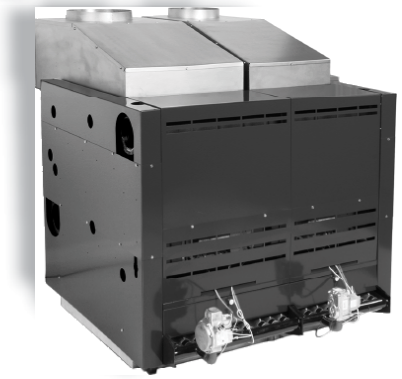
# JD Cast Iron Commercial Hot Water

P/N# 240010112, Rev. A [04/2013]

SPECIFICATIONS AND PERFORMANCE



## AVAILABLE HEATING INPUTS OF:

300 MBH (87.99 kw) through 3000MBH (879.89 kw)

## PRODUCT DESCRIPTION

***Application –*** Natural Gas fired hot water or steam boilers are available with heating inputs of 300 MBH (87.99 kw) through 3000 MBH (879.89 kw). The 28 sizes meet the heating needs for schools, churches, office buildings, factories, etc.

***Benefits:***
- Units may be grouped to make any size from 300 to 3,000 Btu.
- Stage firing optional control for individual bases in water application for improved efficiency and reliability.

***Approvals –*** Manufactured and tested in accordance with American Society of Mechanical Engineers (ASME) standards. The boiler is certified by the Canadian Service Approval (CSA) in the US. The I=B=R ratings are certified in accordance the Gas Appliance Manufacturers Association (GAMA) material and Equipment Acceptance number for the City of New York is MEA 205-89-E.

***Boilers with (Optional) CSD-1 Controls –*** from 500 MBH (87.99 kw) to 2500 MBH (732.49 kw) input may be ordered with additional combustion and water or steam controls to meet our interpretation of CSD-1. The controls and the installation may be subject to approval by local inspectors. Additional parts or equipment may be required. Consult local authorities having jurisdiction before the installation of the boiler.

***Warranty –*** The cast iron boiler has a ten year limited warranty on the individual sections. All other components have a limited warranty for one year unless the component manufacturer extends their warranty.

## STANDARD FEATURES

***Cabinet:***
- Constructed of heavy gauge steel with an enamel paint finish.
- Fully insulated with fiberglass insulation, keeping surface temperatures low.
- Supply and return connections are furnished on both sides of the cabinet.
- Burner access panel is easily removed for servicing.

***Cast Iron Boiler Assembly –*** Long life cast iron boilers are field assembled using tie rods and cast iron push nipples. When the boiler is heated, sections and push nipples expand and contract in the same proportion because they are constructed of like material, providing a positive water tight seal. A combination of burner modules are set to meet specific capacity requirements.

***Benefits:***
- Individually shipped boiler sections for ease of handling & easy passage through conventional doors.
- Boiler flueways easily accessible for cleaning & servicing.

***Electronic Ignition:*** Solid-state electronic spark igniters provide for positive ignition of the pilot burners on each operating cycle. Pilot gas is ignited and burns during each running cycle of the boiler. Main burners and pilot gas are extinguished during the off cycle. Ignition system permits the main gas valve to open only when the pilot burner is proven to be lit. Pilot operation is fully automatic on demand for heat. Should loss of flame occur, the main valve closes, shutting down the individual base. Other bases can remain lit.

***Automatic Gas Control –*** The compact 24 Volt redundant combination gas control valve combines:
- Automatic safety pilot
- Manual shut off (On-Off)
- Pilot filtration
- Automatic electric valve (dual)
- Gas pressure regulation

Dual valve design provides double assurance of 100% shut off of gas to the pilot and main burners on each off cycle.

***Aluminized Steel Burners –*** Each lanced port burner provides quiet and clean combustion.

***Drain Valve (Brass) –*** 3/4" (19mm) is furnished as standard equipment for field installation on the side of the boiler. See dimensional drawing for location.

## STANDARD WATER TRIM LIST

***Aquastat –*** Immersion type high limit control with well for controlling maximum water temperature.

***Relief Valve –*** The field installed valve provides for pressure relief of the heating system in case of abnormal operating conditions. The valve opens at 30 psig (210 kPa) and is rated by AHRI. A 50 psig (345 kPa) valve is also available.

***Water Temperature/Pressure Gauge –*** Furnished as standard for field installation on the boiler. The temperature and the pressure of the water are shown on the gauge.

