



# CHEYENNE

**High Efficiency Condensing Boilers**

DUAL FUEL GAS/OIL - 4.0-12.0 MILLION BTU/HR

# About The Cheyenne

Our team of Superior Problem Solvers invested time, thoughtfulness, and energy into the research and development process for our Cheyenne condensing boiler. This ensures our customers get a product that meets their demands, and lasts the test of time.

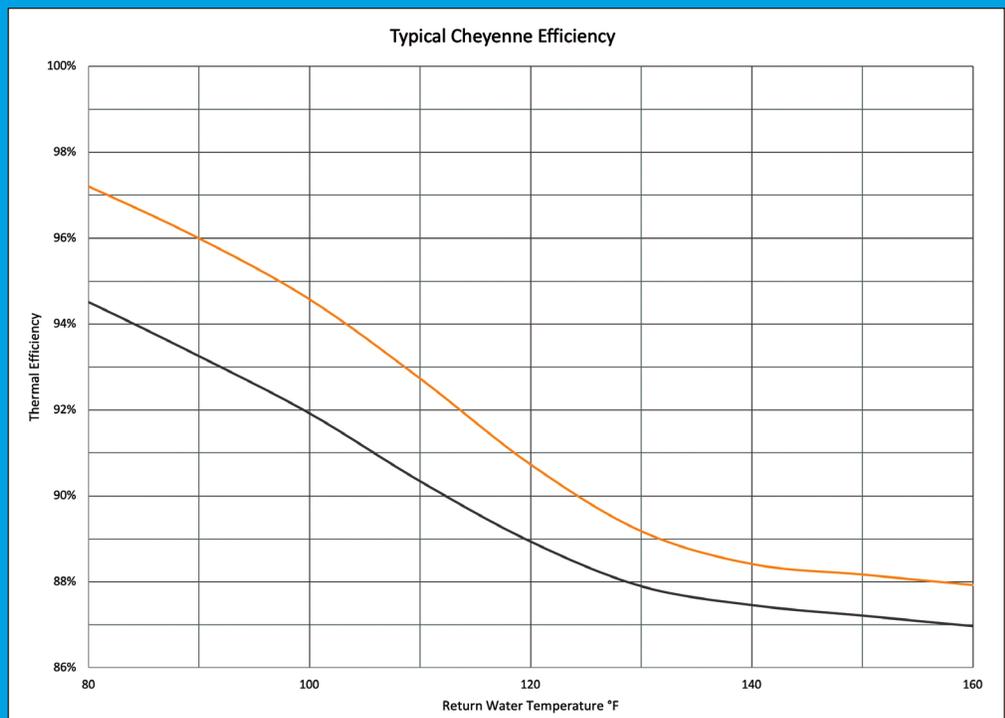


## QUICK STATS

- Choice of UL Listed Burner Packages
- Proven Efficiency
- NOx Emissions of 30 PPM or less available on all firing rates
- True Dual Fuel Capabilities with Natural Gas/Oil

## Efficiency: Maximized

The Cheyenne hot-water condensing boiler is one of the most efficient on the market. See how we perform with your specifications in mind.



# Capabilities

|   |   |
|---|---|
| Standard Gas burners include Siemens LMV37 flame safeguard with RWF50 for PID Modulation      | ✓ |
| Low NOx Gas burners include Siemens LMV51 flame safeguard with internal PID                   | ✓ |
| Standard Gas/Oil burners include Siemens LMV51 flame safeguard with internal PID              | ✓ |
| Low NOx Gas/Oil burners include Siemens LMV52 flame safeguard with internal PID               | ✓ |
| Remote burner panel   | ✓ |
| Panel Lights: Power On, Call for Heat, Gas on, Oil On (Gas/Oil only), Alarm, Water Flow Fault | ✓ |
| 460V Standard (208 & 230 available) / 3-phase power with 120v / 1-phase Control Transformer   | ✓ |
| Minimum 6:1 Turndown on Gas / 3:1 Turndown on Oil   | ✓ |
| No additional burner support required in field  | ✓ |

“

*We're excited for the Cheyenne boiler. . . the marketplace is particularly interested in a boiler offering like this!*

”

– Ben Merk, The Lathrop Trotter Co.



## Higher Standards, Higher Outputs

### Large furnace with davited rear lid access

Allows access to furnace & burner combustion head without disturbing the burner or fuel train.

### 12GA customized tubes in the 2nd pass

Rifled design allows for increased heat transfer.

