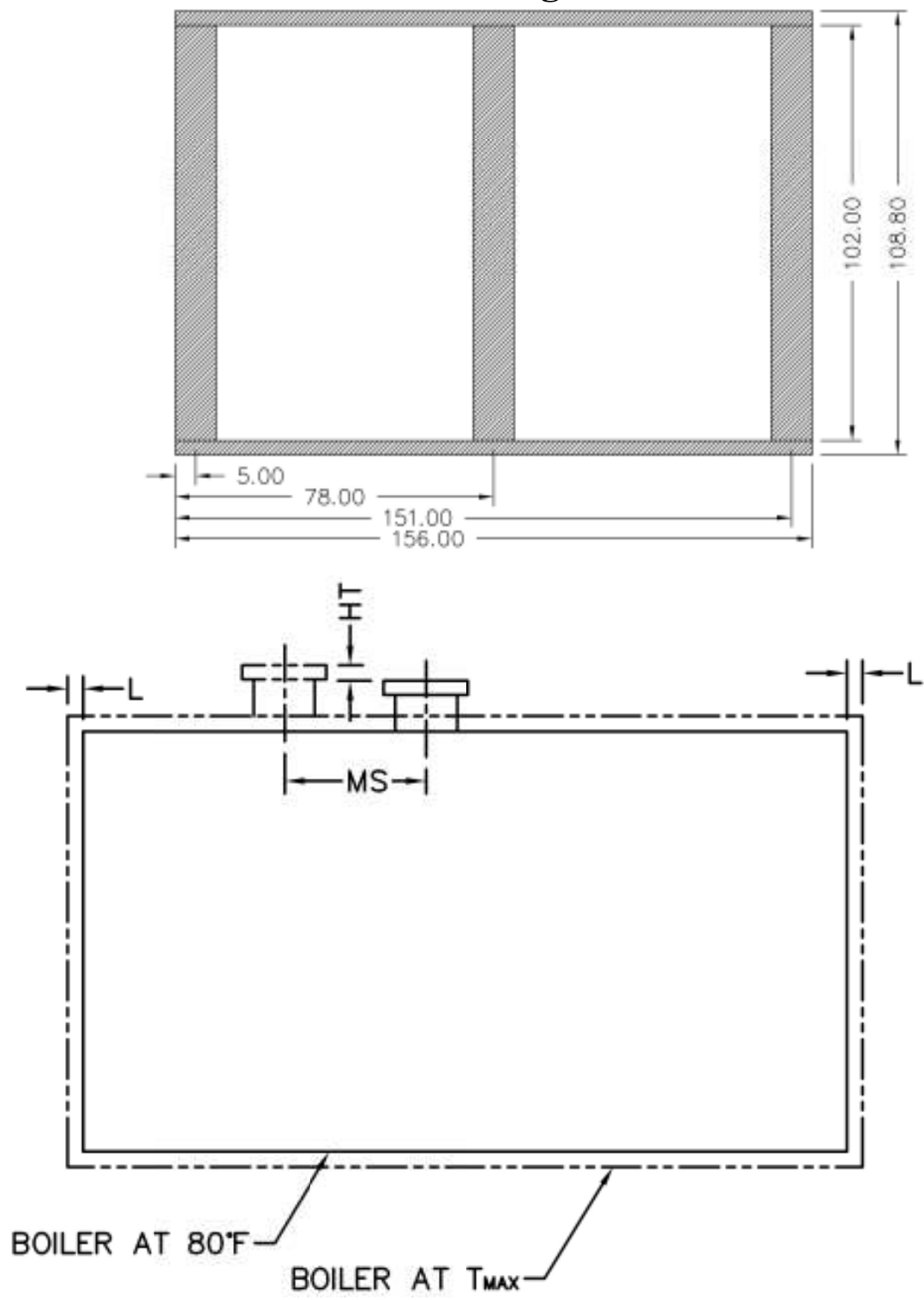
| Connection & Opening Schedule | | | |
|--|--------------------|--------------|-----|
| Conn. | Description | Type | Qty |
| FW | Feedwater Inlet | 2.00 FNPT | 2 |
| MS* | Main Steam | 8.00 300# RF | 1 |
| CB | Continuous Blowoff | 1.00 FNPT | 1 |
| BD | Blowdown Outlet | 2.00 FNPT | 2 |
| MW | Manway | 12 X 16 | 1 |
| HH | Hand Hole | 4 X 6 | 7 |
| *12.00 150#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.