## STANDARD STEAM TRIM LIST

***Low Water Cut Off (LWCO) –*** is furnished with the boiler and will automatically shut off gas to the burners if the water level drops below minimum safe levels.

***Pressuretrol –*** Adjustable steam pressure operating control automatically shuts off gas to the burners if steam pressure reaches cut-off setpoint.

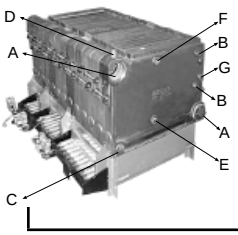
***Water Level Gauge –*** Allows for a visual inspection of the water level in the boiler.

***Safety Relief Valve –*** The field installed valve provides pressure relief of the heating system in case of abnormal conditions. Valve opens at 15 psig (103 kPa) and is rated by AHRI.

# JD CAST IRON COMMERCIAL HOT WATER BOILER

| Model | Input (Mbh) (1) | Gross Output (Mbh) | Net AHRI Ratings Water (Mbh) (2) | Base Size & Flue Outlet | | | Chimney Size (4) | Vent Connector Size to Chimney (4) | Therm. Eff. | Comb Eff | Pressure Drop Thru Water Boiler | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | | 300 (8") | 400 (10") | 500 (12") | I.D. x Ht. | | | | GPM | In. Water |
| JD-300 | 300 | 241 | 210 | 1 | 0 | 0 | 8" x 20' | 8 | 77.5 | 80.4 | 18.9 | 0.10 |
| | | | | | | | | | | | 37.8 | 0.50 |
| JD-400 | 400 | 322 | 280 | 0 | 1 | 0 | 10" x 20' | 10 | 77.5 | 80.5 | 25.2 | 0.27 |
| | | | | | | | | | | | 50.4 | 0.86 |
| JD-500 | 500 | 403 | 350 | 0 | 0 | 1 | 12" x 20' | 12 | 77.5 | 80.5 | 31.5 | 0.40 |
| | | | | | | | | | | | 63.0 | 1.20 |
| JD-600 | 600 | 482 | 419 | 2 | 0 | 0 | 12" x 20' | 12 | 77.5 | 80.4 | 37.8 | 0.50 |
| | | | | | | | | | | | 75.6 | 1.70 |
| JD-700 | 700 | 563 | 490 | 1 | 1 | 0 | 12" x 20' | 12 | 77.5 | 80.5 | 44.1 | 0.70 |
| | | | | | | | | | | | 88.2 | 2.50 |
| JD-800 | 800 | 644 | 560 | 0 | 2 | 0 | 14" x 20' | 14 | 77.5 | 80.5 | 50.4 | 0.88 |
| | | | | | | | | | | | 100.8 | 2.90 |
| JD-900 | 900 | 725 | 630 | 0 | 1 | 1 | 14" x 20' | 14 | 77.5 | 80.5 | 56.7 | 1.10 |
| | | | | | | | | | | | 113.4 | 3.80 |
| JD-1000 | 1000 | 805 | 700 | 0 | 0 | 2 | 14" x 20' | 14 | 77.5 | 80.5 | 63.0 | 1.30 |
| | | | | | | | | | | | 126.0 | 4.00 |
| JD-1100 | 1100 | 884 | 769 | 1 | 2 | 0 | 16" x 20' | 16 | 77.5 | 80.5 | 69.3 | 1.50 |
| | | | | | | | | | | | 138.6 | 5.00 |
| JD-1200 | 1200 | 966 | 840 | 0 | 3 | 0 | 16" x 20' | 16 | 77.5 | 80.5 | 75.6 | 1.80 |
| | | | | | | | | | | | 151.2 | 6.00 |
| JD-1300 | 1300 | 1045 | 909 | 1 | 0 | 2 | 16" x 20' | 16 | 77.5 | 80.5 | 81.9 | 2.00 |
| | | | | | | | | | | | 163.8 | 5.60 |
