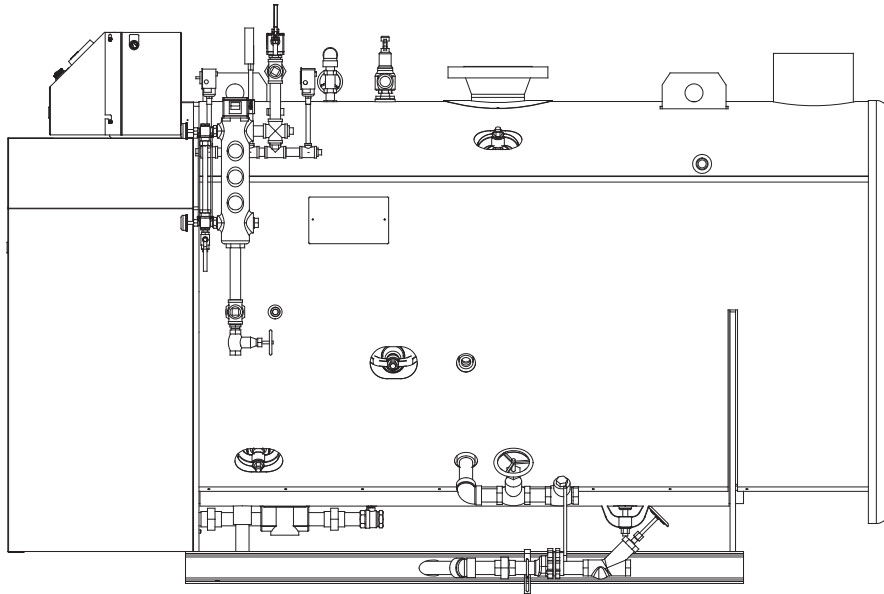


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# CLEARFIRE-H BOILERS



## *Dimensions and Ratings*

Figure 1a. ClearFire-H Dimensions and Ratings (sheet 1 of 2)

