

ALMY

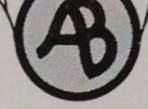
SECTIONAL WATER-TUBE BOILERS



43rd. Year

1932

Manufactured by
ALMY WATER-TUBE BOILER CO.
178-184 Allens Avenue
Providence, R.I.



General Description

• • •

ADVANTAGES OF ALMY BOILERS

Sectional Construction

All Almy Boilers are sectionally built. The heating surface is made up of a drum, sections and manifolds.

The sections are connected to the drum and manifolds by flanged nipples and union nuts with an asbestos gasket in the joint.

The casing is made up of steel panels with angles, and bolted together to form the complete boiler.

This construction allows the boiler to be knocked down, transported readily, passed through ordinary openings and erected by any good mechanic.

Heating Surface

Greatest amount of heating surface in firebox. Experiments have shown that 80% of evaporation may be obtained due to the heating surface in the fire box of boilers.

Almy Boilers contain from 25% to 90% more heating surface in the fire box than other makes of boilers.

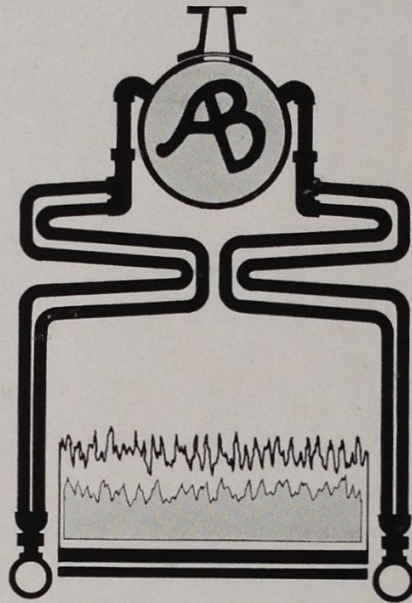
Combustion Space

The Almy Boiler is designed so that furnace volume can be adapted to any rate of combustion required.

A large combustion space allows complete combustion to take place before passing through the heating surface.

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178-184 Allens Avenue

Providence, R. I.

Established • • 1889



Wide spaces between tubes or large openings in the heating surface are detrimental to highest evaporation. The narrow spacing of tubes in the Almy Boilers absorbs the greatest amount of heat.

A large ratio of heating surface to grate area is considered desirable but little attention is given relative to the placing of the heating surface to the flow of gases.

Tests have proven that one square foot of heating surface placed at right angles to the flow of gases is equal to four square feet placed with the flow of gases.

All the heating surface of the Almy Boilers, except the sides of the fire box, is at right angles to the flow of gases.

Perfect Circulation

All Almy Boilers are of the fountain type. The circulation can go only in one direction.

A fountain type of boiler is one where the generated steam is delivered above the water line.

The water in the boilers flows down the down-flow pipe in the front of the boiler into the bottom manifolds up through the section, where steam is generated, and into the drum above the water line.

By using the fountain type of boiler, operating either under low or high pressure, Almy Boilers have the least amount of entrained water in the steam over all other makes.

Expansion of Boiler Parts

Provision for expansion in every direction is provided for in all Almy boiler designs. This is absolutely necessary to the long life of any boiler.

Almy Boilers will not show weakness or leakage no matter how high a rate of combustion is maintained.



Cleaning

Clean-out doors are provided in the front of the boilers for cleaning the heating surface. The tubes in the sections all lie in horizontal rows. To clean the boiler a steam lance is inserted between the rows and steam is blown over the heating surface, thoroughly removing all soot and ashes.

The steam lance consists of a $\frac{1}{4}$ inch pipe, having an equal length of the boiler, with holes drilled at right angles in the end. This lance is connected to the main steam outlet by a steam hose.

Almy Boilers can be cleaned while under operation.

Repairs

Any good mechanic can repair an Almy Boiler.

The design of the boilers enables repairs to be made conveniently, quickly and with the minimum expense. As the boiler is sectional in construction, any or all sections can be removed and replaced without disturbing the casing.

Adaptability of Almy Boilers

♦ ♦ ♦

Sizes of Almy Boilers

Almy Boilers can be designed to fit any space and for any pressures.

We make a specialty of building boilers for different steam requirements and for all kinds of fuel. Width, length, height, heating surface and grate area can be varied. We prefer to give each individual installation special consideration before making a definite quotation.

All sections and parts of Almy Boilers are tested to 1000 pounds hydrostatic pressure before they are assembled in the boiler.

A final hydrostatic test of the necessary pressure is applied to all boilers after being assembled and before leaving our works.



Oil Firing

Almy Boilers are especially adapted for oil fuel.

Good combustion is essential using oil for fuel.

Perfect atomization, correct amount of air and an even distribution of fire in the furnace are necessary for best results.

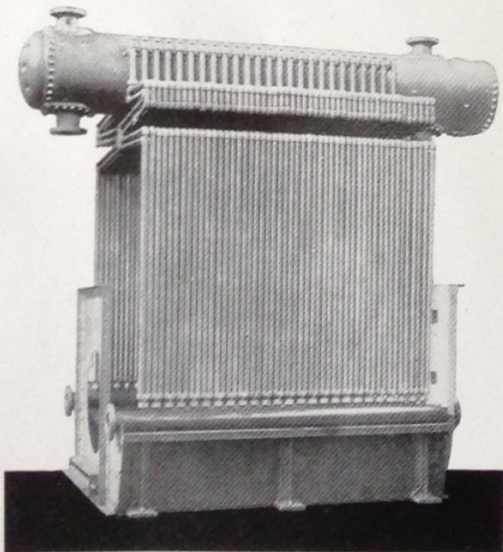
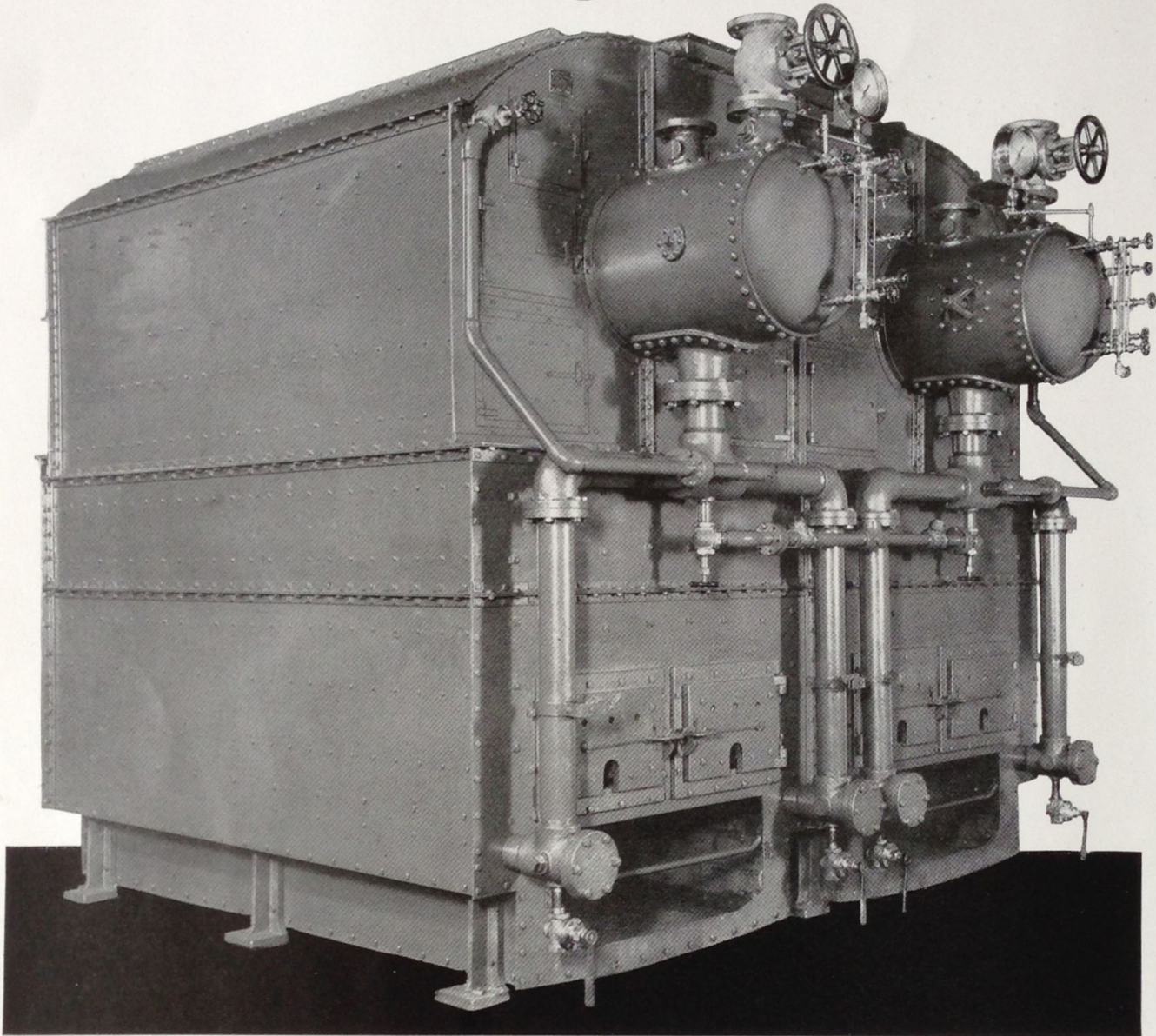
Coal Firing

One of the greatest essentials for economy in steam generating is good firing. Good firing consists in keeping a level fire all over the grate, and of a proper thickness to insure perfect combustion.

The thickness of the fire should be governed by the amount of draught and kind of fuel used. The fuel should be supplied in small quantities and at frequent intervals, keeping the door open as short a time as possible. Great care should be taken to keep the corners and all about the edges of the furnace well covered with coal.

Water

Clean water should be used in all makes of boilers. Prevention of scale in boilers is better and cheaper than the cure. Scale forming or muddy water should be treated before entering the boiler.



Two "Z" Type Almy Boilers

The above illustration shows two marine boilers of the following dimensions:

Total Width	11'- 7"	Total Grate Area	65.8 Sq. Ft.
Total Length	8'-10"	Total Heating Surface	2242 Sq. Ft.
Height	10'- 6"	Total Weight	48,000 Lbs.

