



JE Cast Iron Commercial Steam Boiler

P/N# 240010462, Rev. A [02/2014]

SPECIFICATIONS AND PERFORMANCE



AVAILABLE HEATING INPUTS OF:
300 MBH (88 kw) through 1500 MBH (440 kw)

PRODUCT DESCRIPTION

Application – Natural Gas fired steam boilers are available with heating inputs of 300 MBH (88 kw) through 1500 MBH (440 kw). The 13 sizes meet the heating needs for schools, churches, office buildings, factories, etc.

Benefits:

- Units may be grouped to make any size from 300 to 1,500 Btu.

Approvals – Manufactured and tested in accordance with American Society of Mechanical Engineers (ASME) standards. The boiler is certified by the Canadian Standards Association (CSA) in the US. AHRI ratings are certified in accordance with Air Conditioning Heating and Refrigeration Institute. 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 (88 kw) to 1500 MBH (440 kw) input may be ordered with additional combustion and water or steam controls to meet our interpretation of CSD-1. Controls and installation may be subject to approval by local inspectors. Additional parts or equipment may be required. Consult local authorities having jurisdiction before boiler installation.

Warranty – 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 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.

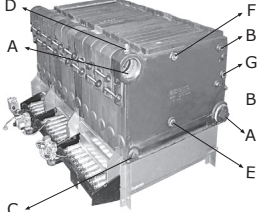
Water Level Gauge – Allows for a visual inspection of the water level in the boiler.

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.

JE CAST IRON COMMERCIAL STEAM BOILER

Model	Input (Mbh) ⁽¹⁾	Gross Output (Mbh)	Net AHRI Ratings			Base Size & Flue Outlet			Chimney Size ⁽⁴⁾ I.D. x Ht.	Vent Connector Size to Chimney ⁽⁴⁾	Therm. Eff.	Comb Eff
			Steam (PPF) ⁽²⁾	Steam (Sq. Ft.) ⁽³⁾	Steam (Mbh) ⁽²⁾	300 (8")	400 (10")	500 (12")				
JE-300S	300	233	1.333	729	175	1	0	0	8" x 20'	8	77.0	80.4
JE-400S	400	310	1.333	971	233	0	1	0	10" x 20'	10	77.0	80.5
JE-500S	500	388	1.333	1213	291	0	0	1	12" x 20'	12	77.0	80.5
JE-600S	600	465	1.333	1454	349	2	0	0	12" x 20'	12	77.0	80.4
JE-700S	700	543	1.333	1696	407	1	1	0	12" x 20'	12	77.0	80.5
JE-800S	800	620	1.333	1938	465	0	2	0	14" x 20'	14	77.0	80.5
JE-900S	900	698	1.333	2183	524	0	1	1	14" x 20'	14	77.0	80.5
JE-1000S	1000	775	1.333	2421	581	0	0	2	14" x 20'	14	77.0	80.5
JE-1100S	1100	853	1.333	2667	640	1	2	0	16" x 20'	16	77.0	80.5
JE-1200S	1200	930	1.333	2908	698	0	3	0	16" x 20'	16	77.0	80.5
JE-1300S	1300	1008	1.333	3150	756	1	0	2	16" x 20'	16	77.0	80.5
JE-1400S	1400	1085	1.333	3392	814	0	1	2	18" x 20'	18	77.0	80.5
JE-1500S	1500	1163	1.333	3633	872	0	0	3	18" x 20'	18	77.0	80.5

Right & Left End Tappings Data





	Opening	Size	Steam
	A	4"	Supply and Return
	B	1/2"	Primary LWCO and Gauge Glass set
	C	3/4"	Drain, Left End
	C	3/4"	Drain, Right End
	D	1/2"	Plugged
	E	1"	Accessories
	*F	1"	Safety Valve
	G	3/4"	Plugged or Electronic (Probe Type) LWCO

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 steam ratings based on piping and pickup allowance of 1.333 (300-1500). 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. Ratings in square feet are computed at 240 Btuh/square foot for steam boilers.

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.

