

STEEL BOILER TYPE C

DESIGN AND CONSTRUCTION CHARACTERISTICS

Material:

The component parts consist of only seven simple shapes compacted together so as to limit the bulk and shorten the seams.

Flange steel plate, extra thickness is used. Tensile strength 50,000 to 60,000 pounds per square inch. This boiler plate is of homogeneous quality with high ductility and low carbon content (not exceeding 0.20%) as required for sound arc fusion welds.

Construction:

The requirements of the A. S. M. E. Code for low pressure heating boilers are fully complied with.

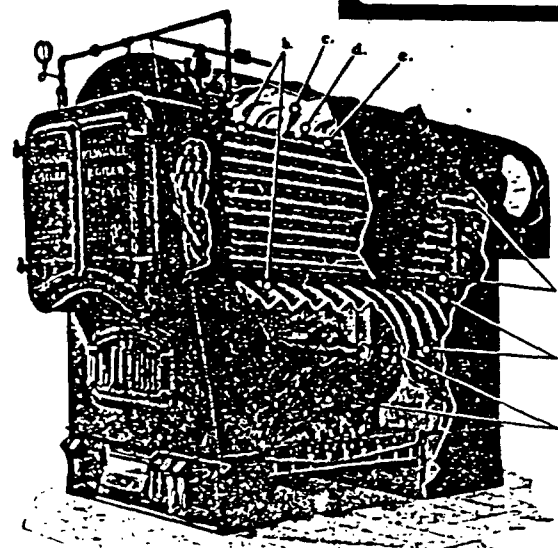
In building Type C boilers there is applied all the skill in manufacture and all the approved procedure evolved by expert boiler makers throughout forty years of continuous practical experience. Fanciful and untried links are eliminated and a high degree of workmanship is assured with no unnecessary shop expense. Contact surfaces on door castings are ground to dust-proof finish.

Performance:

Positive proof of actual performance beyond the specified duty is to be found in the figures derived from extended tests on the Type C boiler series made at Kewanee Boiler Corporation laboratory under practical operating conditions. The knowledge gained from this research has been so well applied in the design that the completed product carries handsily all radiation loads up to the full catalog rating plus, for each size, with high efficiency.

Backing:

The name KEWANEE means as much on the new Type C boiler as it has meant for nearly half a century on all Kewanee boilers. That is, the dependable heating service of Type C boilers is guaranteed by Kewanee.



Design:

Distribution of the materials of construction is so arranged to concentrate most of the effective heating surface around the hot fire zone with a consequent quick transfer of more heat to the water.

- a. The water content is sub-divided so that there is ample volume at all the hottest parts, and aided by the header all the water is kept in active circulation, sweeping steam bubbles from the heating surfaces as fast as they are formed thus permitting the absorption of more of the useful heat of combustion.
- b. Although the circulation is rapid it is so orderly that the water level remains steady. There is no danger of a dry crown sheet. No moisture or slugs of water are carried over into the steam main.
- c. With the high and wide steam space which is provided, there is plenty of room for a reserve supply of dry steam.
- d. The disengaging area at the surface of the water line is unbroken and large enough to prevent priming which otherwise might be caused by crowding the expanded bubbles at the moment steam is liberated. In other makes the flues interfere with the liberation of steam as the water line is artificially lowered below the upper flues which in consequence cannot even make steam.
- e. But in the Type C boiler the top rows of flues are under water, all the flues are effective in making steam.
- f. Grouping the flues in banks not only permits free circulation of water around them, but it also offsets any tendency for sediment to become deposited and lodged thereon. The expanded gases are thoroughly strained through these nests of flues so that as much heat as possible is lifted off during their travel to and fro their full length.
- g. In order to promote perfect combustion, there is extra width and height both in the furnace and in the rear combustion chamber. This gives time for enough air to penetrate the fuel and mingle with the products of combustion. An arch is arranged to deflect any unburnt gases over the glowing fuel bed at the rear. In this way combustion is completed and smoke eliminated at all loads.

Uniform Rating

"The ratings published in this catalog are in conformity with the Steel Heating Boiler Institute's Code for Rating Low Pressure Heating Boilers."

