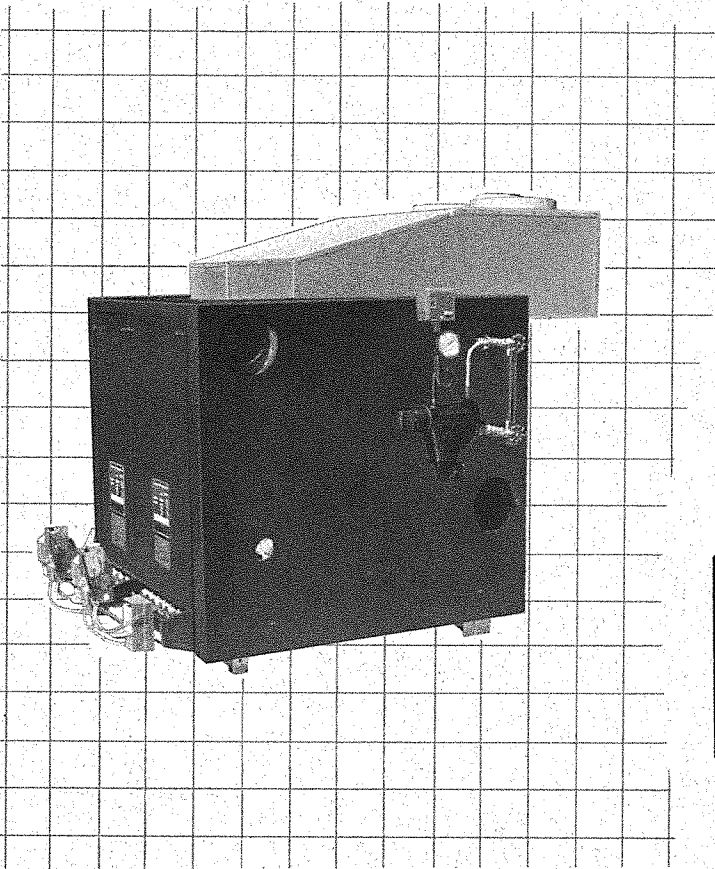




CROWN/ C247 SERIES



CAST IRON GAS FIRED HOT WATER AND STEAM BOILERS

- A.G.A. INPUTS 300,000 TO 3,000,000 BTU/HR.
- NATURAL GAS



C247 Series Gas-Fired Water and Steam Boilers are low-pressure, sectional, cast-iron boilers manufactured in 21 heating sizes. Inputs range from 300,000 to 3,000,000 Btuh for use in larger-sized residences, schools, churches, and commercial or industrial buildings. These boilers can be used in multiples to supply even larger loads. The design of these boilers is certified by the American Gas Association (A.G.A.).

The C247 Series Boiler is of modular design. Bases, casings, and drafthoods are designed in three modular sizes, and all boilers are field-assembled using a combination of one or more of these three modules. Boiler bases are preassembled at the factory with either 6, 8, or 10 burners; the burner orifices; the burner manifold; gas valve; electronic control ignition; and the pilot installed. The boiler sections are field-installed on each base. All sections are factory-tested in accordance with A.S.M.E. standards.

Water boilers are designed for use with a maximum working pressure of 75 psig. Water trim packages may be ordered for either 30, 50 or 75 psig.

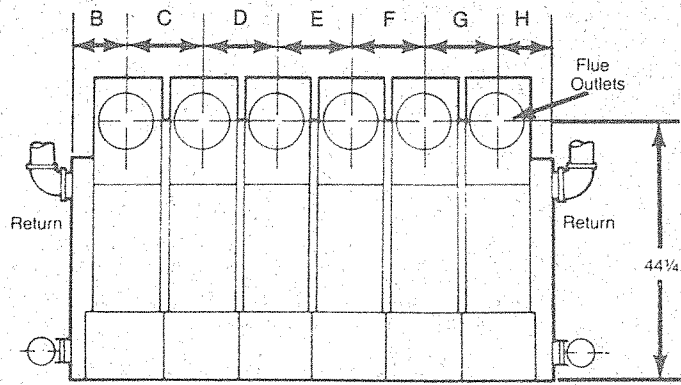
Steam boilers are designed for use with a maximum working pressure of 15 psig.