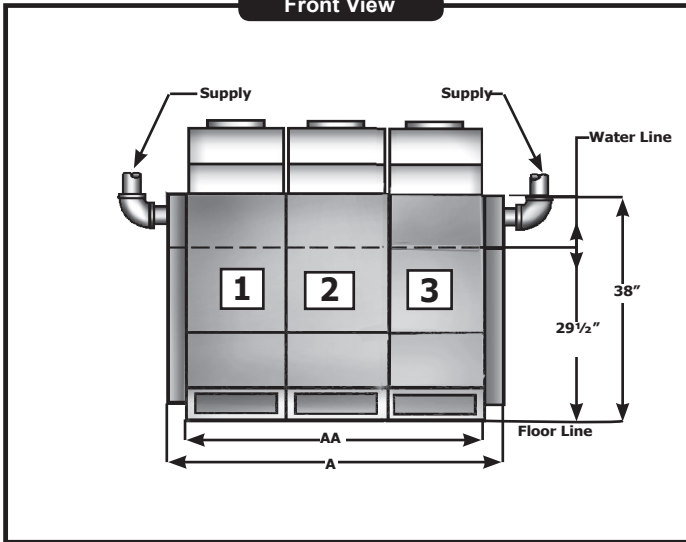
Certifications	  	
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*If opening F is to be used for something other than the Safety Valve or Pressure Relief Valve, or the Safety/Relief Valve is larger than 1", the Safety/Relief Valve must be installed in the Header Piping as near to the boiler as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

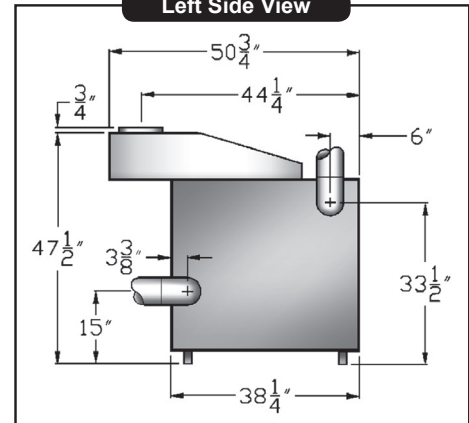
All ratings and specifications subject to change.

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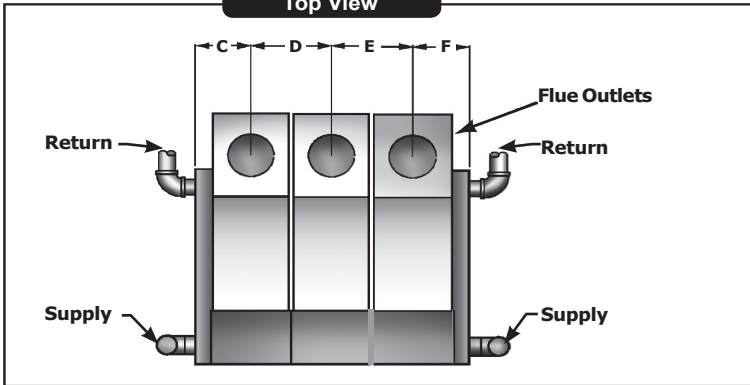
Front View