### Stainless steel tube in the condensing section

Include full length turbulators, allowing for increased heat transfer while not impeding the flow of condensate.

### Full penetration tube welds

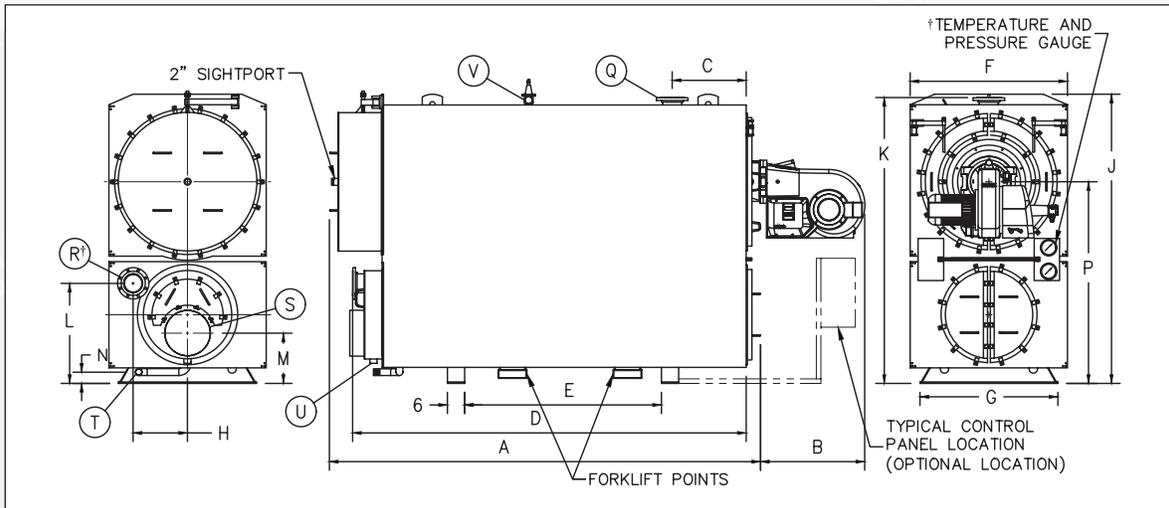
All tubes are completely welded to tubesheets using full penetration welds to withstand thermal stresses caused by cold return water and up to 100° Delta T.

### Large waterside volume

Eliminates the need for a dedicated circulating pump or high minimum flow. Even with a no flow condition, water temperatures will not exceed safe conditions. This large volume allows for load fluctuation with fewer burner cycles resulting in better overall performance.

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## CONDENSING BOILERS



### DIMENSIONAL DATA

SELECT SIZES SHOWN, BOILERS AVAILABLE IN 1MIL BTU/HR INCREMENTS FROM 4 TO 12 MIL  
125# STD, 160# MAX

| BOILER MODEL               | DIM | 5000 7000 9000 11000 |       |       |       |       |
|----------------------------|-----|----------------------|-------|-------|-------|-------|
|                            |     | 4000                 | 6000  | 8000  | 10000 | 12000 |
| LENGTHS: Overall .....     | A   | 134                  | 134   | 150   | 153   | 170   |
| Burner Extension*.....     | B   | 33                   | 33    | 37    | 37    | 37    |
| To Supply Nozzle.....      | C   | 25¾                  | 25¾   | 25¾   | 25¾   | 25¾   |
| To Return Nozzle.....      | D   | 123                  | 123   | 137   | 145   | 157   |
| Between Supports.....      | E   | 62                   | 62    | 69    | 78    | 90    |
| WIDTHS: Overall .....      | F   | 45                   | 51    | 55    | 57    | 57    |
| Support Width.....         | G   | 42                   | 46    | 48    | 50    | 50    |
| ∅ to Return.....           | H   | 17½                  | 18¾   | 19    | 22½   | 21¾   |
| HEIGHTS: Overall .....     | J   | 86½                  | 94½   | 100½  | 106½  | 108½  |
| Outlet Nozzle.....         | K   | 85½                  | 93½   | 99½   | 105½  | 107½  |
| Return Nozzle.....         | L   | 32                   | 33½   | 34¾   | 39    | 43    |
| Flue Outlet.....           | M   | 16                   | 15¾   | 17½   | 17½   | 17½   |
| Drain.....                 | N   | 4                    | 4     | 4     | 4     | 4     |
| Furnace ∅.....             | P   | 61                   | 66    | 70    | 75    | 77    |
| CONNECTIONS:               |     |                      |       |       |       |       |
| Supply Nozzle**.....       | Q   | 6                    | 6     | 6     | 8     | 8     |
| Return Nozzle**.....       | R†  | 6                    | 6     | 6     | 8     | 8     |
| Flue Outlet.....           | S   | 12                   | 12    | 16    | 16    | 16    |
| System Drain.....          | T   | 2                    | 2     | 2     | 2     | 2     |
| Condensate Drain.....      | U   | 1½                   | 1½    | 1½    | 1½    | 1½    |
| Safety Valve.....          | V   | ¾x1                  | 1x1¼  | 1½x2  | 1½x2  | 1½x2  |
| MINIMUM CLEARANCES ***     |     |                      |       |       |       |       |
| To Combustibles Front..... |     | 48                   | 48    | 48    | 48    | 48    |
| To Combustibles Side.....  |     | 4                    | 4     | 4     | 4     | 4     |
| To Combustibles Top.....   |     | 20                   | 20    | 20    | 20    | 20    |
| To Combustibles Rear.....  |     | 20                   | 20    | 20    | 20    | 20    |
| Door Swing Side.....       |     | 54/57                | 54/60 | 60/67 | 60/68 | 60/68 |
| Door Swing Rear.....       |     | 45/40                | 48/40 | 51/45 | 52/45 | 52/45 |