These two boilers are arranged to operate as one boiler by being equalized above and below the water line. By closing the equalizer pipe valves each boiler can be operated separately.

The illustration at the left shows the heating surface of a "Z" type boiler.



"Z" Type Almy Sectional Water-Tube Boilers

General Description

The "Z" type is a Sectional Water Tube Boiler with an Internal Steam Drum and is composed of "Z" sections, drum, two manifolds, grates and casing assembled as shown.

The "Z" Sections

The "Z" sections are made up of four seamless drawn steel tubes, standard R & L threads connected together with double Y elbow, elbows, return bends and double Y forming a complete unit in a form as shown.

The "Z" sections rise from the bottom manifold to a proper height to form the crown of the fire box. They then extend halfway across the furnace and back to the sides of the casing, then return to the drum where they are connected to the drum connections.

The "Z" sections are connected at the top and bottom by unions with an asbestos gasket in the joint. To remove section: disconnect union nuts at the top and bottom, using a round nose caulking tool and hammer, draw the section into the furnace and ash-pan and thence out through the ash-pan door.

The Drum

The "Drum" is constructed of steel of proper diameter and thickness according to size of the boiler and service required. Drum elbows are screwed on both sides of the drum near the top to which the sections are connected by means of nipples and nuts. In the top of the drum is located the steam and safety valve connections and at the bottom is connected the down-flow pipe. The steam gauge, water glass and try-cocks are located in the head of the drum.

The "Feed Water Heater"

Is located over the top of the drum, supported on angle irons fastened to the sides of the casing.

Boilers are built with or without Feed Heaters according to service required.

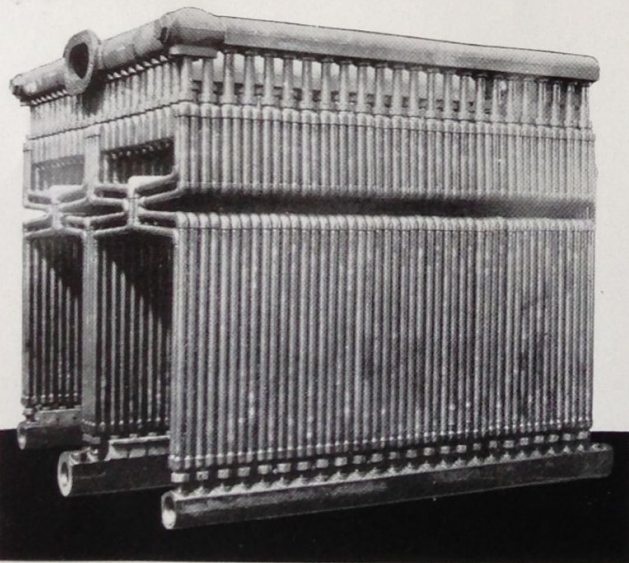
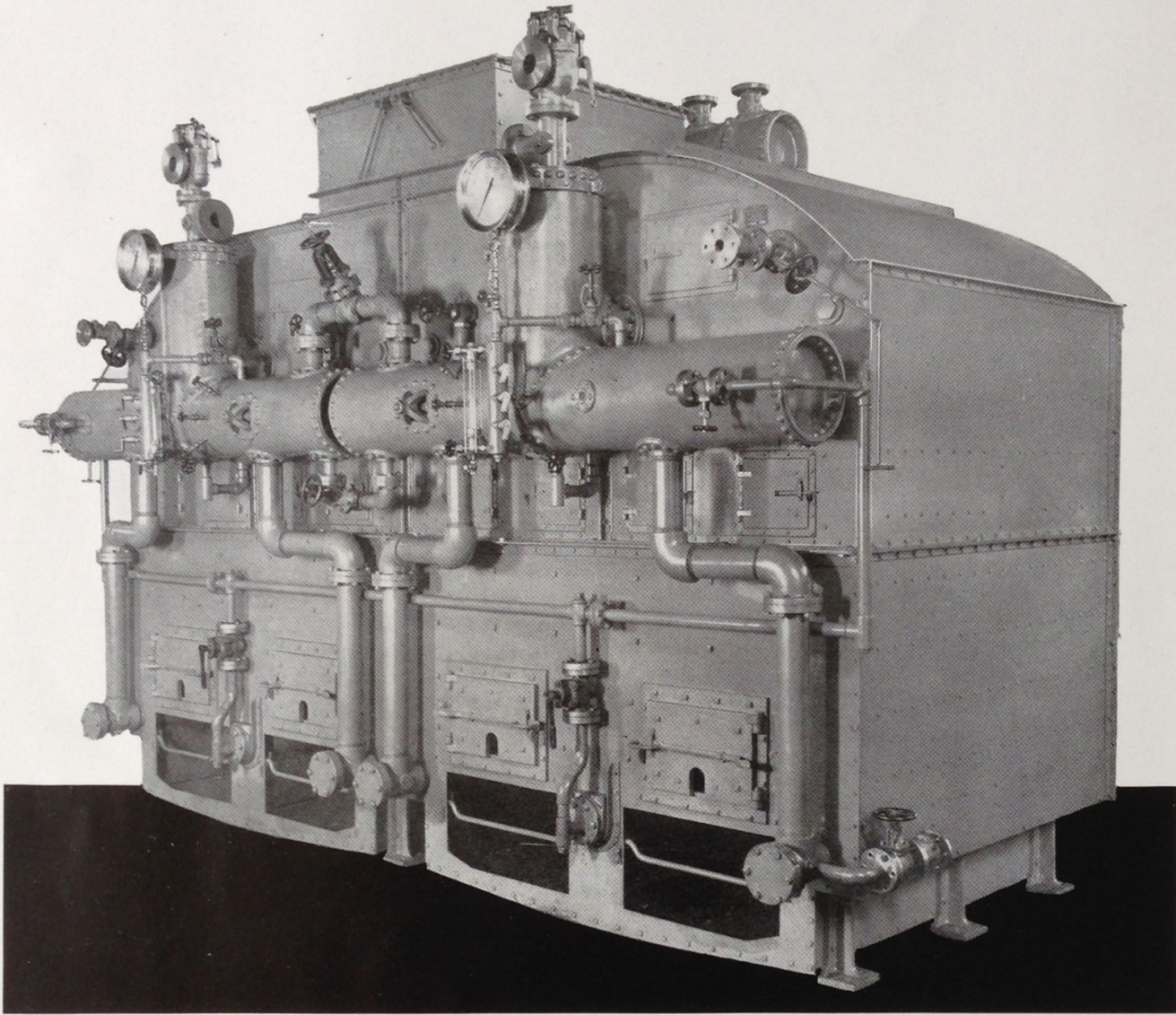
The Casing

The casing comprises ash-pan, upper and lower part of casing and hood. The casing is built of sheet steel, angle irons and channels and is fastened together with through bolts. The casing is lined with laminated asbestos sponge felt and faced with fire brick fastened with through bolts. The front and back of furnace is lined with asbestos and faced with fire brick.

In the casing at the front are placed proper doors for cleaning.

In boilers of sufficient size where man could enter, doors are provided.

*Line Drawing of Type "Z" with a partial list of sizes
is shown on page 16.*



Two "E" Type Almy Boilers

The above illustration shows two marine boilers of the following dimensions:

Total Width	16'- 5 $\frac{1}{4}$ "
Total Length	6'- 10 $\frac{5}{8}$ "
Height	10'- 1 $\frac{1}{4}$ "
Total Grate Area	70 Sq. Ft.
Total Heating Surface	2998 Sq. Ft.
Weight	26,000 Lbs.

These two boilers are arranged to operate as one boiler by being equalized above and below the water line. By closing the equalizer pipe valves each boiler can be operated separately.

The illustration at the left shows the heating surface of these boilers.



"E" Type Almy Sectional Water-Tube Boiler

General Description

Type "E" is a double furnace boiler. It consists of Top Manifold, Bottom Manifold, Side Sections, Fore and Aft Sections, Feed Water Heater, Steam Drum, Grates and Casing.

The Top Manifold

Extends across the front and along the sides of the boiler with a middle leg (forming a design like the letter "E").

The Bottom Manifold

Extends through the middle, across the back and along the sides of the boiler located below the grates—similar to the top manifold.

The top and bottom manifolds are made up of sections of malleable iron castings, screwed together with close nipples, making one continuous piece.

Side Sections

Rise from bottom manifold to a proper height to form crown of fire box. They then extend half way across furnace and back again, then rise vertically to top manifold.

Fore and Aft Sections

The fore and aft sections rise from the top of the back of the bottom manifold to a proper height and pass over the side sections, connecting to the top manifold at the front. They are connected to the bottom and top manifolds by unions and nipples.

Both the side sections and fore and aft sections are made up of four seamless drawn steel tubes, standard R & L threads connected together with double Y elbow, elbows, return bends and double Y forming a complete unit in a form as shown.

The Steam Drum

Consists of a Steam Dome and Horizontal Water Reservoir extending across the front of the boiler.

The Steam Dome is flanged and riveted to the Horizontal Water Reservoir and contains a Diaphragm or separator. The Diaphragm is an Involute Coil and so constructed as to separate the water from the steam.

Riveted to the Steam Dome is a flanged saddle which is bolted to boiler with an asbestos gasket in the joint. Steam connections are at top of the Steam Dome.

The Steam Drum is connected by down-flow pipes to the ends of the bottom manifold.

The Feed Water Heater

Consists of two or more layers of pipes placed upon the top manifold. One end of the heater is connected to the feed pipe, the other to the under side of the Steam Drum.

The Casing

Is composed of upper and lower parts, ash-pan and hood. The ash-pan is a part of the boiler. The casings are made of sheet steel, angles and through bolts.

Material

The heating surface is constructed of tubes of standard pipe size and of the best quality of metal. All manifolds, return bends, elbows and Y fittings are of the best quality air blast malleable iron, and from our own patterns.

The non-conducting material is of the proper thickness of Laminated Asbestos Sponge Felt and Fire Brick.