Boiler safety controls meet or exceed all known local and national code requirements.

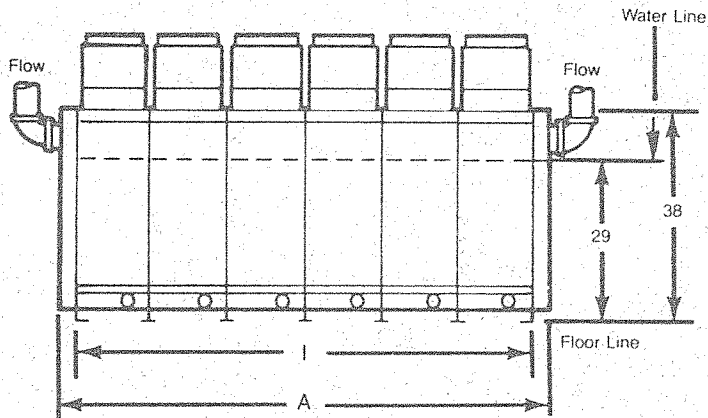
All drafthoods have a cleanout panel to provide easy access to flueways for inspection and cleaning. Each module has a large front access door for convenient inspection, servicing, and cleaning of the combustion chamber and the boiler sections.

FEATURES

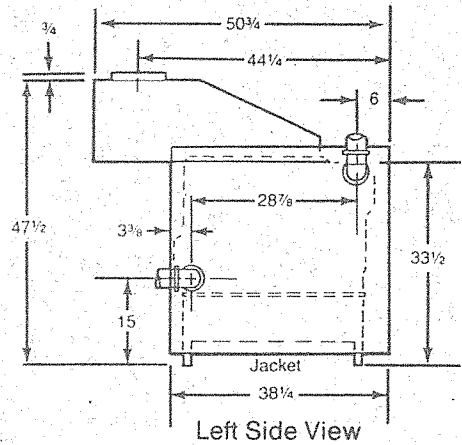
- EASY ASSEMBLY AND INSTALLATION – On-site boiler assembly is quick and easy with preassembled bases and with easy section-by-section assembly procedures using a pull-up tool. The same assembly techniques are used on all sizes; therefore, installers become familiar with the equipment and are able to reduce installation time (and thus, costs).
- SPACE SAVINGS – A compact design, which requires up to 25% less floor space than some competitive units, means less weight, resulting in less stress on supporting floors or supporting ceilings in penthouse-type installations.
- GAS AND SAFETY CONTROLS – All controls are automatic and each boiler has protective limit controls and cutoffs.
- RUGGED CONSTRUCTION – Boiler sections are commercial cast iron for added strength and more effective heat transfer. Each section is hydrostatically tested to 125 psig. Thermal-pin construction permits each section to rapidly transfer heat from the burners to the water, resulting in more economic operation. The sturdy enameled steel jacket is lined with fiber glass to help minimize heat loss and maximize efficiency.
- ENERGY-SAVING PILOTS – All boilers have electronic pilot flame supervision – this means that an electronic spark-ignition pilot which operates only when the heating control circuit is energized.



