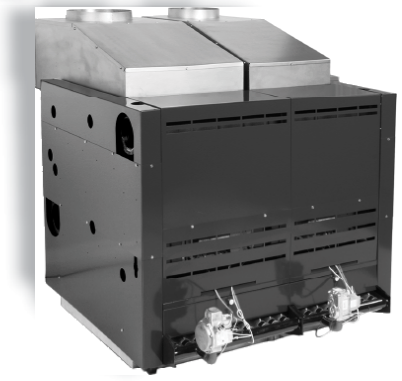
JD Cast Iron Commercial Steam Boiler

P/N# 240010111, 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.

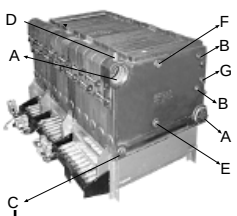
Water Level Gauge – Allows for a visual inspection of the water level in the boiler.

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 STEAM BOILER

Model	Input (Mbh) (1)	Gross Output (Mbh)	Net AHRI Ratings			Base Size & Flue Outlet			Chimney Size (4)	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")	I.D. x Ht.			
JD-300S	300	233	1.333	729	175	1	0	0	8" x 20'	8	77.5	80.4
JD-400S	400	310	1.333	971	233	0	1	0	10" x 20'	10	77.5	80.5
JD-500S	500	388	1.333	1213	291	0	0	1	12" x 20'	12	77.5	80.5
JD-600S	600	465	1.333	1454	349	2	0	0	12" x 20'	12	77.5	80.4
JD-700S	700	543	1.333	1696	407	1	1	0	12" x 20'	12	77.5	80.5
JD-800S	800	620	1.333	1938	465	0	2	0	14" x 20'	14	77.5	80.5
JD-900S	900	698	1.333	2183	524	0	1	1	14" x 20'	14	77.5	80.5
JD-1000S	1000	775	1.333	2421	581	0	0	2	14" x 20'	14	77.5	80.5
JD-1100S	1100	853	1.333	2667	640	1	2	0	16" x 20'	16	77.5	80.5
JD-1200S	1200	930	1.333	2908	698	0	3	0	16" x 20'	16	77.5	80.5
JD-1300S	1300	1008	1.333	3150	756	1	0	2	16" x 20'	16	77.5	80.5
JD-1400S	1400	1085	1.333	3392	814	0	1	2	18" x 20'	18	77.5	80.5
JD-1500S	1500	1163	1.333	3633	872	0	0	3	18" x 20'	18	77.5	80.5
JD-1600S	1600	1240	1.333	3875	930	0	4	0	18" x 20'	18	77.5	80.5
JD-1700S	1700	1318	1.327	4138	993	1	1	2	18" x 20'	18	77.5	80.5
JD-1800S	1800	1395	1.319	4408	1058	0	2	2	20" x 20'	20	77.5	80.5
JD-1900S	1900	1473	1.313	4675	1122	0	1	3	20" x 20'	20	77.5	80.5
JD-2000S	2000	1550	1.307	4942	1186	0	0	4	20" x 20'	20	77.5	80.5
JD-2100S	2100	1628	1.301	5213	1251	2	0	3	20" x 20'	20	77.5	80.5
JD-2200S	2200	1705	1.296	5483	1316	0	3	2	22" x 20'	22	77.5	80.5
JD-2300S	2300	1783	1.292	5750	1380	0	2	3	22" x 20'	22	77.5	80.5
JD-2400S	2400	1860	1.290	6008	1442	0	1	4	22" x 20'	22	77.5	80.5
JD-2500S	2500	1938	1.288	6271	1505	0	0	5	22" x 20'	22	77.5	80.5
JD-2600S	2600	2015	1.288	6517	1564	2	0	4	22" x 20'	22	77.5	80.5
JD-2700S	2700	2093	1.288	6771	1625	1	1	4	24" x 20'	24	77.5	80.5
JD-2800S	2800	2170	1.288	7021	1685	0	2	4	24" x 20'	24	77.5	80.5
JD-2900S	2900	2248	1.288	7271	1745	0	1	5	24" x 20'	24	77.5	80.5
JD-3000S	3000	2325	1.288	7521	1805	0	0	6	24" x 20'	24	77.5	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 (300-1600), 1.327 (1700), 1.319 (1800), 1.313 (1900), 1.307 (2000), 1.301 (2100), 1.296 (2200), 1.292 (2300), 1.290 (2400), and 1.288 (2500-3000). 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

AHRI CERTIFIED® www.ahridirectory.org

DESIGN CERTIFIED®

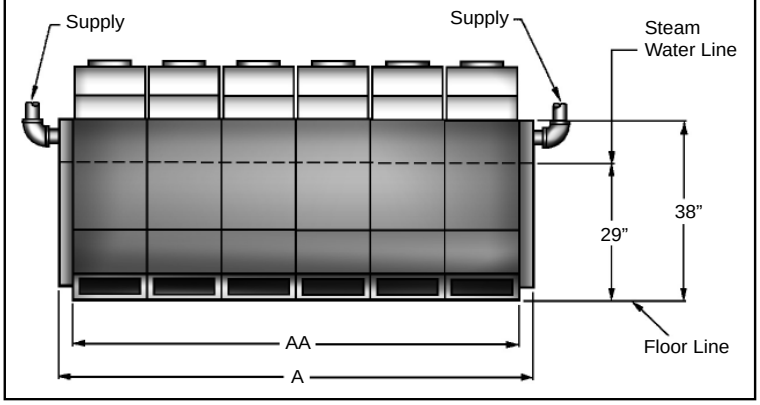
ASME H

*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.