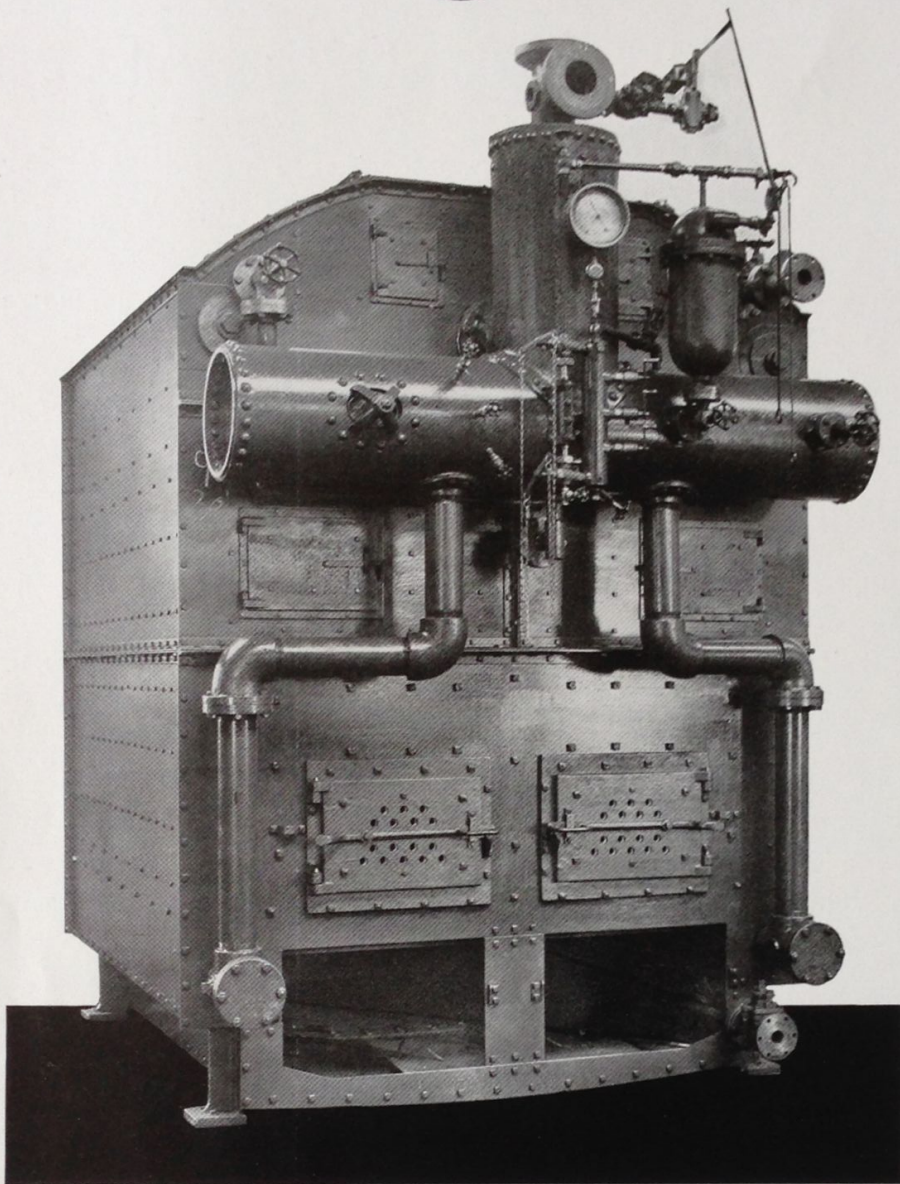
The ash-pan is constructed of sheet steel, angles, channels and through bolts.

Clean-out doors and frames are malleable iron.

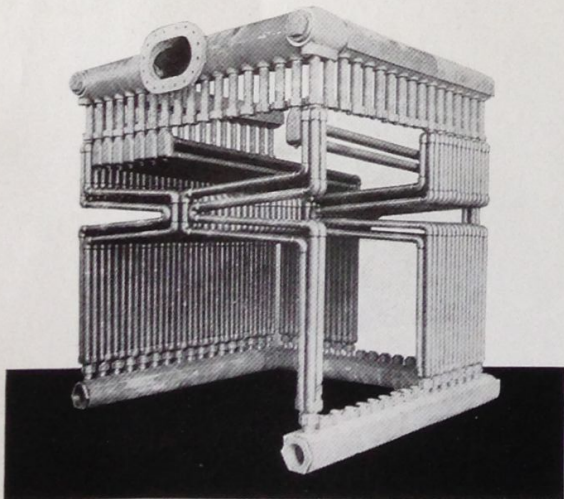
The furnace doors, frames, dead plates and baffle plates are cast iron.

Grate bars are furnished suitable for the service required.

Line Drawing of Type "E" with a partial list of sizes is shown on page 17.



Outside View of Type "D," "C," "B."



"D" Type Almy Boiler

Complete Boiler

The above illustration shows a complete "D" Type Almy boiler of the following dimensions:

Width 84 ¹³ / ₁₆ "	Grate Area 36.8 Sq. Ft.
Length 87"	Heating Surface 1162 Sq. Ft.
Height 109"	Weight 18,600 Lbs.

The illustration at the left shows the heating surface of the type "D" with some of the side and fore-and-aft sections left out to clearly illustrate the construction.



"D" Type Almy Sectional Water-Tube Boiler

General Description

Type "D" is a single fire box boiler.

The general description of the type "D" boiler is similar to that of the Type "E" with the exception of the manifolds.

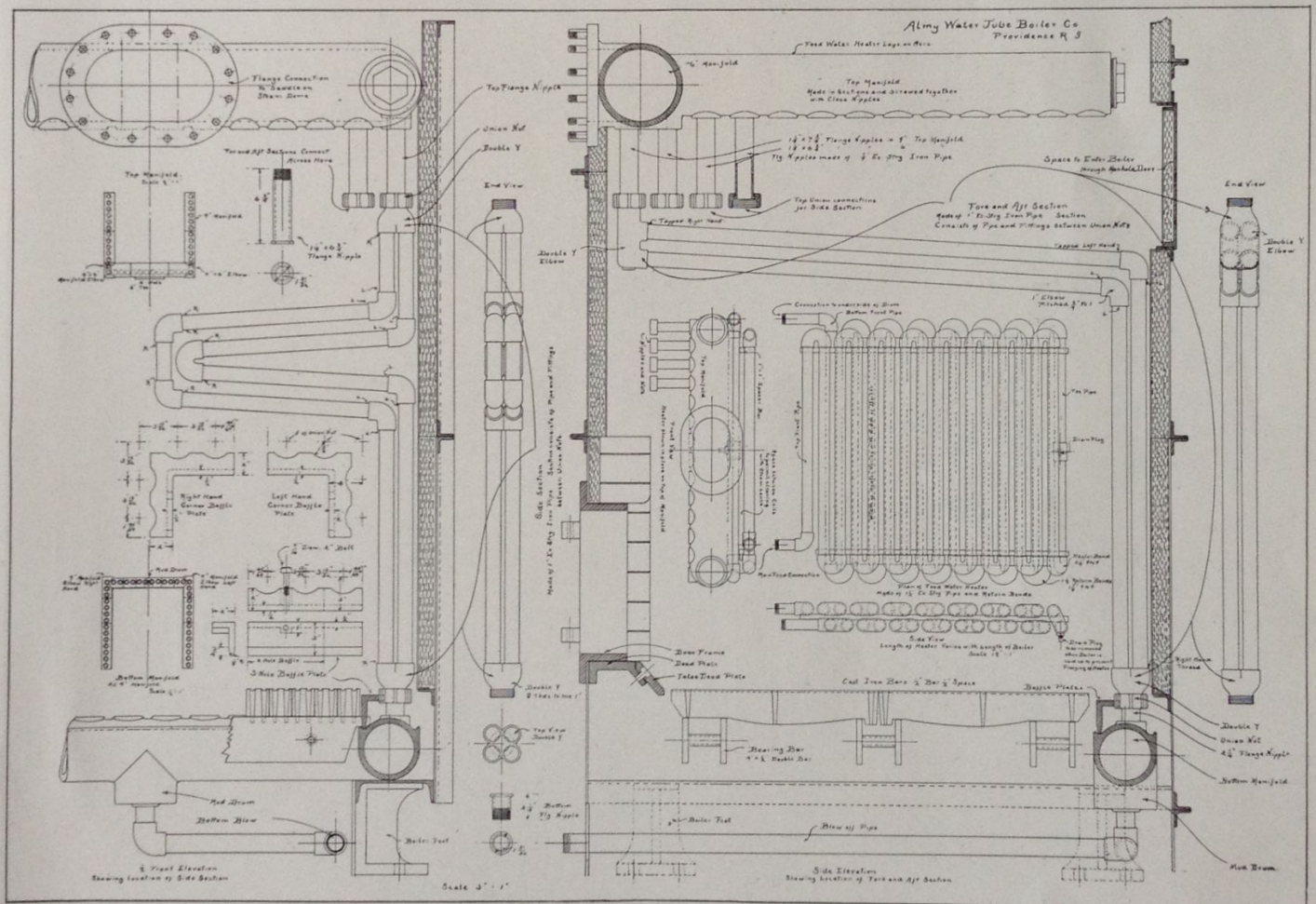
The Top Manifold

Extends across the front and along the sides of the boiler.

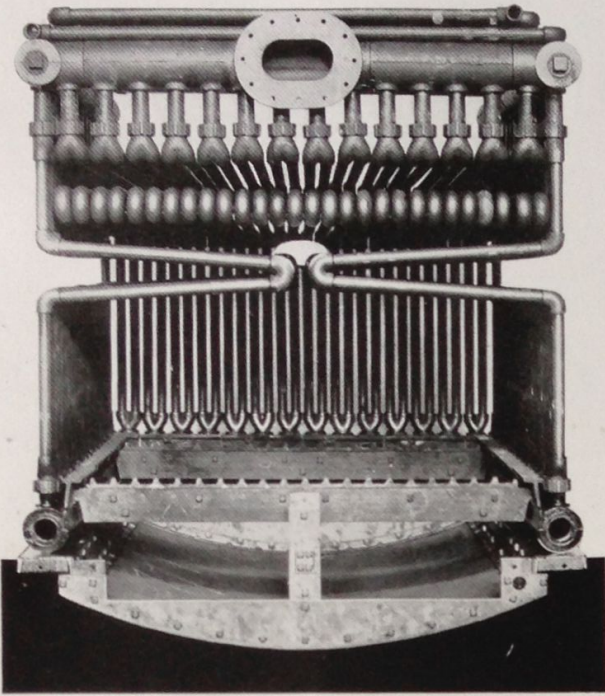
The Bottom Manifold

Extends along the sides and across the back of the boiler.