| JD-1400 | 1400 | 1127 | 980 | 0 | 1 | 2 | 18" x 20' | 18 | 77.5 | 80.5 | 88.2 | 2.40 |
| | | | | | | | | | | | 176.4 | 7.00 |
| JD-1500 | 1500 | 1208 | 1050 | 0 | 0 | 3 | 18" x 20' | 18 | 77.5 | 80.5 | 94.5 | 2.60 |
| | | | | | | | | | | | 189.0 | 8.30 |
| JD-1600 | 1600 | 1288 | 1120 | 0 | 4 | 0 | 18" x 20' | 18 | 77.5 | 80.5 | 100.8 | 2.80 |
| | | | | | | | | | | | 201.0 | 9.60 |
| JD-1700 | 1700 | 1367 | 1189 | 1 | 1 | 2 | 18" x 20' | 18 | 77.5 | 80.5 | 107.1 | 3.15 |
| | | | | | | | | | | | 214.2 | 10.30 |
| JD-1800 | 1800 | 1449 | 1260 | 0 | 2 | 2 | 20" x 20' | 20 | 77.5 | 80.5 | 113.4 | 3.50 |
| | | | | | | | | | | | 226.8 | 11.00 |
| JD-1900 | 1900 | 1530 | 1330 | 0 | 1 | 3 | 20" x 20' | 20 | 77.5 | 80.5 | 119.7 | 4.00 |
| | | | | | | | | | | | 239.4 | 12.50 |
| JD-2000 | 2000 | 1610 | 1400 | 0 | 0 | 4 | 20" x 20' | 20 | 77.5 | 80.5 | 126.0 | 4.50 |
| | | | | | | | | | | | 252.0 | 14.00 |
| JD-2100 | 2100 | 1688 | 1468 | 2 | 0 | 3 | 20" x 20' | 20 | 77.5 | 80.5 | 132.3 | 4.95 |
| | | | | | | | | | | | 264.6 | 16.00 |
| JD-2200 | 2200 | 1771 | 1540 | 0 | 3 | 2 | 22" x 20' | 22 | 77.5 | 80.5 | 138.6 | 5.40 |
| | | | | | | | | | | | 277.2 | 18.00 |
| JD-2300 | 2300 | 1852 | 1610 | 0 | 2 | 3 | 22" x 20' | 22 | 77.5 | 80.5 | 144.9 | 5.70 |
| | | | | | | | | | | | 289.8 | 17.00 |
| JD-2400 | 2400 | 1932 | 1680 | 0 | 1 | 4 | 22" x 20' | 22 | 77.5 | 80.5 | 151.2 | 8.00 |
| | | | | | | | | | | | 302.4 | 19.00 |
| JD-2500 | 2500 | 2013 | 1750 | 0 | 0 | 5 | 22" x 20' | 22 | 77.5 | 80.5 | 157.5 | 8.00 |
| | | | | | | | | | | | 315.0 | 20.50 |
| JD-2600 | 2600 | 2090 | 1817 | 2 | 0 | 4 | 22" x 20' | 22 | 77.5 | 80.5 | 163.8 | 7.00 |
| | | | | | | | | | | | 327.6 | 24.00 |
| JD-2700 | 2700 | 2171 | 1888 | 1 | 1 | 4 | 24" x 20' | 24 | 77.5 | 80.5 | 170.1 | 7.50 |
| | | | | | | | | | | | 340.2 | 24.00 |
| JD-2800 | 2800 | 2254 | 1960 | 0 | 2 | 4 | 24" x 20' | 24 | 77.5 | 80.5 | 176.4 | 8.00 |
| | | | | | | | | | | | 352.8 | 26.00 |
| JD-2900 | 2900 | 2335 | 2030 | 0 | 1 | 5 | 24" x 20' | 24 | 77.5 | 80.5 | 182.8 | 8.50 |
| | | | | | | | | | | | 365.5 | 27.50 |
| JD-3000 | 3000 | 2415 | 2100 | 0 | 0 | 6 | 24" x 20' | 24 | 77.5 | 80.5 | 189.1 | 9.00 |
| | | | | | | | | | | | 378.2 | 29.00 |

## Right & Left End Tappings Data




| Opening | Size | Water |
|---|---|---|
| A | 4" | Supply and Return |
| B | 1/2" | Plugged |
| C | 3/4" | Drain, Left End |
| C | 3/4" | Drain, Right End |
| D | 1/2" | Limit Control |
| E | 1" | Accessories |
| *F | 1" | Relief Valve |
| G | 3/4" | Plugged |