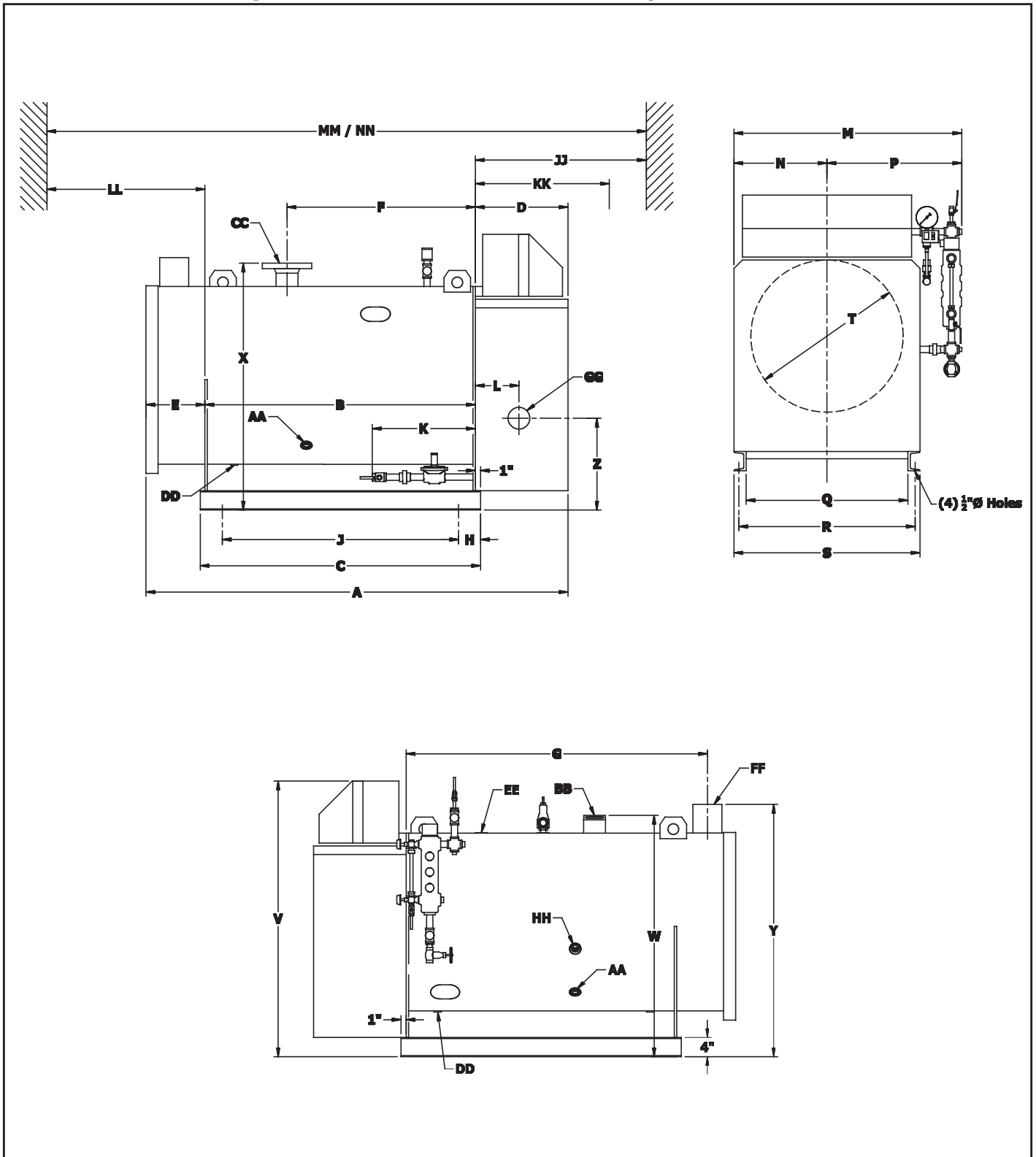


Figure 1b. ClearFire-H Dimensions and Ratings (sheet 2 of 2)

Dimension	Boiler Horsepower								
	10	15	20	25	30	40	50	60	
<b>LENGTHS inches</b>									
Overall	A	86	86	87	87	91.5	104	110	110
Shell	B	54	54	56	56	58	66	68	68
Base Channel	C	56	56	58	58	60	68	70	70
Front Lagging Extension	D	18	18	18	18	18	23.5	23.5	23.5
Rear Lagging Extension	E	14	14	13	13	15.5	14.5	18.5	18.5
Front Tubesheet to Steam Outlet	F	30	30	38	38	34	40	38	38
Front Tubesheet to Stack Outlet	G	61	61	62.5	62.5	66	74	77.5	77.5
Base End to Bolt Hole	H	4	4	4	4	4	4	4	4
Hole to Hole	J	48	48	50	50	52	60	62	62
Rear Base to Gas Train Inlet	K	34.25	34.25	35.5	35.5	34	44	43.25	43.25
Front Tubesheet to Combustion Air Inlet	L	9	9	9	9	10	13	14	14
<b>WIDTHS inches</b>									
Overall	M	43.5	43.5	47	47	56	56	60	60
Center to Lagging	N	17.5	17.5	19.5	19.5	23.5	23.5	26.5	26.5
Center to Water Column	P	26	26	27.5	27.5	32.5	32.5	33.5	33.5
Base, Inside of Channel	Q	30.5	30.5	34	34	42	42	48	48
Base Bolt Hole to Bolt Hole	R	33	33	36.5	36.5	44.5	44.5	50.5	50.5
Base, Outside of Channel	S	35	35	38.5	38.5	46.5	46.5	52.5	52.5
Boiler I.D.	T	30.5	30.5	34	34	42	42	48	48
<b>HEIGHTS inches</b>									
Overall	V	54	54	57	57	65.5	65.5	69	69
Base to 150# Steam Outlet	W	47	47	50	50	58	58.5	64.5	64.5
Base to 15# Steam Outlet	X	47.5	47.5	50.5	50.5	58.5	59	65	65
Base to Stack Outlet	Y	49	49	52	52	60.5	60.5	66.5	66.5
Base to Combustion Air Inlet	Z	19	19	19	19	22	19.5	21.5	21.5
<b>CLEARANCES inches</b>									
Front Door Swing <sup>A</sup>	JJ	31	31	32	32	39	39	46	46
Tube Removal, Rear	LL	41	41	41	41	41	49	49	49
<b>MINIMUM BOILER ROOM LENGTH (INCHES) ALLOWING FOR DOOR SWING AND TUBE REMOVAL FROM:</b>									
Rear of Boiler	MM	126	126	129	129	138	154	163	163
Front of Boiler	NN	123	123	125	125	136.5	143.5	156.5	156.5
<b>WEIGHTS - LBS</b>									
Water Weight (150# Normal Level)		1010	1010	1250	1250	1850	2150	2700	2700
Water Weight (15# Normal Level)		920	920	1150	1150	1710	1980	2510	2510
Approx. Dry Weight (150#)		2020	2020	2410	2410	3160	3700	5600	5600
Approx. Dry Weight (15#)		2000	2000	2330	2330	2870	3400	5400	5400
<b>BOILER CONNECTIONS inches</b>									
Feedwater, Both Sides	AA	1	1	1	1	1	1	1-1/4	1-1/4
Steam Outlet (150# Only)	BB	1-1/2	1-1/2	2	2	2	2	3	3
Steam Outlet (15# Only) <sup>B</sup>	CC	4	4	4	4	4	6	6	6
Drain / Blowdown (Front)	DD	1	1	1	1	1	1	1-1/4	1-1/4
Surface Blowoff	EE	1	1	1	1	1	1	1	1
Stack O.D.	FF	6	6	6	6	8	8	10	10
Combustion Air Inlet	GG	4	4	4	4	6	6	6	6
Chemical Feed	HH	1/2	1/2	1/2	1/2	1/2	1/2	1/2	1/2
Gas Train		1	1	1	1	1-1/4	1-1/4	1-1/2	1-1/2