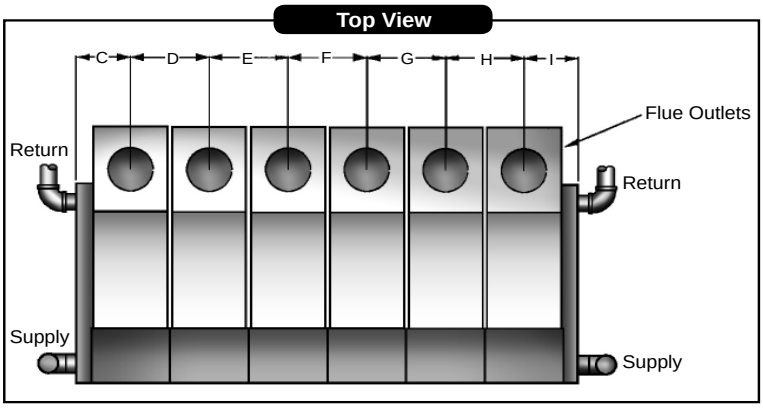
All ratings and specifications subject to change.

JD CAST IRON COMMERCIAL STEAM BOILER

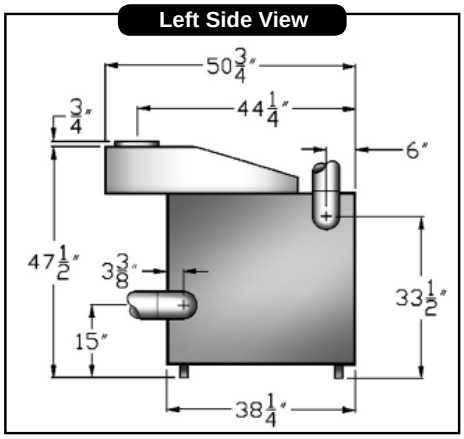
Front View



Top View



Left Side View

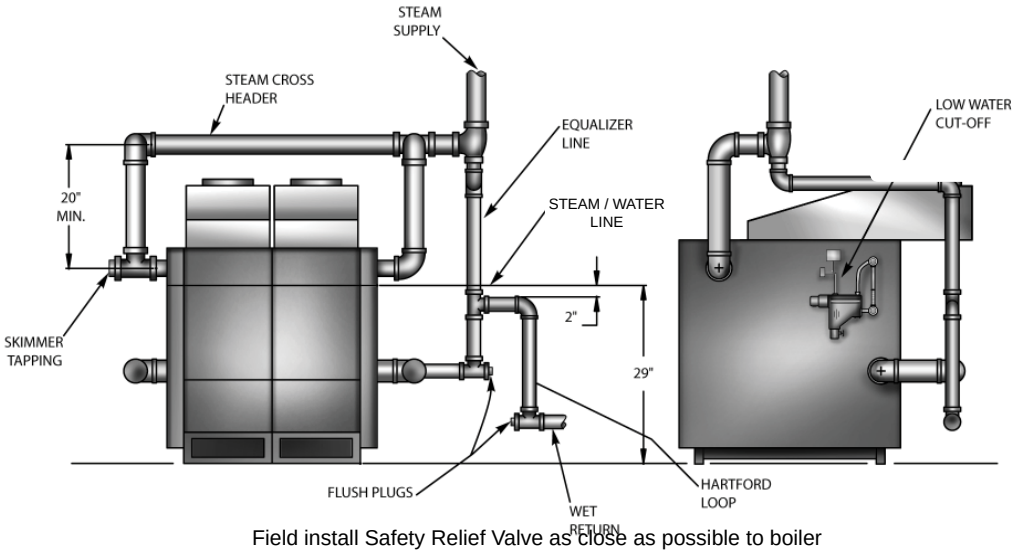


ALL SUPPLY AND RETURN CONNECTIONS ARE 4 INCH

Boiler Model No.	Water Content in Gallons		Shipping Weight Lbs.	A Jacket Width L to R	AA Base & Battery Length	C	D	E	F	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

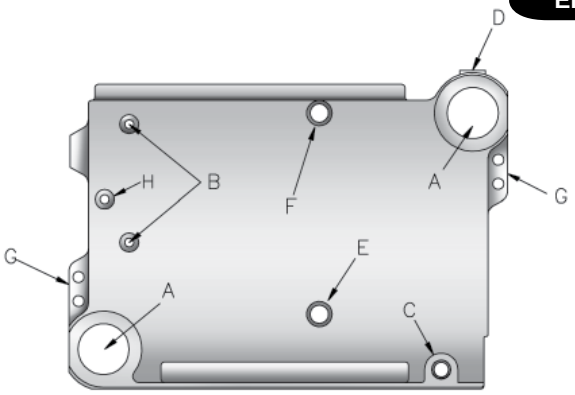
JD CAST IRON COMMERCIAL STEAM BOILER
DIMENSIONS AND SPECIFICATIONS

Steam Boiler Piping



Field install Safety Relief Valve as close as possible to boiler

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	Steam
A	4"	Supply and Return
B	1/2"	Primary LWCO and Gauge Glass Set
C	1 1/2"	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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