1. Ratings are at sea level to 2,000 feet. For altitudes above 2,000 feet, reduce all ratings 4% for each 1,000 feet above sea level.
2. Net AHRI water ratings based on a piping and pickup allowance of 1.15. Contact Technical Support before selecting boiler for installations having unusual piping and pick-up factors, such as intermittent system operations, extensive piping systems, etc.
3. Pressure drop based on given flow from single outlet and returning to single inlet at the opposite end of the boiler.
4. Chimney sizes shown are one option based on a typical venting system as shown in Figure 6 of the Installation Manual, and sized according to the National Fuel Gas Code, assuming Type B double wall vent and vent connectors, other venting system designs are acceptable as shown on Flue Connection And Venting section of the installation manual. For further chimney design and sizing information, consult the National Fuel Gas Code, ANSI Z223.1/NFPA 54-latest revision, or ASHRAE HVAC Systems and Equipment Handbook, Chimney, Gas Vent, and Fireplace Systems, or the Standard for Chimneys, Fireplaces, Vents, and Solid Fuel Burning Appliances. NFPA 211. Follow standard engineering practice.

**Certifications**

AHRI CERTIFIED® www.ahridirectory.org

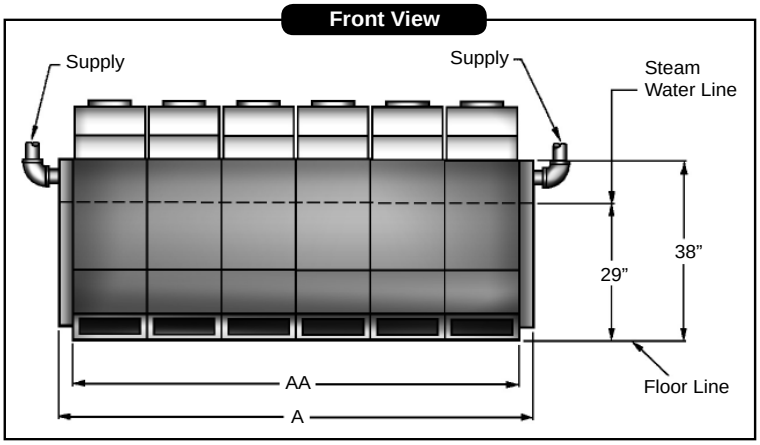
DESIGN CERTIFIED®

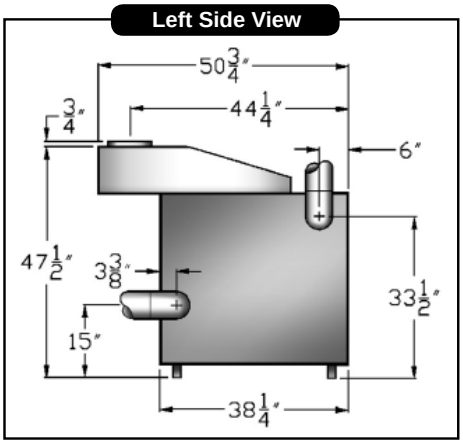
ASME H

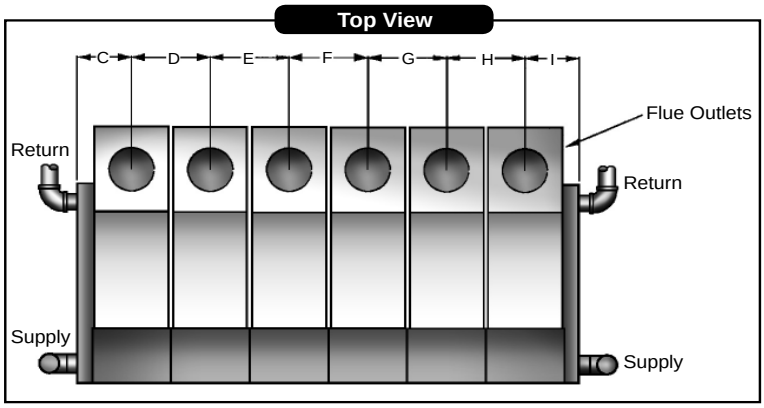
*If opening F is to be used for something other than the Safety Valve or Pressure Relief Valve, or the Safety/Relief Valve is larger than 1", the Safety/Relief Valve must be installed in the Header Piping as near to the boiler as possible.