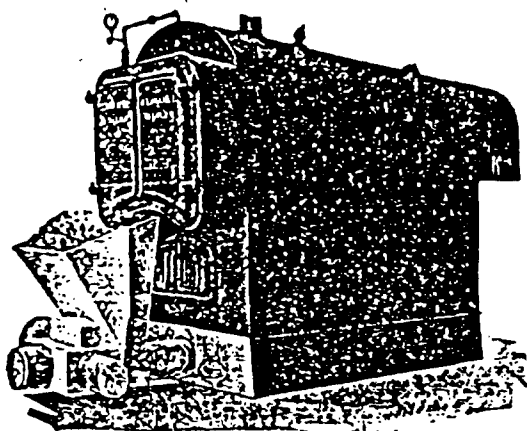
Type C rating is Total Radiation Load at boiler outlet expressed in equivalent surface of cast iron radiators emitting 240 units of heat or B. T. U.'s per square foot per hour for Steam, at 2 lbs. pressure and 150 B. T. U. for Water at 18 degrees temperature.

Total Radiation Load corresponds with the estimated design load which is the sum of 3 items—

1. Normal heat emission of connected radiation required to heat the building to 70 degrees.
2. Maximum heat required for water heaters and other apparatus.
3. Heat emission of all mains and piping connections.

Provided the stack and breeching connections are in accordance with the manufacturer's specification, each Type C Boiler will carry all the radiation load listed as its capacity, and in addition will easily handle large overloads with long firing periods and with low stack temperatures.





Type C Boiler with Typical Stoker attachment
Numbers 1749 to 1770—to Heat 2790 to 40,200 Sq. Ft.
of Equivalent Direct Radiation

KEWANEE STEEL BOILER

Electric-Weld TYPE C

BURNS ANY KIND OF COAL, OIL OR GAS

The question what fuel to use may be paramount for the users of other makes of boilers but not so for the purchaser of Type C.

The owner of a Kewanee Compact Style Heating Unit has no difficulty with any fuel. The most available will serve best. Even a change-over from one fuel to another presents no complications.

With this wide adaptability in reserve, the customer may choose any of the Solid Fuels in various grades. Bituminous Soft Coals either for Hand Firing or with modern Stoker feed attachments. Powdered coal, briquettes, coke or processed fuels may be provided for as also may Anthracite Hard Fuel.

For Liquid Fuel any oil burner on the market will perform at its best with Type C.

Wherever Gaseous Fuel is practicable, Natural Gas or the manufactured and synthetic varieties have been used for years with outstanding results under Kewanee Boilers. Those performances are not mere claims. The highly economical results are deduced from careful observations in elaborate tests.

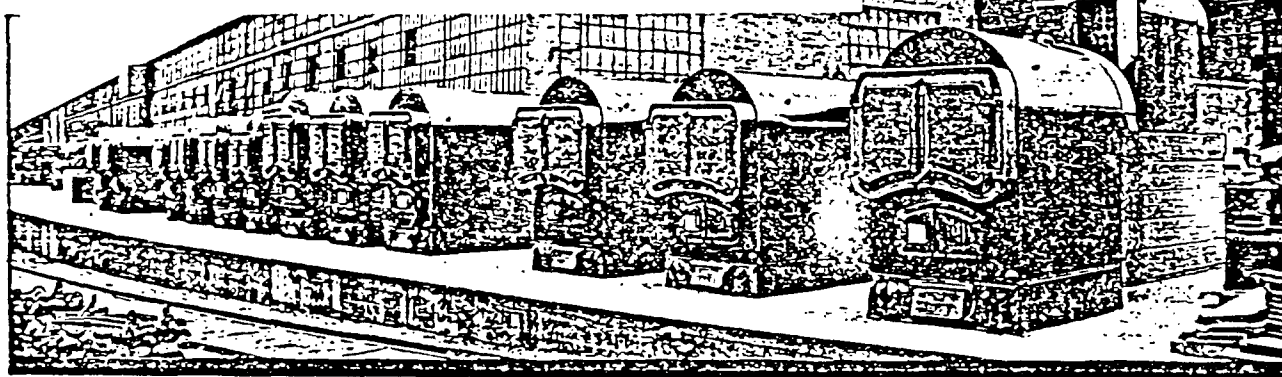
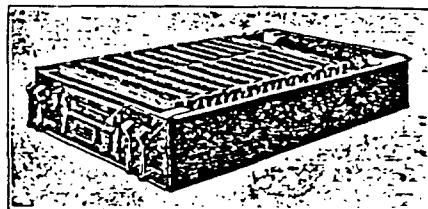
BASE GOES INTO BASEMENT ALL READY ASSEMBLED