A. Front Door Swing clearance sufficient for front tube removal.

B. Connections are 150# F.F. Flanged

Figure 2. ClearFire-H Steam Boiler Ratings

Boiler H.P.	10	15	20	25	30	40	50	60
ASME Rated Capacity - Steam (lbs-steam/hr from & at 212°F) -- Steam Safety Relief Valve sizing	345	518	690	863	1,035	1,380	1,725	2,070
ASME Rated Capacity - Steam (kg-steam/hr from & at 100°C) -- Steam Safety Relief Valve sizing	156	235	313	391	469	626	782	939
Rated Capacity - Steam (lbs-steam/hr at 6# operating pressure)	338	507	676	845	1,014	1,352	1,690	2,028
Rated Capacity - Steam (kg-steam/hr at 41.4 kPa)	153	230	307	383	460	613	767	920
Output Btu/hr	334,750	502,125	669,500	836,875	1,004,250	1,339,000	1,673,750	2,008,500
Output KW	98	147	196	245	294	392	490	588
Approximate Fuel Consumption At Rated Capacity [ Input]								
Natural Gas [ft3/hr] - 15# SteamA	394	591	788	985	1,181	1,575	1,969	2,363
Natural Gas [m3/hr] - 15# SteamA	11.1	16.7	22.3	27.9	33.4	44.6	55.7	66.9
Natural Gas [ft3/hr] - 150# SteamB	408	612	816	1,020	1,225	1,633	2,041	2,449
Natural Gas [m3/hr] - 150# SteamB	11.5	17.3	23.1	28.9	34.7	46.2	57.8	69.3
Propane Gas [ft3/hr] - 15# SteamA	157	236	315	394	473	630	788	945
Propane Gas [m3/hr] - 15# SteamA	4.4	6.7	8.9	11.1	13.4	17.8	22.3	26.8
Propane Gas [ft3/hr] - 150# SteamB	163	245	327	408	490	653	817	980
Propane Gas [m3/hr] - 150# SteamB	4.6	6.9	9.3	11.5	13.9	18.5	23.1	27.8
Power Requirements - 60 Hz (Single Phase, 115 VAC)								
Blower Motor Size (Watts)C,D	255	335	335	335	335	750	1,200	1,200
Minimum Ampacity								
Blower Motor	4	4	4	4	4	8.8	12	12
Blower Motor Fuse	6	6	6	6	6	12	15	15
Control Circuit	1.4	1.4	1.4	1.6	1.6	1.6	2.1	2.1

Notes:

- A. Input calculated at nominal 85% efficiency with Nat. Gas @ 1000 Btu/ft3 and Propane @ 2500 Btu/ft3.
- B. Input calculated at nominal 82% efficiency with Nat. Gas @ 1000 Btu/ft3 and Propane @ 2500 Btu/ft3.
- C. For altitudes above 1000 Feet, contact your local Cleaver-Brooks authorized representative for capacity rating.
- D. Fan motor is variable speed, DC Brushless Type.