**All ratings and specifications subject to change.**

# JD CAST IRON COMMERCIAL HOT WATER BOILER



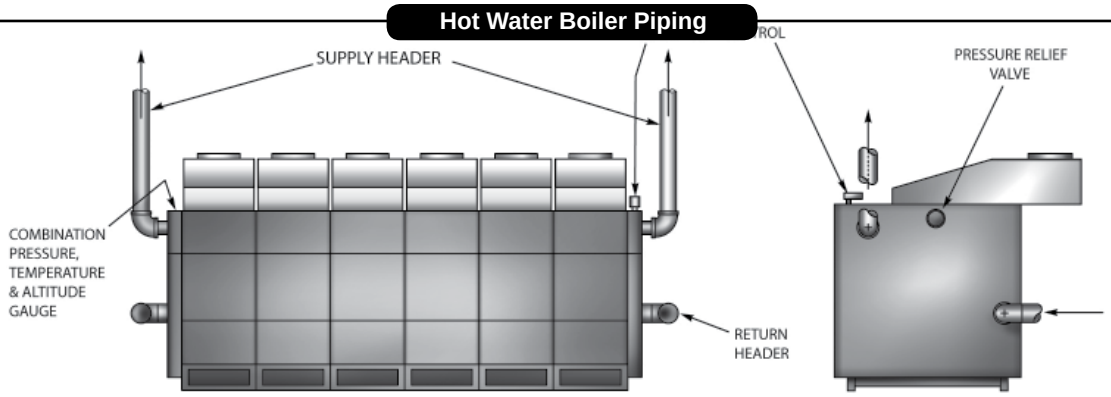




***ALL SUPPLY AND RETURN CONNECTIONS ARE 4 INCH***

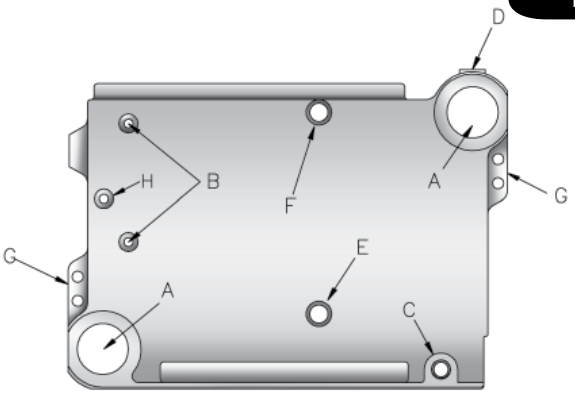
| Boiler Model No. | Water Content in Gallons | | Shipping Weight Lbs. | A Jacket Width L to R | AA Base & Battery Length | C | D | E | F | G | H | I |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | Steam | Water | | | | | | | | | | |
| JD 300 | 20 | 26 | 922 | 18 3/4 | 16 3/4 | 9 3/8 | – | – | – | – | – | 9 3/8 |
| JD 400 | 25 | 33 | 1133 | 23 | 21 | 11 1/2 | – | – | – | – | – | 11 1/2 |
| JD 500 | 30 | 40 | 1344 | 27 1/4 | 25 1/4 | 13 5/8 | – | – | – | – | – | 13 5/8 |
| JD 600 | 35 | 46 | 1555 | 31 1/2 | 29 1/2 | 9 3/8 | 12 3/4 | – | – | – | – | 9 3/8 |
| JD 700 | 40 | 52 | 1766 | 35 3/4 | 34 3/4 | 9 3/8 | 14 7/8 | – | – | – | – | 11 1/2 |
| JD 800 | 45 | 58 | 1977 | 40 | 38 | 11 1/2 | 17 | – | – | – | – | 11 1/2 |
| JD 900 | 50 | 65 | 2188 | 44 1/4 | 42 1/4 | 11 1/2 | 19 1/8 | – | – | – | – | 13 5/8 |
| JD 1000 | 55 | 71 | 2399 | 48 | 46 1/2 | 13 5/8 | 21 1/4 | – | – | – | – | 13 5/8 |
| JD 1100 | 60 | 78 | 2610 | 52 3/4 | 50 3/4 | 9 3/8 | 14 7/8 | 17 | – | – | – | 11 1/2 |
| JD 1200 | 65 | 84 | 2821 | 57 | 55 | 11 1/2 | 17 | 17 | – | – | – | 11 1/2 |
| JD 1300 | 70 | 91 | 3032 | 61 1/4 | 59 1/4 | 9 3/8 | 17 | 21 1/4 | – | – | – | 13 5/8 |
| JD 1400 | 75 | 97 | 3243 | 65 1/2 | 63 1/2 | 11 1/2 | 19 1/8 | 21 1/4 | – | – | – | 13 5/8 |
| JD 1500 | 80 | 104 | 3454 | 69 3/4 | 67 3/4 | 13 5/8 | 21 1/4 | 21 1/4 | – | – | – | 13 5/8 |
| JD 1600 | 85 | 110 | 3665 | 74 | 72 | 11 1/2 | 17 | 17 | 17 | – | – | 11 1/2 |
| JD 1700 | 90 | 117 | 3876 | 78 1/4 | 76 1/4 | 9 3/8 | 14 7/8 | 19 1/8 | 21 1/4 | – | – | 13 5/8 |
| JD 1800 | 95 | 123 | 4087 | 82 1/2 | 80 1/2 | 11 1/2 | 17 | 19 1/8 | 21 1/4 | – | – | 13 5/8 |
| JD 1900 | 100 | 130 | 4298 | 86 3/4 | 84 3/4 | 11 1/2 | 19 1/8 | 21 1/4 | 21 1/4 | – | – | 13 5/8 |