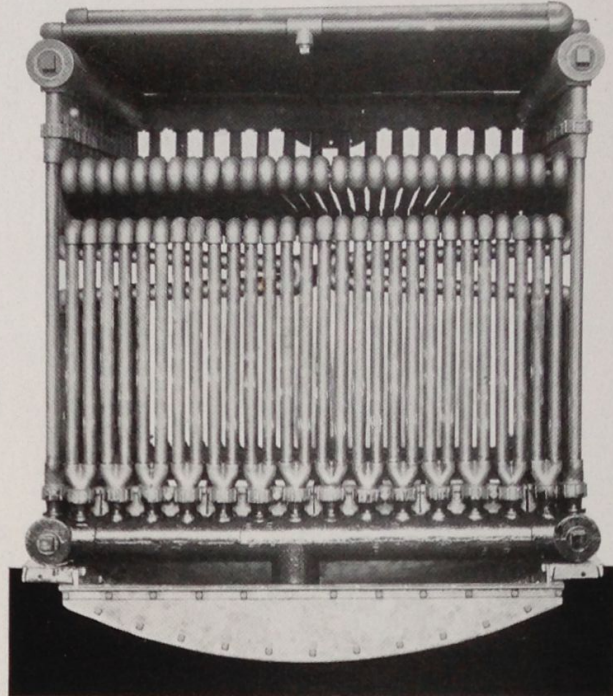
Line Drawing of Type "D" with a partial list of sizes is shown on page 18.



Name and Design of Parts of Type D and E



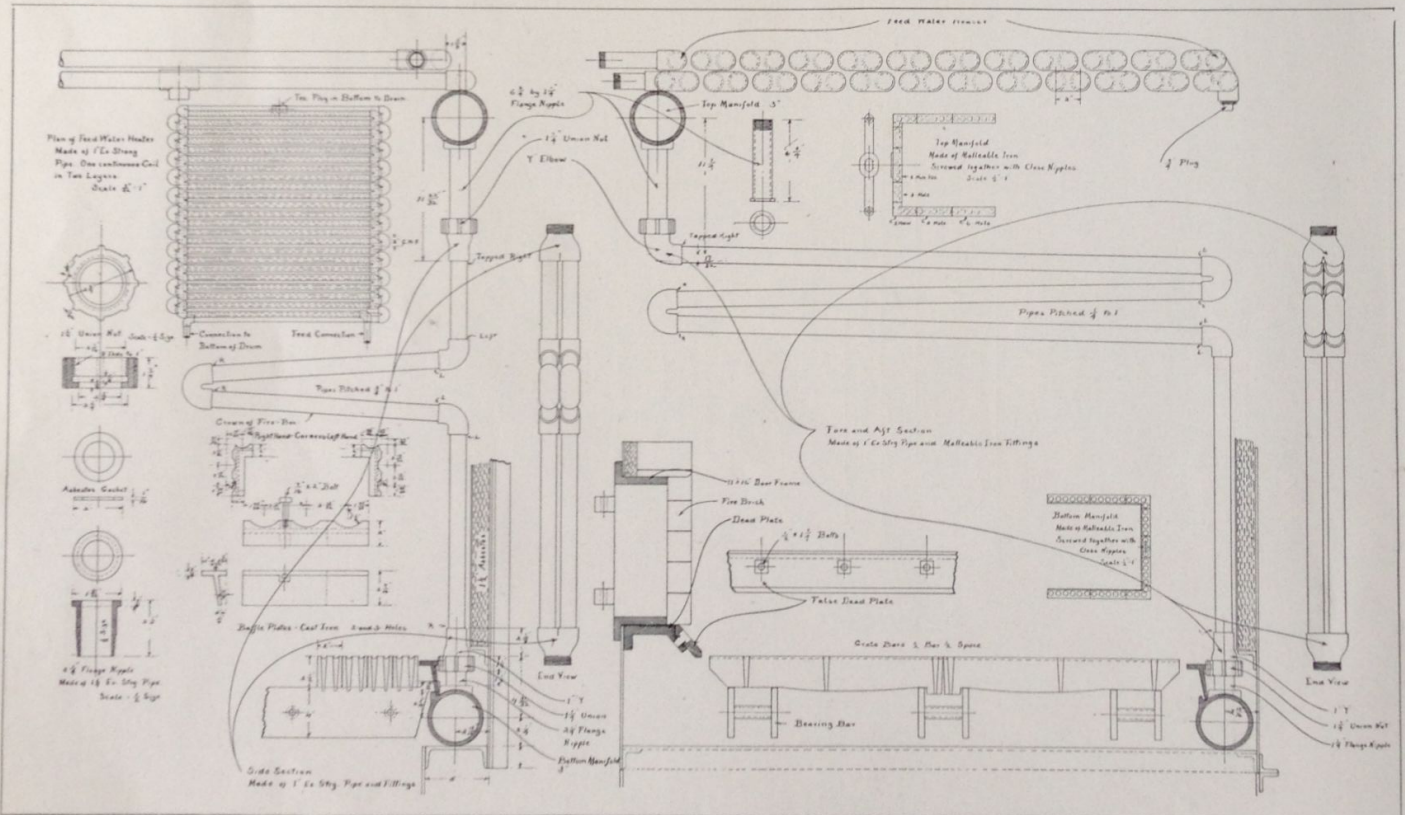
Front of Boiler



Back of Boiler

Single Section Almy Water - Tube Boiler

The above illustrations show the arrangement of tubes of types A, B and C boilers. On page 10 is illustrated an outside view of single section boilers.



Name and Design of Parts of Type A-B-C

Size of Parts in Type A and C varying from above



Single Section Almy Water-Tube Boilers

General Description

Boilers of this type are designated as "A"- "HA"- "B"- "C".

Boilers of Type "A" are constructed of $\frac{3}{4}$ " Pipe Size.

Boilers of Type "B" are constructed of 1" Pipe Size.

Boilers of Type "C" are constructed of $1\frac{1}{2}$ " Pipe Size.

Type "HA" is similar in general design to the Type "A" with the exception of the drum and fore-and-aft sections.

The drum is located inside the boiler casing.

The fore and aft sections have one more return of pipes over the Type "A".

The Heating Surface

Consists of top and bottom manifolds, side sections, fore and aft section and a feed water heater enclosed in a steel casing.

The side and fore and aft sections consist of two series of tubes in each section.

Side Sections

Rise from the bottom manifold to a proper height to form the crown of fire box; they then extend halfway across the furnace and back again, then rise vertically to the top manifold.

Fore and Aft Sections

Rise from the bottom manifold at the back of furnace to a proper height and pass three times over the side section and connect into top manifold at the front.

The Steam Drum

Consists of a steam dome and horizontal water reservoir extending across the front of the boiler.

The steam dome contains a diaphragm or separator which is so constructed as to separate the water from the steam.

At the top of the steam dome are the steam connections and at the bottom the down flow pipes are connected to the ends of the bottom manifold.

Type "A" and "HA" are built with or without feed water heaters as required.

The feed water heater consists of two layers of pipe connected together with return bends making one continuous coil.

The Casing

The casing comprises ash-pan, upper and lower parts of casing and hood. The casing is built of sheet steel, angle irons and channels and is fastened together with through bolts. The casing is lined with laminated asbestos sponge felt and faced with fire brick fastened with through bolts. The front and back of furnace is lined with asbestos and faced with fire brick.

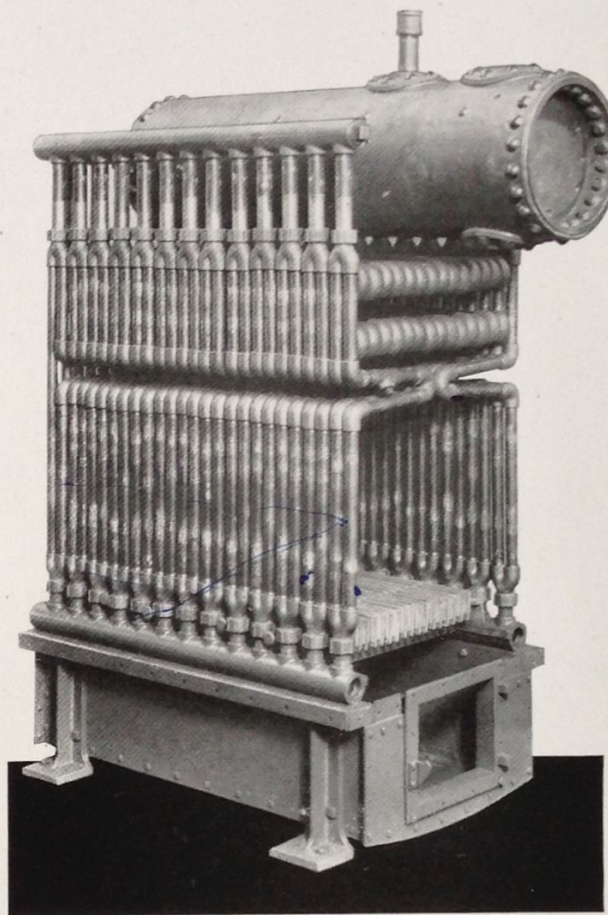
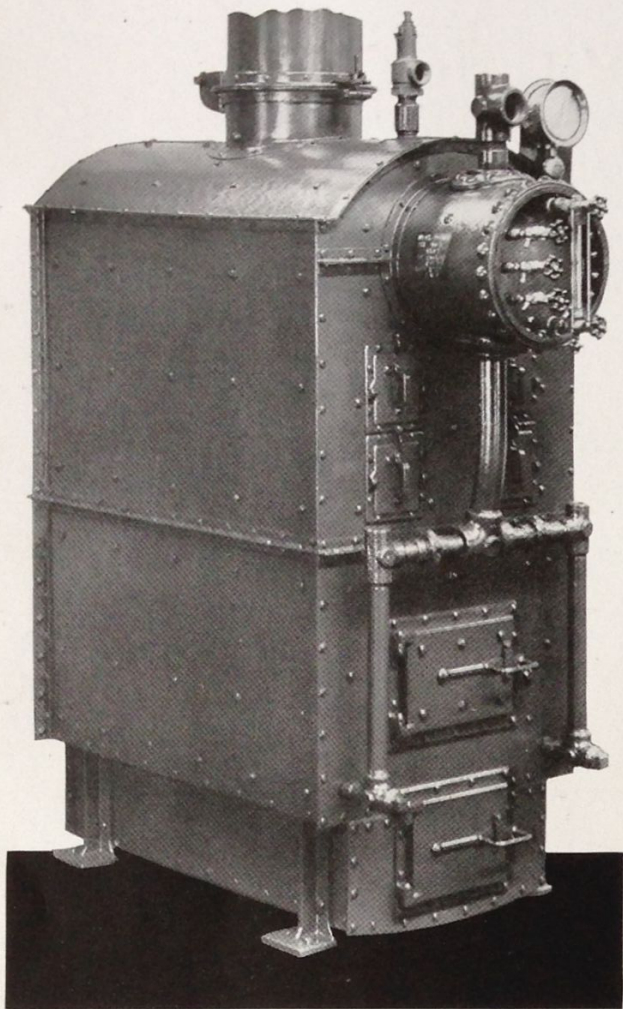
In the casing at the front are placed proper doors for cleaning.