Type C base consists of four substantial cast iron corner posts which take the weight of the boiler. The front plate is cast iron with balanced draft door and hinged frame which swings open to facilitate cleaning out the ash pit.

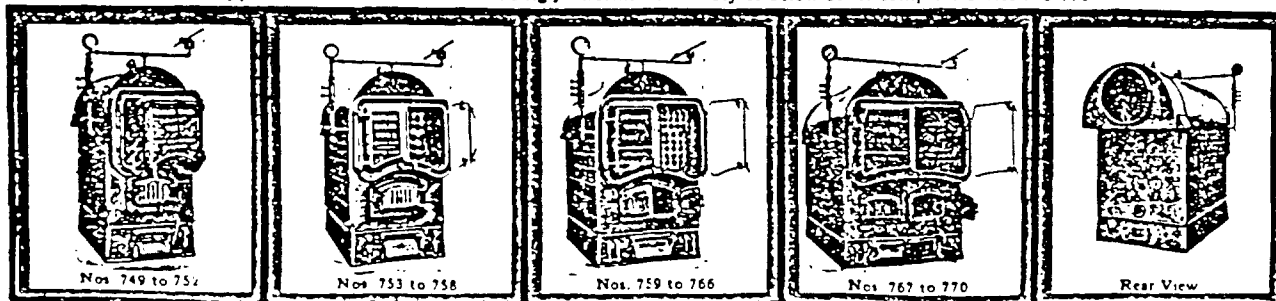
The sides and back are heavy steel plate flanged over at top to hold boiler cover.

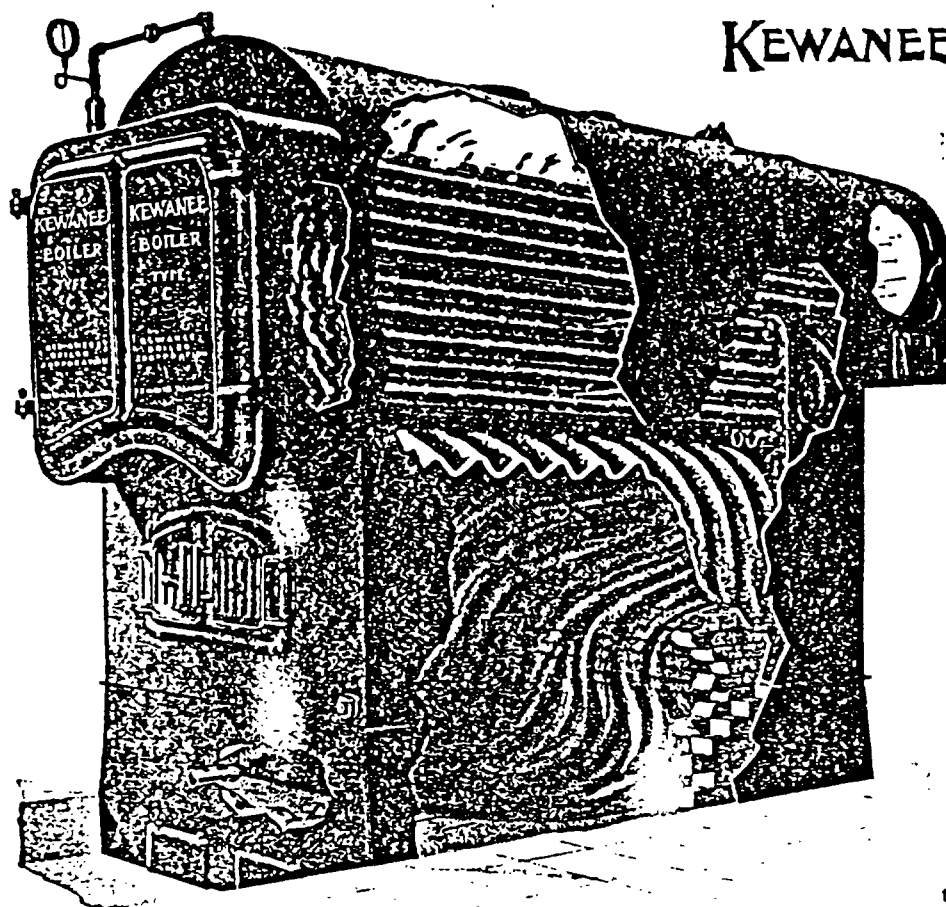
Opening at rear has removable cover plate to permit cleaning out back of bridgwall under rear combustion chamber.