| JD 2000 | 105 | 136 | 4509 | 91 | 89 | 13 5/8 | 21 1/4 | 21 1/4 | 21 1/4 | – | – | 13 5/8 |
| JD 2100 | 110 | 143 | 4720 | 95 1/4 | 93 1/4 | 9 3/8 | 12 3/4 | 17 | 21 1/4 | 21 1/4 | – | 13 5/8 |
| JD 2200 | 115 | 149 | 4931 | 99 1/2 | 97 1/2 | 11 1/2 | 17 | 17 | 19 1/8 | 21 1/4 | – | 13 5/8 |
| JD 2300 | 120 | 156 | 5142 | 103 3/4 | 101 3/4 | 11 1/2 | 17 | 19 1/8 | 21 1/4 | 21 1/4 | – | 13 5/8 |
| JD 2400 | 125 | 162 | 5353 | 108 | 106 | 11 1/2 | 19 1/8 | 21 1/4 | 21 1/4 | 21 1/4 | – | 13 5/8 |
| JD 2500 | 130 | 169 | 5564 | 112 1/4 | 110 1/4 | 13 5/8 | 21 1/4 | 21 1/4 | 21 1/4 | 21 1/4 | – | 13 5/8 |
| JD 2600 | 135 | 175 | 5775 | 116 1/2 | 114 1/2 | 9 3/8 | 12 3/4 | 17 | 21 1/4 | 21 1/4 | 21 1/4 | 13 5/8 |
| JD 2700 | 140 | 182 | 5986 | 120 3/4 | 118 3/4 | 9 3/8 | 14 7/8 | 19 1/8 | 21 1/4 | 21 1/4 | 21 1/4 | 13 5/8 |
| JD 2800 | 145 | 188 | 6197 | 125 | 123 | 11 1/2 | 17 | 19 1/8 | 21 1/4 | 21 1/4 | 21 1/4 | 13 5/8 |
| JD 2900 | 150 | 195 | 6408 | 129 1/4 | 127 1/4 | 11 1/2 | 19 1/8 | 21 1/4 | 21 1/4 | 21 1/4 | 21 1/4 | 13 5/8 |
| JD 3000 | 155 | 201 | 6619 | 133 1/2 | 131 1/2 | 13 5/8 | 21 1/4 | 21 1/4 | 21 1/4 | 21 1/4 | 21 1/4 | 13 5/8 |

# JD CAST IRON COMMERCIAL HOT WATER BOILER
# DIMENSIONS AND SPECIFICATIONS

## Hot Water Boiler Piping




## End Section Tappings




***End Section***
Tappings are the same in both Right and Left End Sections, except for the drain valve tapping which is 1 ½" Left End, and ¾" Right End.

| Opening | Size | Water |
|---|---|---|
| **A** | 4" | Supply and Return |
| **B** | 1/2" | Plugged |
| **C** | 1 1/2" | Drain, Left End |
| **C** | 3/4" | Drain, Right End |
| **D** | 1/2" | Limit Control |
| **E** | 1" | Accessories |
| **F** | 1" | Pressure Relief Valve |
| **G** | – | Tie Rod Holes |
| **H** | 3/4" | Plugged |

Contractor Assistance: **800.325.5479**

P.O. Box 4729
Utica, New York 13504
tel: 315.797.1310 • fax: 315.797.3762
www.uticaboilers.com