Boilers of sufficient size where man could enter, doors are provided.

Line Drawing of Type "B" with a partial list of sizes is shown on page 20.

Line Drawing of Type "C" with a partial list of sizes is shown on page 19.

Line Drawing of Type "HA" is shown on page 21.



Type "HA" Complete Almy Boiler

Above boiler is type "HA" having the following dimensions:

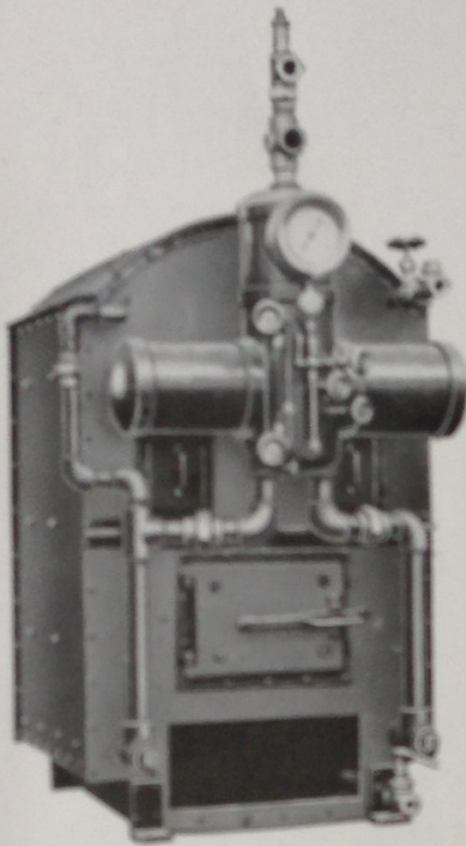
Width	28 $\frac{1}{4}$ "	Height in Ash-Pan	16"
Length	40 $\frac{7}{16}$ "	Grate Area	4.7 Sq. Ft.
Height	64"	Heating Surface	155 Sq. Ft.
Height in Fire Box	18"	Weight	2300 Lbs.

We manufacture the "HA" type in several sizes and where required we would be pleased to quote prices, sizes and capacities. Many of this type are used as auxiliary and heating boilers for different steam pressures.

Line Drawing of Type "HA" is shown on page 21.



Type "A" Almy Boiler

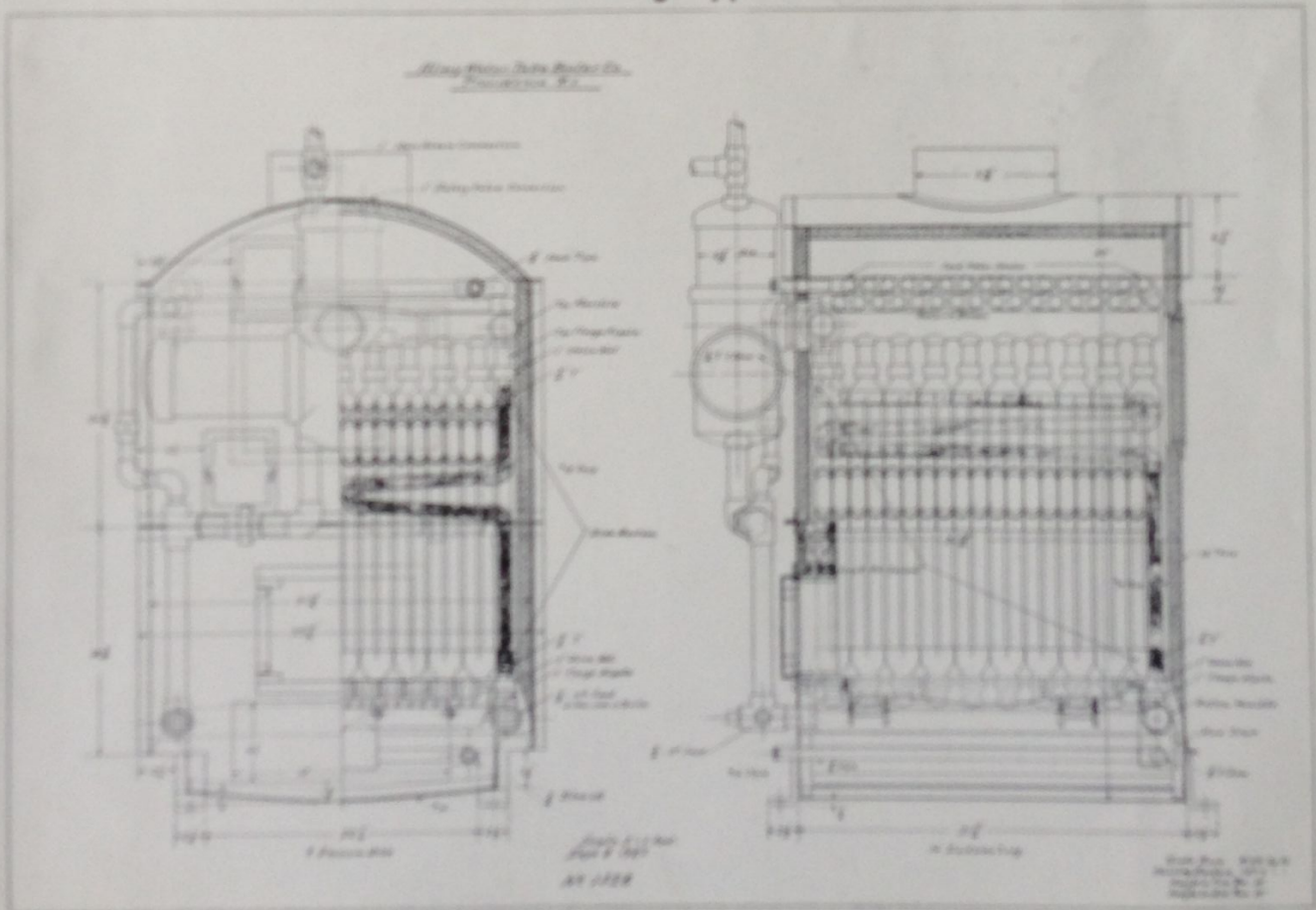


Boilers of Type "A" are $\frac{3}{4}$ " Pipe Size, $1 \frac{1}{16}$ " outside diameter, .11 thick unless otherwise specified. The Height and Heating Surface of Boiler Sizes given below are based on 12" from bottom of ash-pan to top of grate and 12 $\frac{1}{2}$ " height of fire box.

Partial List of Sizes — Type "A"

Width of Casing	Length of Casing	Height of Casing	Grate Area Sq. Ft.	Heating Surface Sq. Ft.	Approximate Weight—Lbs. Dry
26 $\frac{1}{2}$ "	26 $\frac{1}{2}$ "	49"	2.6	87	1150
28 $\frac{1}{2}$ "	26 $\frac{1}{2}$ "	49"	3.0	94	1240
28 $\frac{1}{2}$ "	28 $\frac{1}{2}$ "	50"	3.4	104	1320
31 $\frac{1}{2}$ "	28 $\frac{1}{2}$ "	50 $\frac{1}{2}$ "	3.9	114	1490
31 $\frac{1}{2}$ "	31 $\frac{1}{2}$ "	50 $\frac{1}{2}$ "	4.4	125	1500
34 $\frac{1}{2}$ "	31 $\frac{1}{2}$ "	51 $\frac{1}{2}$ "	4.9	135	1620
34 $\frac{1}{2}$ "	34 $\frac{1}{2}$ "	51 $\frac{1}{2}$ "	5.4	147	1820
37 $\frac{1}{2}$ "	34 $\frac{1}{2}$ "	51 $\frac{1}{2}$ "	6.0	158	2020
37 $\frac{1}{2}$ "	37 $\frac{1}{2}$ "	51 $\frac{1}{2}$ "	6.6	172	2150