Left Side View



Top View

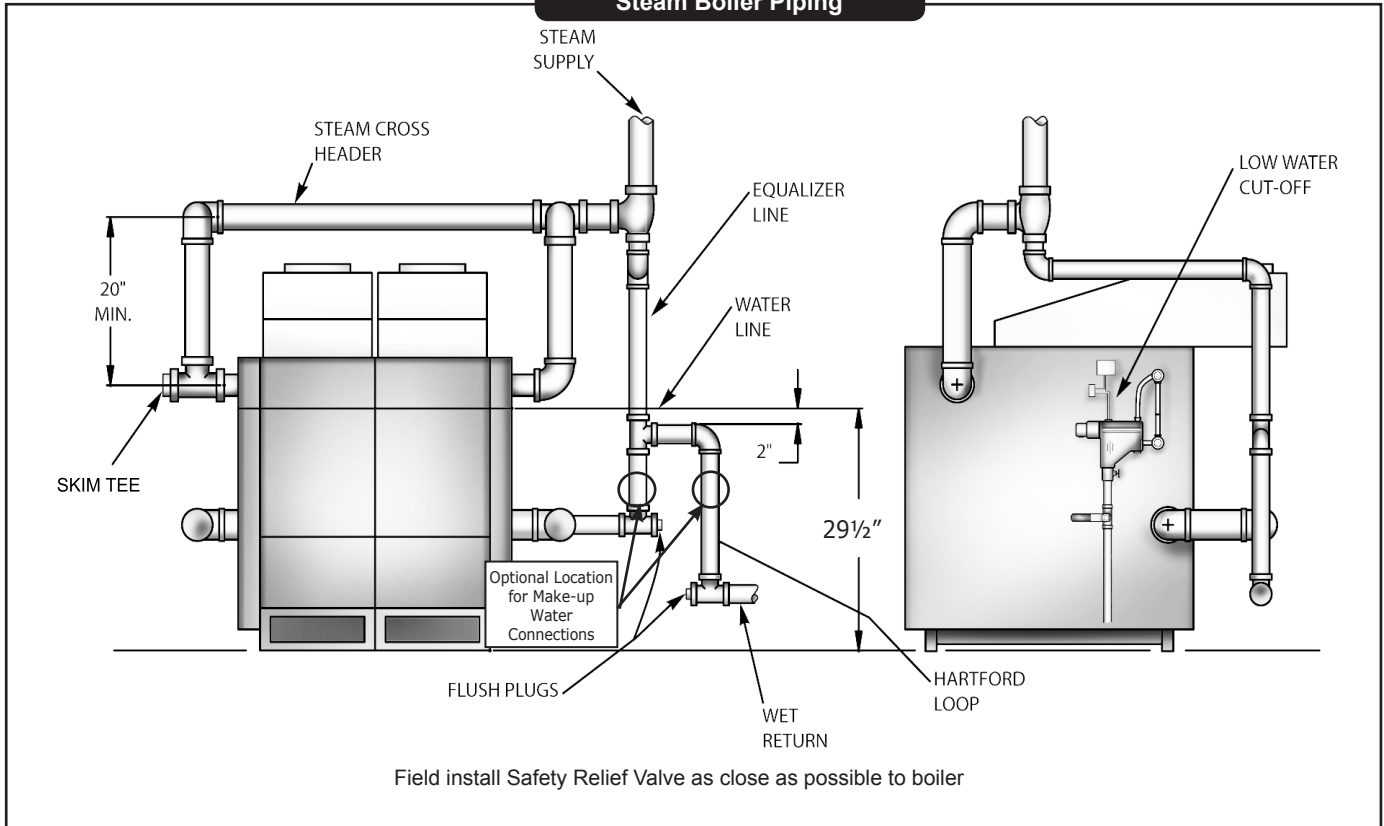


ALL SUPPLY AND RETURN CONNECTIONS ARE 4 INCH

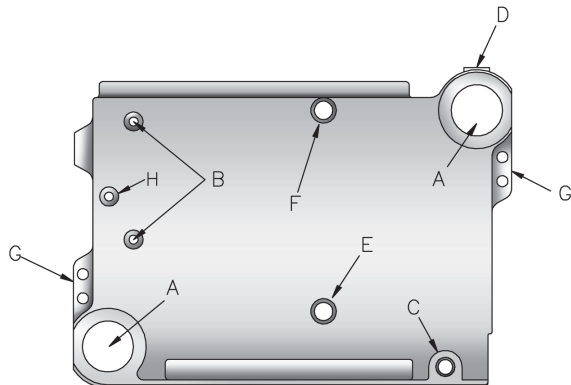
Boiler Model No.	Water Content in Gallons	Shipping Weight Lbs.	A Jacket Width L to R	AA Base & Battery Length	C	D	E	F
	Water							
D-249 300	20	922	20 3/4	16 3/4	10 3/8	-	-	10 3/8
D-249 400	25	1133	25	21	12 1/2	-	-	12 1/2
D-249 500	30	1344	29 1/4	25 1/4	14 5/8	-	-	14 5/8
D-249 600	35	1555	33 1/2	29 1/2	10 3/8	12 3/4	-	10 3/8
D-249 700	40	1766	37 3/4	34 3/4	10 3/8	14 7/8	-	12 1/2
D-249 800	45	1977	42	38	12 1/2	17	-	12 1/2
D-249 900	50	2188	46 1/2	42 1/4	12 1/2	19 1/8	-	14 5/8
D-249 1000	55	2399	50	46 1/2	14 5/8	21 1/4	-	14 5/8
D-249 1100	60	2610	54 3/4	50 3/4	10 3/8	14 7/8	17	12 1/2
D-249 1200	65	2821	59	55	12 1/2	17	17	12 1/2
D-249 1300	70	3032	63 1/4	59 1/4	103/8	17	21 1/4	14 5/8
D-249 1400	75	3243	67 1/2	63 1/2	12 1/2	19 1/8	21 1/4	14 5/8
D-249 1500	80	3454	71 3/4	67 3/4	14 5/8	21 1/4	21 1/4	14 5/8

JE CAST IRON COMMERCIAL STEAM BOILER DIMENSIONS AND SPECIFICATIONS

Steam 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 1/2" Left End, and 3/4" Right End.

Opening	Size	Steam
A	4"	Supply and Return
B	1/2"	Primary LWCO and Gauge Glass Set
C	3/4"	Drain, Left End
C	3/4"	Drain, Right End
D	1/2"	Plugged
E	1"	Accessories
F	1"	Safety Relief Valve
G	-	Tie Rod Holes
H	3/4"	Plugged or Secondary (Probe Type) LWCO

Contractor Assistance: **800.325.5479**



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