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Base Diagram

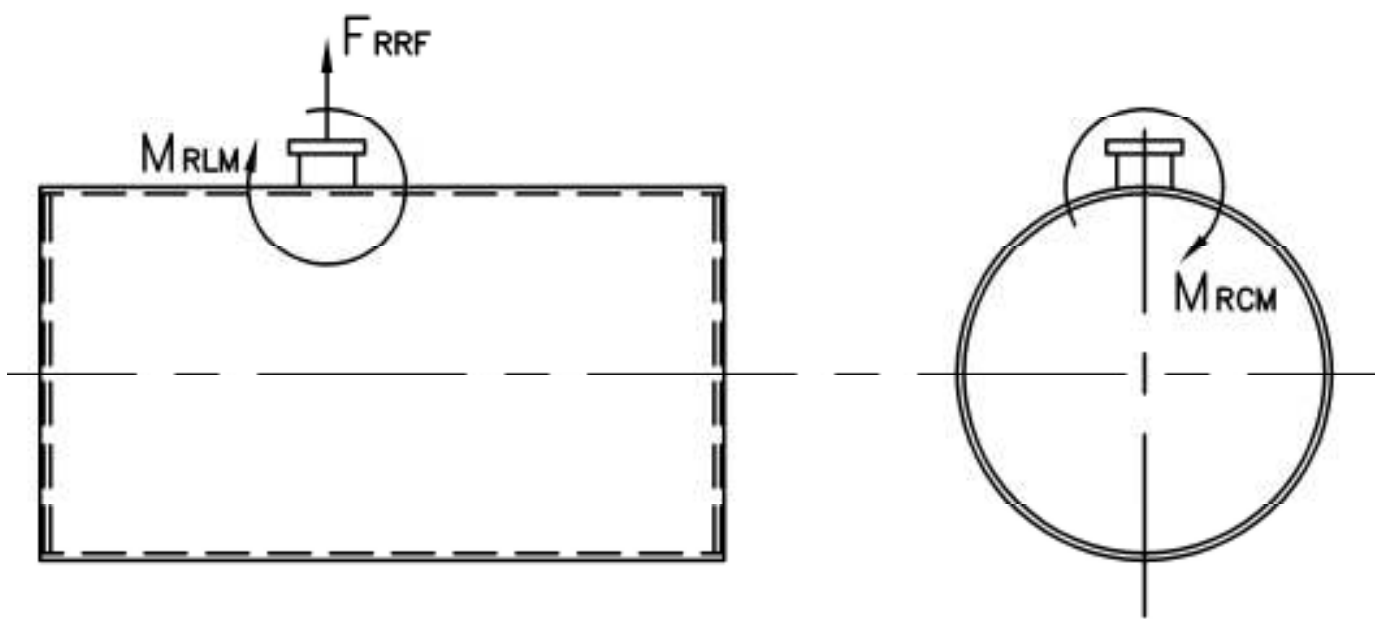


| Thermal Expansion | | | | | |
|----------------------------|-------|-------|-------|-------|-------|
| psig | 15 | 150 | 200 | 250 | 300 |
| Metal T _{MAX} (F) | 240 | 366 | 388 | 406 | 421 |
| L (in) | 0.108 | 0.182 | 0.196 | 0.207 | 0.217 |
| MS (in) | 0.014 | 0.024 | 0.026 | 0.027 | 0.029 |
| HT (in) | 0.112 | 0.190 | 0.204 | 0.217 | 0.228 |

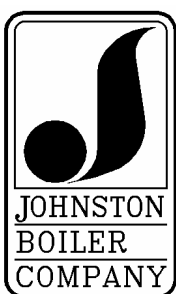
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Nozzle Loadings

| Maximum Allowable Load on Boiler Steam Nozzle | | | | | |
|---|------------|-------------|-------------|-------------|-------------|
| | 15# Design | 150# Design | 200# Design | 250# Design | 300# Design |
| F_{RRF} , lb | 6,235 | 4,695 | 6,590 | 8,260 | 9,810 |
| M_{RCM} , in-lb | 50,040 | 58,795 | 83,190 | 109,040 | 142,075 |
| M_{RLM} , in-lb | 79,540 | 48,155 | 67,575 | 90,300 | 104,430 |



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