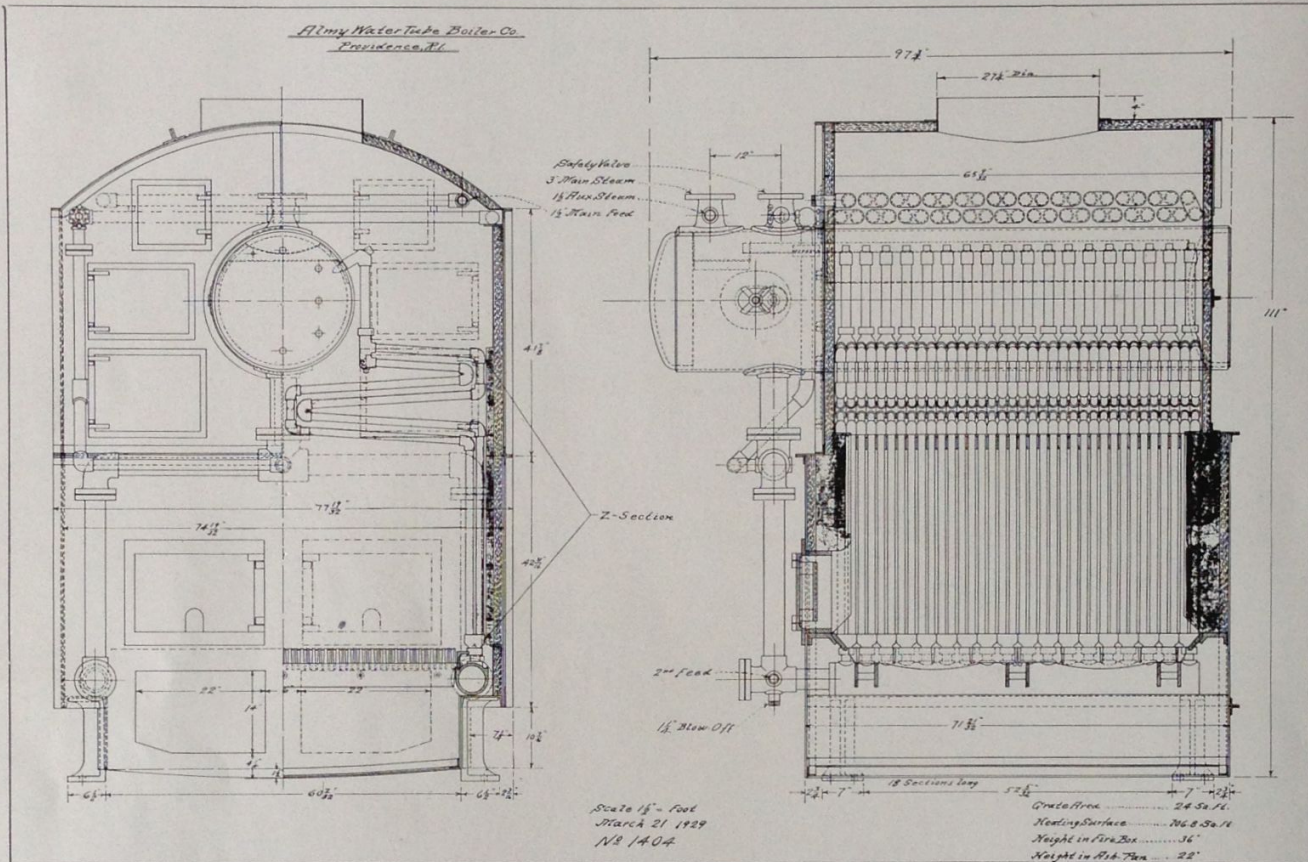
Line Drawing Type "A"





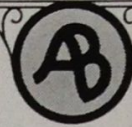
Type "Z"

Type "Z" Tubes are 1" Pipe Size, 1 5/16" outside diameter. .18" thick. The Height and Heating Surface of Boiler Sizes given below are based on 24" from bottom of ash-pan to top of grate, and 36" height of fire box.



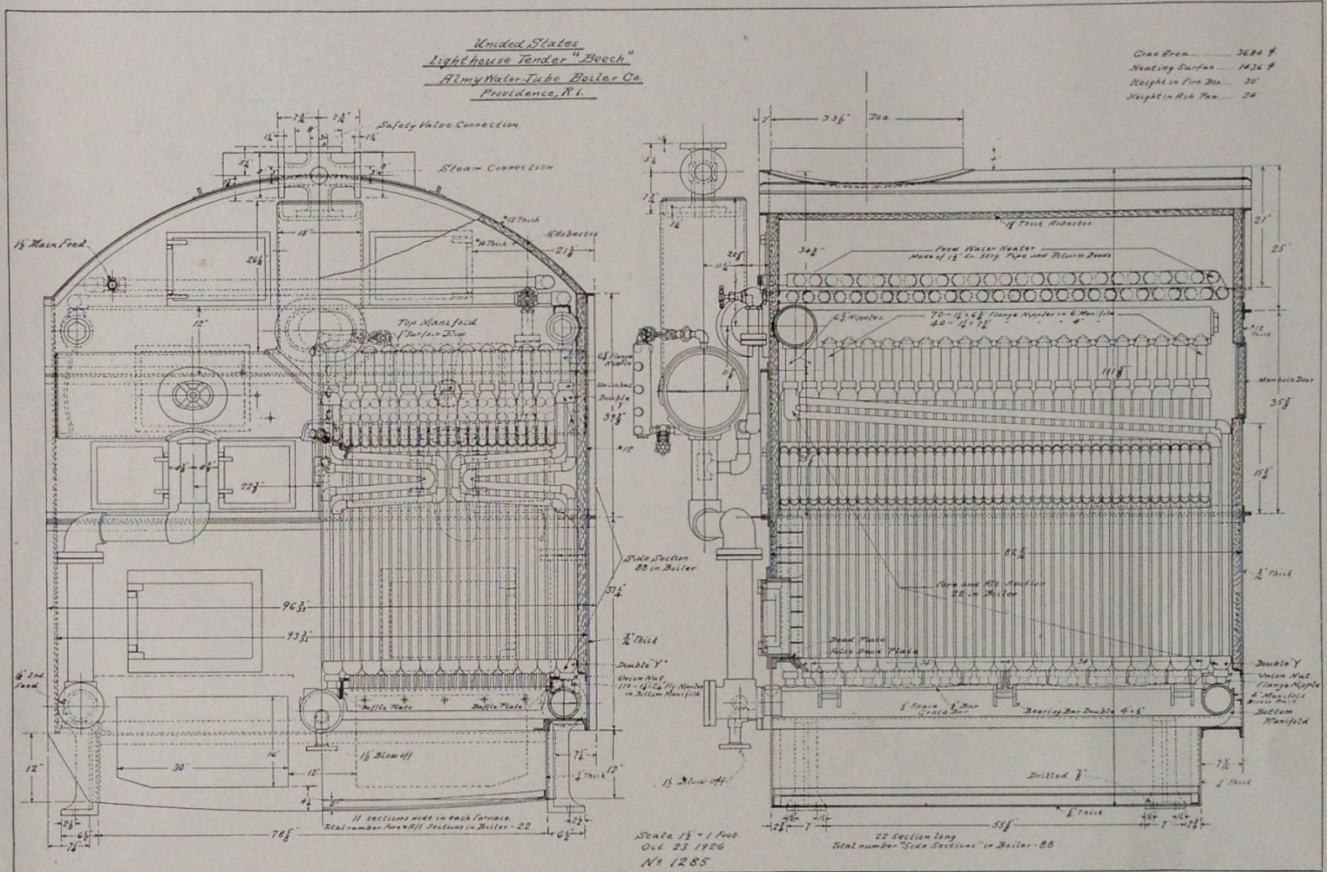
PARTIAL LIST OF SIZES — TYPE "Z"

Width of Casing	Length of Casing	Total Height	Grate Area Sq. Ft.	Heating Surface Sq. Ft.	Approximate Weight—Lbs. Dry
60 ³¹ / ₃₂ "	54 ⁵ / ₈ "	96 ³ / ₄ "	13.2	434	8780
60 ³¹ / ₃₂ "	64 ²⁷ / ₃₂ "	96 ³ / ₄ "	16.5	545	1090
60 ³¹ / ₃₂ "	75 ¹ / ₁₆ "	96 ³ / ₄ "	20.	636	12720
60 ³¹ / ₃₂ "	85 ⁹ / ₃₂ "	96 ³ / ₄ "	23.3	736	14720
60 ³¹ / ₃₂ "	95 ¹ / ₂ "	96 ³ / ₄ "	26.6	836	16720
60 ³¹ / ₃₂ "	105 ²³ / ₃₂ "	96 ³ / ₄ "	30.	938	18760
67 ²⁵ / ₃₂ "	54 ⁵ / ₈ "	108 ¹ / ₈ "	15.1	485	9360
67 ²⁵ / ₃₂ "	64 ²⁷ / ₃₂ "	108 ¹ / ₈ "	18.8	599	11540
67 ²⁵ / ₃₂ "	75 ¹ / ₁₆ "	108 ¹ / ₈ "	22.8	714	14280
67 ²⁵ / ₃₂ "	85 ⁹ / ₃₂ "	108 ¹ / ₈ "	26.6	825	16500
67 ²⁵ / ₃₂ "	95 ¹ / ₂ "	108 ¹ / ₈ "	30.5	938	18760
67 ²⁵ / ₃₂ "	105 ²³ / ₃₂ "	108 ¹ / ₈ "	34.3	1050	21000
74 ¹⁹ / ₃₂ "	54 ⁵ / ₈ "	113 ³ / ₈ "	17.	510	10200
74 ¹⁹ / ₃₂ "	64 ²⁷ / ₃₂ "	113 ³ / ₈ "	21.3	628	12560
74 ¹⁹ / ₃₂ "	75 ¹ / ₁₆ "	113 ³ / ₈ "	25.6	747	14940
74 ¹⁹ / ₃₂ "	85 ⁹ / ₃₂ "	113 ³ / ₈ "	29.9	864	17280
74 ¹⁹ / ₃₂ "	95 ¹ / ₂ "	113 ³ / ₈ "	34.3	982	19640
74 ¹⁹ / ₃₂ "	105 ²³ / ₃₂ "	113 ³ / ₈ "	38.6	1100	22000
81 ¹³ / ₃₂ "	54 ⁵ / ₈ "	114 ³ / ₈ "	18.9	547	10940
81 ¹³ / ₃₂ "	64 ²⁷ / ₃₂ "	114 ³ / ₈ "	23.6	673	13460
81 ¹³ / ₃₂ "	75 ¹ / ₁₆ "	114 ³ / ₈ "	28.5	801	16020
81 ¹³ / ₃₂ "	85 ⁹ / ₃₂ "	114 ³ / ₈ "	33.3	927	18540
81 ¹³ / ₃₂ "	95 ¹ / ₂ "	114 ³ / ₈ "	38.1	1052	21040
81 ¹³ / ₃₂ "	105 ²³ / ₃₂ "	114 ³ / ₈ "	42.9	1180	23600
88 ⁷ / ₃₂ "	54 ⁵ / ₈ "	115 ³ / ₈ "	20.8	586	11720
88 ⁷ / ₃₂ "	64 ²⁷ / ₃₂ "	115 ³ / ₈ "	26.1	722	14440
88 ⁷ / ₃₂ "	75 ¹ / ₁₆ "	115 ³ / ₈ "	31.4	857	17140
88 ⁷ / ₃₂ "	85 ⁹ / ₃₂ "	115 ³ / ₈ "	36.6	992	19840
88 ⁷ / ₃₂ "	95 ¹ / ₂ "	115 ³ / ₈ "	41.9	1128	22560
88 ⁷ / ₃₂ "	105 ²³ / ₃₂ "	115 ³ / ₈ "	47.2	1263	25260



Type "E"

Type "E" Tubes are 1" Pipe Size, 1 5/16" outside diameter. .18" thick. The Height and Heating Surface of Boiler Sizes given below are based on 24" from bottom of ash-pan to top of grate, and 36" height of fire box.