NOTE:  
\*Length Based On Standard Burner Firing Natural Gas/#2 fuel oil  
\*\*150 PSIG RF Flange  
\*\*\*Check Local, State And Federal Codes.  
†Right Side Standard; Left Side Optional

All Dimensions Are Approximate And May Be Used For Layout.  
SUPERIOR BOILER Reserves The Right To Change Dimensions Due To Product Revisions Or Requirements.

### SAMPLE RATINGS & CAPACITIES Sea Level To 2000'

| UNIT MODEL NUMBER            | 4000  | 6000  | 8000  | 10000 | 12000 |
|------------------------------|-------|-------|-------|-------|-------|
| GROSS INPUT MBH              | 4000  | 6000  | 8000  | 10000 | 12000 |
| OUTPUT MBH                   | 3800  | 5700  | 7600  | 9500  | 11400 |
| INPUT GAS (1,000 BTU) CU.FT. | 4000  | 6000  | 8000  | 10000 | 12000 |
| OIL (140,000 BTU) GPH        | 28.6  | 42.9  | 57.1  | 71.4  | 85.7  |
| HEATING SURFACE SQ.FT.       | 453   | 567   | 742   | 874   | 1041  |
| FURNACE VOLUME CU.FT.        | 23.77 | 37.79 | 56.86 | 65.70 | 72.93 |
| WATER VOLUME FULL GAL.       | 423   | 480   | 618   | 696   | 876   |
| WATER WEIGHT FULL LBS.       | 3516  | 3994  | 5139  | 5788  | 7289  |
| SHIPPING WEIGHT LBS.         | 7600  | 8900  | 11000 | 12300 | 14500 |

Shipping Weights Based on Standard Units Firing Dual Fuel at <2000 FASL  
Weights Could be Higher for High Elevation, Low NOx, Or Other Conditions

### STANDARD FEATURES:

- Units Designed And Fabricated To ASME Boiler And Pressure Vessel Code Requirements: Section IV:125 psig. Water. 210 F
- 2" - 5.7# Density Mineral Wool Insulation With Fabric Backing
- Removable painted steel jacket casing
- 2 Lifting Eyes per vessel
- Large Furnace Capable of firing #2 fuel oil
- Hinged rear lid allowing easy furnace access
- Gas train to either left or right side

### STANDARD TRIM (BOILER)

- ASME Safety Valve(s).
- Low Water Cutoff - Probe Type
- Operating (On/Off) Temperature Control.
- High Limit Temperature Control (Manual Reset).
- Firing Rate (Modulating) Temperature Control
- Temperature Gauge - Remote Mounted
- Pressure Gauge - Remote Mounted



When it comes to boilers, flexibility and resourcefulness are king. Superior Boiler and our team of Superior Problem Solvers tackle your most complex boiler challenges so you can get down to business and keep the world running. We design and manufacture a complete line of industrial and commercial boilers for all market segments. We build to our customers' exact standards at our facility in Hutchinson, KS and our boilers are installed all over the world.