Top View



Front View



Left Side View

DIMENSIONS IN INCHES

Boiler Model Number	Assembled Boiler Unit Section Sizes			Sections			Width of Boiler A	Left Side of Cover to Center of Flue Outlet B	Distance Between Flue Centers					Right Side of Cover to Center of Flue Outlet H	Base & Battery Length I
	300	400	500	L	Inner	R			C	D	E	F	G		
C247-300	1			1	2	1	18 3/4	9 3/8	Omit	Omit	Omit	Omit	Omit	9 3/8	16 3/4
C247-400		1		1	3	1	23	11 1/2	↓	↓	↓	↓	↓	11 1/2	21
C247-500			1	1	4	1	27 1/4	13 3/8	↓	↓	↓	↓	↓	13 3/8	25 1/4
C247-600	2			1	5	1	31 1/2	9 3/8	12 3/4	↓	↓	↓	↓	9 3/8	29 1/2
C247-700	1	1		1	6	1	35 1/4	9 3/8	14 3/8	↓	↓	↓	↓	11 1/2	34 1/4
C247-800		2		1	7	1	40	11 1/2	17	↓	↓	↓	↓	11 1/2	38
C247-900		1	1	1	8	1	44 1/4	11 1/2	19 3/8	↓	↓	↓	↓	13 3/8	42 1/4
C247-1000			2	1	9	1	48 1/2	13 3/8	21 1/4	↓	↓	↓	↓	13 3/8	46 1/2
C247-1100	1	2		1	10	1	52 1/4	9 3/8	14 3/8	17	↓	↓	↓	11 1/2	50 1/4
C247-1200		3		1	11	1	57	11 1/2	17	17	↓	↓	↓	11 1/2	55
C247-1300	1		2	1	12	1	61 1/4	9 3/8	17	21 1/4	↓	↓	↓	13 3/8	59 1/4
C247-1400		1	2	1	13	1	65 1/2	11 1/2	19 3/8	21 1/4	↓	↓	↓	13 3/8	63 1/2
C247-1500			3	1	14	1	69 1/4	13 3/8	21 1/4	21 1/4	↓	↓	↓	13 3/8	67 1/2
C247-1600		4		1	15	1	74	11 1/2	17	17	17	↓	↓	11 1/2	72
C247-1700	1	1	2	1	16	1	78 1/4	9 3/8	14 3/8	19 3/8	21 1/4	↓	↓	13 3/8	76 1/4
C247-1800		2	2	1	17	1	82 1/2	11 1/2	17	19 3/8	21 1/4	↓	↓	13 3/8	80 1/2
C247-1900		1	3	1	18	1	86 3/4	11 1/2	19 3/8	21 1/4	21 1/4	↓	↓	13 3/8	84 1/4
C247-2000			4	1	19	1	91	13 3/8	21 1/4	21 1/4	21 1/4	↓	↓	13 3/8	89
C247-2100	2		3	1	20	1	95 1/4	9 3/8	12 3/4	17	21 1/4	21 1/4	↓	13 3/8	93 1/4
C247-2200		3	2	1	21	1	99 1/2	11 1/2	17	17	19 3/8	21 1/4	↓	13 3/8	97 1/2
C247-2300		2	3	1	22	1	103 3/4	11 1/2	17	19 3/8	21 1/4	21 1/4	↓	13 3/8	101 1/4
C247-2400		1	4	1	23	1	108	11 1/2	19 3/8	21 1/4	21 1/4	21 1/4	↓	13 3/8	106
C247-2500			5	1	24	1	112 1/4	13 3/8	21 1/4	21 1/4	21 1/4	21 1/4	↓	13 3/8	110 1/4
C247-2600	2		4	1	25	1	116 1/2	9 3/8	12 3/4	17	21 1/4	21 1/4	21 1/4	13 3/8	114 1/2
C247-2700	1	1	4	1	26	1	120 1/4	9 3/8	14 3/8	19 3/8	21 1/4	21 1/4	21 1/4	13 3/8	118 3/4
C247-2800		2	4	1	27	1	125	11 1/2	17	19 3/8	21 1/4	21 1/4	21 1/4	13 3/8	123
C247-2900		1	5	1	28	1	129 1/4	11 1/2	19 3/8	21 1/4	21 1/4	21 1/4	21 1/4	13 3/8	127 1/4
C247-3000			6	1	29	1	133 1/2	13 3/8	21 1/4	21 1/4	21 1/4	21 1/4	21 1/4	13 3/8	131 1/2

†Not shown in Dimensional Drawing.