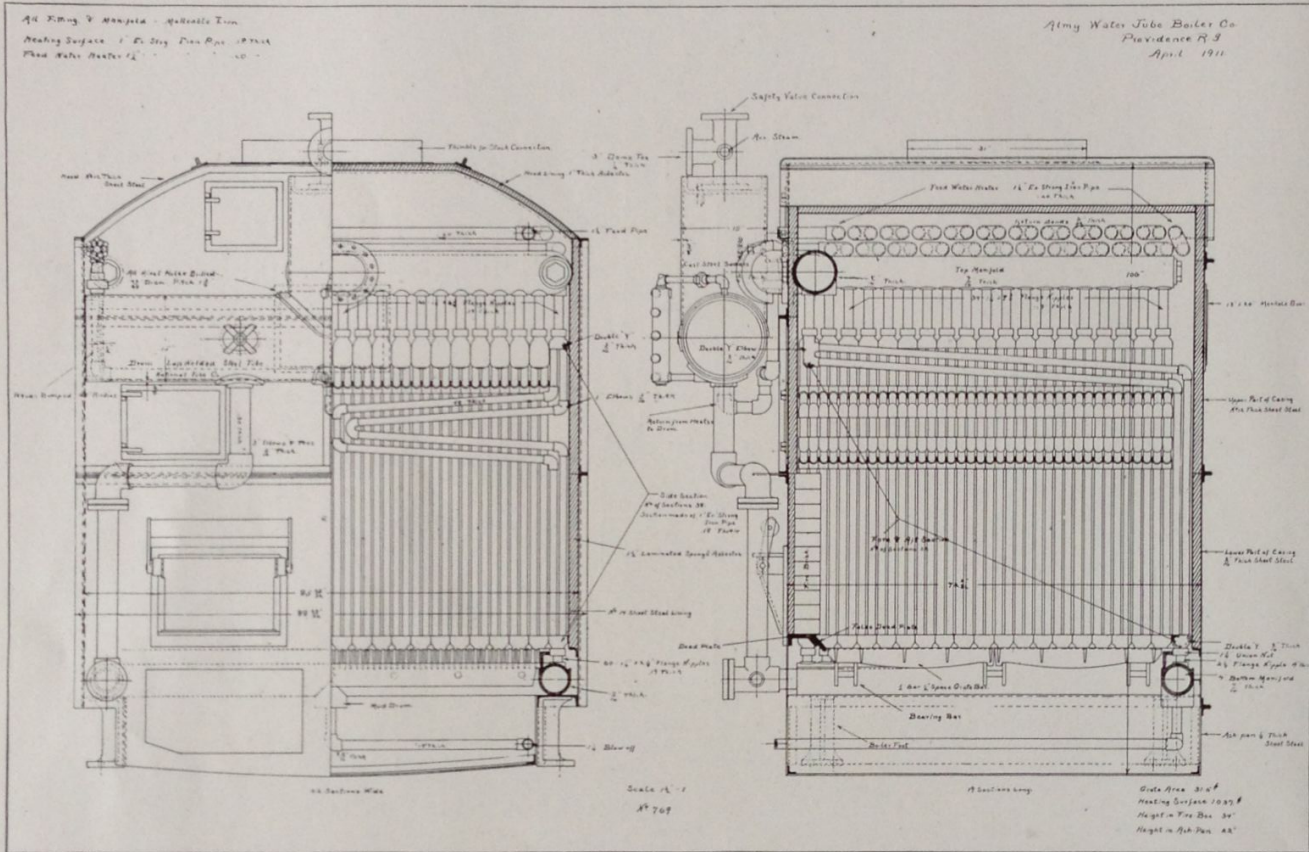
PARTIAL LIST OF SIZES — TYPE "E"

Width of Casing	Length of Casing	Height of Casing	Grate Area Sq. Ft.	Heating Surface Sq. Ft.	Approximate Weight—Lbs. Dry
81 ³¹ / ₃₂ "	83 ⁹ / ₁₆ "	113.4	30.1	1359.	20389
81 ³¹ / ₃₂ "	86 ³¹ / ₃₂ "	113.6	31.6	1416.1	21241
81 ³¹ / ₃₂ "	90 ³ / ₈ "	113.8	33.	1473.1	22096
81 ³¹ / ₃₂ "	93 ²⁵ / ₃₂ "	114.	34.5	1530.2	22954
88 ²⁵ / ₃₂ "	86 ³¹ / ₃₂ "	115.7	35.1	1493.6	22404
88 ²⁵ / ₃₂ "	90 ³ / ₈ "	115.9	36.7	1552.5	23288
88 ²⁵ / ₃₂ "	93 ²⁵ / ₃₂ "	116.1	38.3	1611.8	24178
95 ¹⁹ / ₃₂ "	86 ³¹ / ₃₂ "	117.8	38.6	1573.5	23602
95 ¹⁹ / ₃₂ "	90 ³ / ₈ "	118.	40.4	1634.6	24520
95 ¹⁹ / ₃₂ "	93 ²⁵ / ₃₂ "	118.2	42.1	1696.	25441
95 ¹⁹ / ₃₂ "	97 ³ / ₁₆ "	118.4	43.9	1757.5	26363
95 ¹⁹ / ₃₂ "	100 ¹⁹ / ₃₂ "	118.6	45.7	1818.3	27275
102 ¹³ / ₃₂ "	90 ³ / ₈ "	120.1	44.	1718.5	25778
102 ¹³ / ₃₂ "	93 ²⁵ / ₃₂ "	120.3	46.	1782.2	26734
102 ¹³ / ₃₂ "	97 ³ / ₁₆ "	120.5	47.9	1845.6	27684
102 ¹³ / ₃₂ "	100 ¹⁹ / ₃₂ "	120.7	49.8	1909.4	28641
108 ³¹ / ₃₂ "	90 ³ / ₈ "	122.2	47.7	1798.2	26974
108 ³¹ / ₃₂ "	93 ²⁵ / ₃₂ "	122.4	49.8	1864.5	27968
108 ³¹ / ₃₂ "	97 ³ / ₁₆ "	122.6	51.9	1930.2	28953
108 ³¹ / ₃₂ "	100 ¹⁹ / ₃₂ "	122.8	54.	1996.1	29942



Type "D"

Type "D" Tubes are 1" Pipe Size, 1 5/16" outside diameter. .18" thick. The Height and Heating Surface of Boiler Sizes given below are based on 24" from bottom of ash-pan to top of grate, and 36" height of fire box.



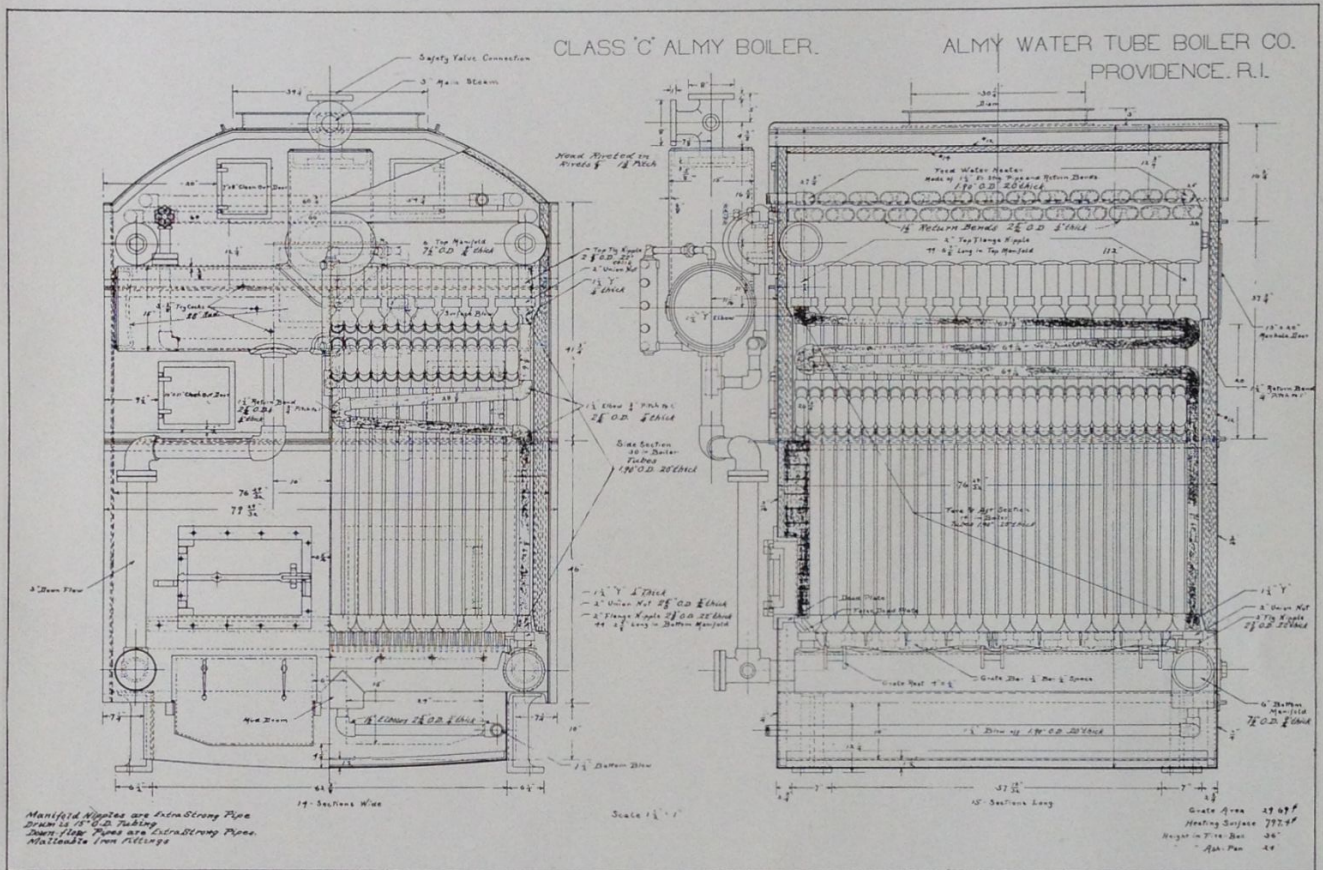
PARTIAL LIST OF SIZES—TYPE "D"