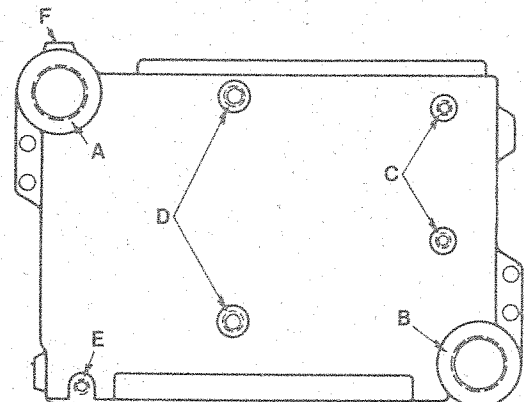
RATINGS AND CAPACITIES

AGA* INPUT	AGA* OUTPUT	NET I = B = R RATINGS†			CHIMNEY SIZE ††	FLUE OUTLET NO. & SIZE			WATER CAPACITY (Gallons)		OPERATING WGT. LESS PIPING		HORSE- POWER Gross Output**	PRESSURE DROP THRU WATER BOILER††	
		Steam Sq. Ft.‡	Steam Btu Mbh	Water Btu Mbh		I.D. x Ht.	8"	10"	12"	Water Entire Boiler	Steam to Water Line	Steam Lbs.		Water Lbs.	GPM
		Btu Mbh	Btu Mbh	Btu Mbh											
300	240	750	180	209	8" x 20'	1			27.3	18.8	1022	1092	7.16	18.9	0.10
400	320	1000	240	278	10" x 20'		1		33.7	23.2	1238	1325	9.55	25.2	0.27
500	400	1250	300	348	12" x 20'			1	40.1	27.6	1455	1559	11.94	31.5	0.40
600	480	1500	360	417	12" x 20'	2			46.5	32.0	1711	1832	14.33	37.8	0.50
700	560	1750	420	487	12" x 20'	1	1		52.9	36.4	1933	2070	16.72	44.1	0.70
800	640	2000	480	557	12" x 20'			2	59.3	40.8	2155	2308	19.10	50.4	0.88
900	720	2250	540	626	12" x 20'		1	1	65.7	45.2	2376	2526	21.49	56.7	1.10
1000	800	2500	600	696	14" x 20'			2	72.1	49.6	2588	2775	23.88	63.0	1.30
1100	880	2750	660	765	14" x 20'	1	2		78.5	54.0	2845	3048	26.27	69.3	1.50
1200	960	3000	720	835	14" x 20'			3	84.9	58.4	3085	3305	28.66	75.6	1.80
1300	1040	3250	780	904	16" x 20'	1		2	91.3	62.8	3279	3515	31.04	81.9	2.00
1400	1120	3500	840	974	16" x 20'		1	2	104.1	71.6	3545	3815	33.43	88.2	2.40
1500	1200	3750	900	1043	16" x 20'			3	110.5	76.0	3813	4063	35.82	94.5	2.60
1600	1280	4008	962	1113	16" x 20'			4	116.9	80.4	4010	4312	38.21	100.8	2.80
1700	1360	4283	1028	1183	18" x 20'	1	1	2	123.3	84.8	4234	4554	40.60	107.1	3.15
1800	1440	4563	1095	1252	18" x 20'		2	2	129.7	89.2	4457	4795	42.99	113.4	3.50
1900	1520	4838	1161	1322	18" x 20'		1	3	136.1	93.6	4676	5028	45.37	119.7	4.00
2000	1600	5117	1228	1391	18" x 20'			4	142.5	98.0	4895	5261	47.76	126.0	4.50
2100	1680	5392	1294	1461	18" x 20'	2		3	148.9	102.4	5138	5523	50.15	132.3	4.95
2200	1760	5671	1361	1530	20" x 20'		3	2	155.3	106.8	5380	5784	52.54	138.6	5.40
2300	1840	5942	1426	1600	20" x 20'		2	3	161.7	131.2	5599	5967	54.93	144.9	5.70
2400	1920	6213	1491	1670	20" x 20'		1	4	168.1	115.6	5815	6149	57.31	151.2	6.00
2500	2000	6471	1553	1739	20" x 20'			5	174.5	120.0	6068	6507	59.70	157.5	8.00
2600	2080	6729	1615	1809	20" x 20'	2		4	180.9	124.4	6321	6865	62.09	163.8	7.00
2700	2160	6988	1677	1878	22" x 20'	1	1	4	182.3	128.8	6551	7075	64.48	170.1	7.50
2800	2240	7246	1739	1948	22" x 20'		2	4	193.7	133.2	6780	7285	66.87	176.4	8.00
2900	2320	7504	1801	2017	22" x 20'		1	5	200.1	137.6	7007	7511	69.25	182.7	8.50
3000	2400	7763	1863	2087	22" x 20'			6	206.5	142.0	7234	7737	71.64	189.1	9.00
														378.2	29.00