Width of Casing	Length of Casing	Height of Casing	Grate Area Sq. Ft.	Heating Surface Sq. Ft.	Approximate Weight—Lbs. Dry
63 ³ / ₈ "	63 ¹ / ₈ "	103 ³ / ₄ "	17.8	690.2	11044
67 ²⁵ / ₃₂ "	63 ¹ / ₈ "	109 ³ / ₈ "	19.	720.4	11526
67 ²⁵ / ₃₂ "	66 ¹⁷ / ₃₂ "	109 ¹ / ₂ "	20.3	761.3	12180
71 ³ / ₁₆ "	66 ¹⁷ / ₃₂ "	110 ¹ / ₈ "	21.6	793.4	12695
71 ³ / ₁₆ "	69 ¹⁵ / ₁₆ "	110 ³ / ₈ "	22.9	833.3	13333
74 ¹⁹ / ₃₂ "	69 ¹⁵ / ₁₆ "	111"	24.3	867.	13872
74 ¹⁹ / ₃₂ "	73 ¹¹ / ₃₂ "	111 ¹ / ₄ "	25.7	908.4	14534
78"	73 ¹¹ / ₃₂ "	111 ⁷ / ₈ "	27.2	943.3	15093
78"	76 ³ / ₄ "	112"	28.7	986.4	15783
78"	80 ¹³ / ₃₂ "	112 ¹ / ₄ "	30.2	1032.5	16520
81 ¹³ / ₃₂ "	80 ¹³ / ₃₂ "	112 ⁷ / ₈ "	31.8	1065.6	17049
81 ¹³ / ₃₂ "	83 ⁹ / ₁₆ "	113"	33.4	1115.3	17844
81 ¹³ / ₃₂ "	87 ⁷ / ₃₂ "	113 ¹ / ₄ "	35.	1159.9	18558



Type "C"

Type "C" Tubes are 1½" Pipe Size, 1.9" outside diameter. .2" thick. The Height and Heating Surface of Boiler Sizes given below are based on 24" from bottom of ash-pan to top of grate, and 36" height of fire box.



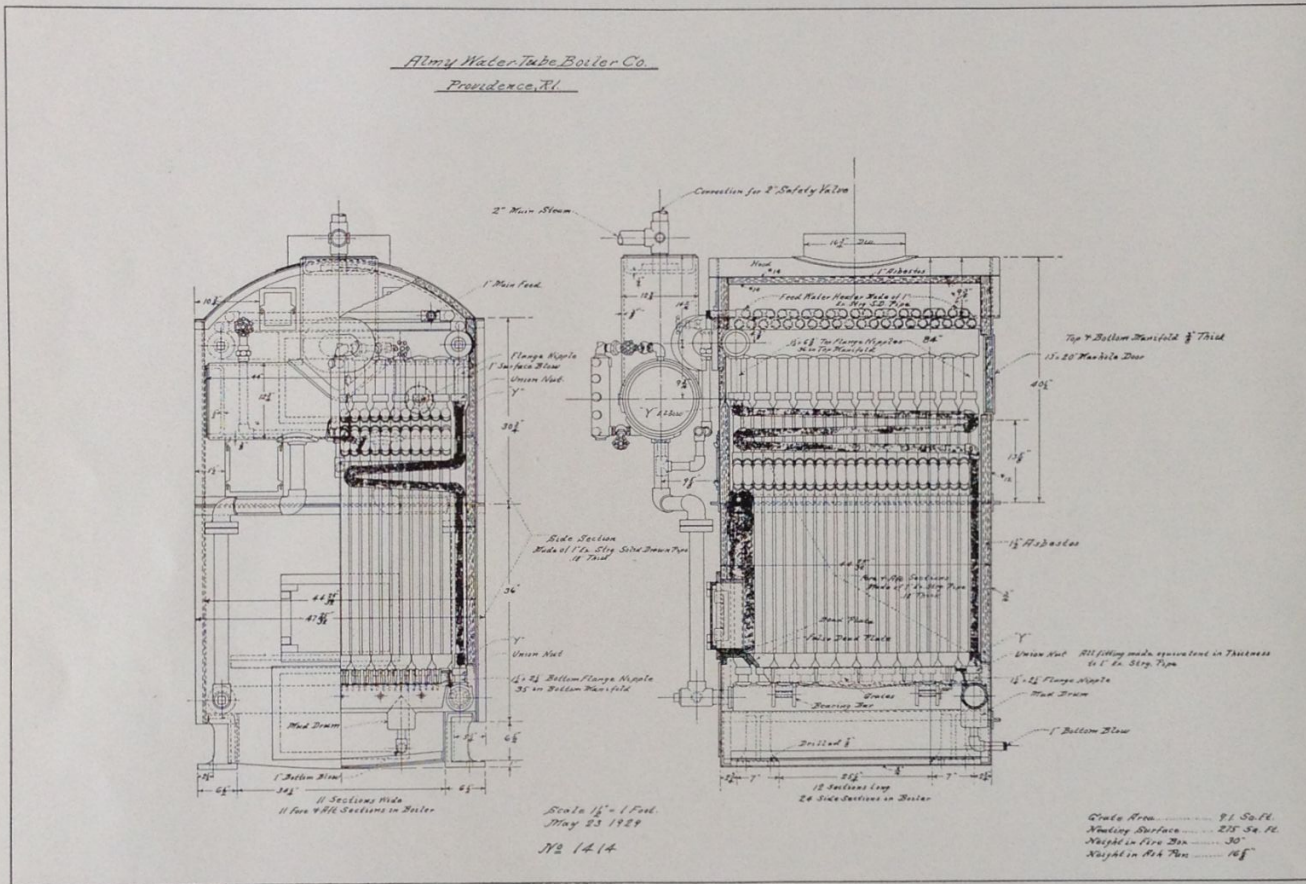
PARTIAL LIST OF SIZES — TYPE "C"

Width of Casing	Length of Casing	Height of Casing	Grate Area Sq. Ft.	Heating Surface Sq. Ft.	Approximate Weight—Lbs. Dry
67 ¹⁵ / ₃₂ "	67 ¹⁵ / ₃₂ "	112 ³ / ₄ "	21.7	622	12440
72 ³ / ₁₆ "	67 ¹⁵ / ₃₂ "	113 ³ / ₈ "	23.5	661	13220
72 ³ / ₁₆ "	72 ³ / ₁₆ "	113 ³ / ₄ "	25.5	704	14080
76 ²⁹ / ₃₂ "	72 ³ / ₁₆ "	114 ³ / ₈ "	27.5	746	14920
76 ²⁹ / ₃₂ "	76 ²⁹ / ₃₂ "	114 ⁵ / ₈ "	29.5	797	15940
81 ⁵ / ₈ "	76 ²⁹ / ₃₂ "	115 ¹ / ₄ "	31.8	840	16800
81 ⁵ / ₈ "	81 ⁵ / ₈ "	115 ¹ / ₂ "	34.1	888	17760
86 ¹¹ / ₃₂ "	81 ⁵ / ₈ "	116 ¹ / ₄ "	36.4	934	18680
86 ¹¹ / ₃₂ "	86 ¹¹ / ₃₂ "	116 ¹ / ₂ "	38.8	990	19800
91 ¹ / ₁₆ "	86 ¹¹ / ₃₂ "	117 ¹ / ₈ "	41.3	1038	20760
91 ¹ / ₁₆ "	91 ¹ / ₁₆ "	117 ¹ / ₂ "	43.9	1092	21840
95 ²⁵ / ₃₂ "	91 ¹ / ₁₆ "	118"	46.5	1143	22860



Type "B"

Type "B" Tubes are 1" Pipe Size, 1 5/16" outside diameter. .18" thick. The Height and Heating Surface of Boiler Sizes given below are based on 20" from bottom of ash-pan to top of grate, and 30" height of fire box.



PARTIAL LIST OF SIZES — TYPE "B"

Width of Casing	Length of Casing	Height of Casing	Grate Area Sq. Ft.	Heating Surface Sq. Ft.	Approximate Weight—Lbs. Dry
44 ²⁵ / ₃₂ "	44 ²⁵ / ₃₂ "	88 ¹ / ₄ "	9.1	277	5179
48 ³ / ₁₆ "	44 ²⁵ / ₃₂ "	88 ⁷ / ₈ "	9.9	295	5516
48 ³ / ₁₆ "	48 ³ / ₁₆ "	89 ¹ / ₈ "	10.9	319	5965
51 ¹⁹ / ₃₂ "	48 ³ / ₁₆ "	89 ³ / ₄ "	11.8	338	6320
51 ¹⁹ / ₃₂ "	51 ¹⁹ / ₃₂ "	90"	12.8	361	6750
55"	51 ¹⁹ / ₃₂ "	90 ¹ / ₂ "	13.8	382	7143
55"	55"	90 ³ / ₄ "	14.9	407	7610
58 ¹³ / ₃₂ "	55"	91 ³ / ₈ "	16.	428	8003
58 ¹³ / ₃₂ "	58 ¹³ / ₃₂ "	91 ¹ / ₂ "	17.2	455	8508
61 ¹³ / ₁₆ "	58 ¹³ / ₃₂ "	92 ¹ / ₈ "	18.4	474	8863
61 ¹³ / ₁₆ "	61 ¹³ / ₁₆ "	92 ³ / ₈ "	19.6	504	9424
65 ⁷ / ₃₂ "	61 ¹³ / ₁₆ "	93 ¹ / ₂ "	20.9	528	9873