*Ratings are at sea level to 2000 feet. For altitudes above 2000 feet, reduce all ratings by 4% for each 1000 feet above sea level.
 †Ratings based on selection factors recommended by Hydronics Institute for piping and pickup. Net water boiler ratings are based on an allowance of 1.15, and net steam boiler ratings are based on an allowance of 1.33. For water applications with high piping and pickup requirements, use steam rating.
 ‡Ratings in square feet are computed at 240 BTUH/Square foot for steam boilers.
 **Ratings based on 33,500 BTUH per horsepower.
 ††Pressure drop based on given flow from a single outlet and returning to a single inlet at the opposite end of the boiler.
 †††Chimney sizes shown are one option based on a typical venting system as shown in Figure 21, 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 page 16. For further chimney design and sizing information, consult the National Fuel Gas Code (ANSI Z223.1/NFPA 54-latest revision) or ASHRAE-1992 HVAC Systems and Equipment Handbook (Chapter 31, Chimney Gas Vent, and Fireplace Systems) or the Standard for Chimneys, Fireplaces, Vents and Solid Fuel Burning Appliances NFPA 211-latest revision. Follow standard engineering practice (Refer to Installation Manual)

RIGHT- AND LEFT-END TAPPINGS

OPENING	SIZE	STEAM	WATER
A	4"	Supply	Supply
B	4"	Return	Return
C	½"	Low-Water Cutoff and/or Gauge Glass	Plugged
D	1"	Low-Water Cutoff & Feeder Combination	Plugged or Low-Water Cutoff
E	1½"	Drain Left Side	Drain Left Side
F	½"	Plugged or Pressure Control	Limit Control on Control End of Boiler Pressure/Temp. Gauge on Opposite End of Boiler



C247 BOILER STANDARD PARTS

ELECTRONIC IGNITION BASE

Base

Fire Door

Burner Orifice

Manifold

Main and Pilot Burner

Electronic Pilot

Gas Valve

Intermittent Pilot Module

C247 Series Boiler Bases are preassembled at the factory with burners, manifold, burner orifices, gas valves, electronic ignition and pilot installed, ready for field installation of the pre-tested boiler sections and appropriate trim packages.

STANDARD WATER TRIM PACKAGE

Limit Control

Two limit controls furnished on units 2,500,000 BTU and larger.

Pressure Temperature Gauge

Relief Valve

Drain Valve

Complete Jacket Assembly

And integral draft diverters

STANDARD STEAM TRIM PACKAGE

Low Water Cut Off

Glass Gauge Set

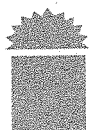
Pop Safety Valve

Steam Gauge

Pressure Limit

Drain Valve

Complete Jacket Assembly



CROWN BOILER CO.

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