The complete base is shipped out from the factory fully assembled with grate bars, shaker arms, rods and levers in place all ready to operate after it is laid down on foundation with boiler shell set on top.



Type C Boilers 750 to 761 on loading platform. The 4 styles below cover complete Series 749-770





KEWANEE STEEL BOILER

Electric-Weld

TYPE C

EQUIPMENT—Base with four cast-iron corner posts, heavy steel flanged sides with rear cleanout opening; cast-iron front plate (not shown); firedoor(s), frame and Liner(s); Refractory lined fire door(s) and frame, smokebox and soot cleanout doors, tube scraper. Steel plate for mounting oil burners and for dampered hearth openings not furnished by K. B. Corp.

Trimmings for Steam Boiler—Water column with water gauge and three (or 2) compression gauge cocks; steam gauge with syphon and cock; pop safety valve(s). No trimmings of any kind furnished with water boilers.

DIRECT DRAFT For Burning Oil

Numbers 1749 to 1770—
to Heat 2790 to 40,200 Sq. Ft. c
Equivalent Direct Radiation

THE same predominant qualities which make the Kewanee Type C Boiler so well adapted for burning coal, apply just as emphatically in making this boiler suitable for burning oil.

Extensive tests have been carried on in the laboratory at Kewanee during the last five or six year with the purpose of developing ideal conditions as to boiler settings, furnace requirements, etc., for burning oil with satisfactory results under all types and sizes of Kewanee boilers when equipped with leading commercial oil burners.

In view of the remarkably high efficiencies attained in numerous instances, we feel that Kewanee is well qualified to give expert advice to customers regarding the methods of installing any oil burners of recognized standing, for either front or rear firing. As a matter of fact, blue prints will be cheerfully furnished showing foundation and setting plan recommended in each particular instance.

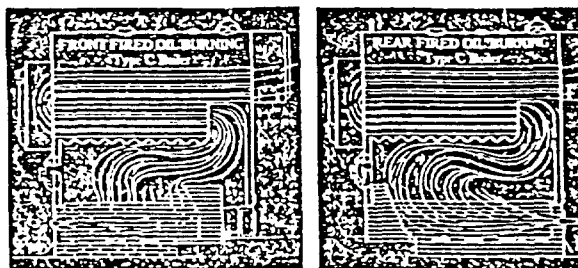
It has become an axiom with experts in heating that "if you burn oil and expect to get steam, you must have a boiler that will steam just as well with coal or any other fuel." That is precisely what the Type C steel boiler will do. It will give very high figures for efficiency with any kind of fuel.

And whatever fuel may be under consideration, the purchaser is sure of an economical "buy" in the Kewanee Type C steel boiler. That is to say the first cost will be moderate and the upkeep cost which includes both fuel bill and repairs will be low. Every dollar expended for fuel will produce a high percentage of heat units.

The strong steel plate construction consisting of simple shapes compactly united by the electric-weld method is done in the same shops where the well known Kewanee boilers have been made for 40 years. This is a guarantee that nothing is skimmed in workmanship on Type C boilers.

The well balanced features which make Type C a real boiler, designed on the scientific principles enumerated on previous pages, of the coal burning section in this catalog, also hold good for the oil burning boiler, proving its ability to fulfill a definite demand in the heating business for a boiler of minimum advisable dimensions for handling the load for which it is rated.

Type C Oil Burning Boiler Settings—Front or Rear Fired



KEWANEE STEEL BOILER

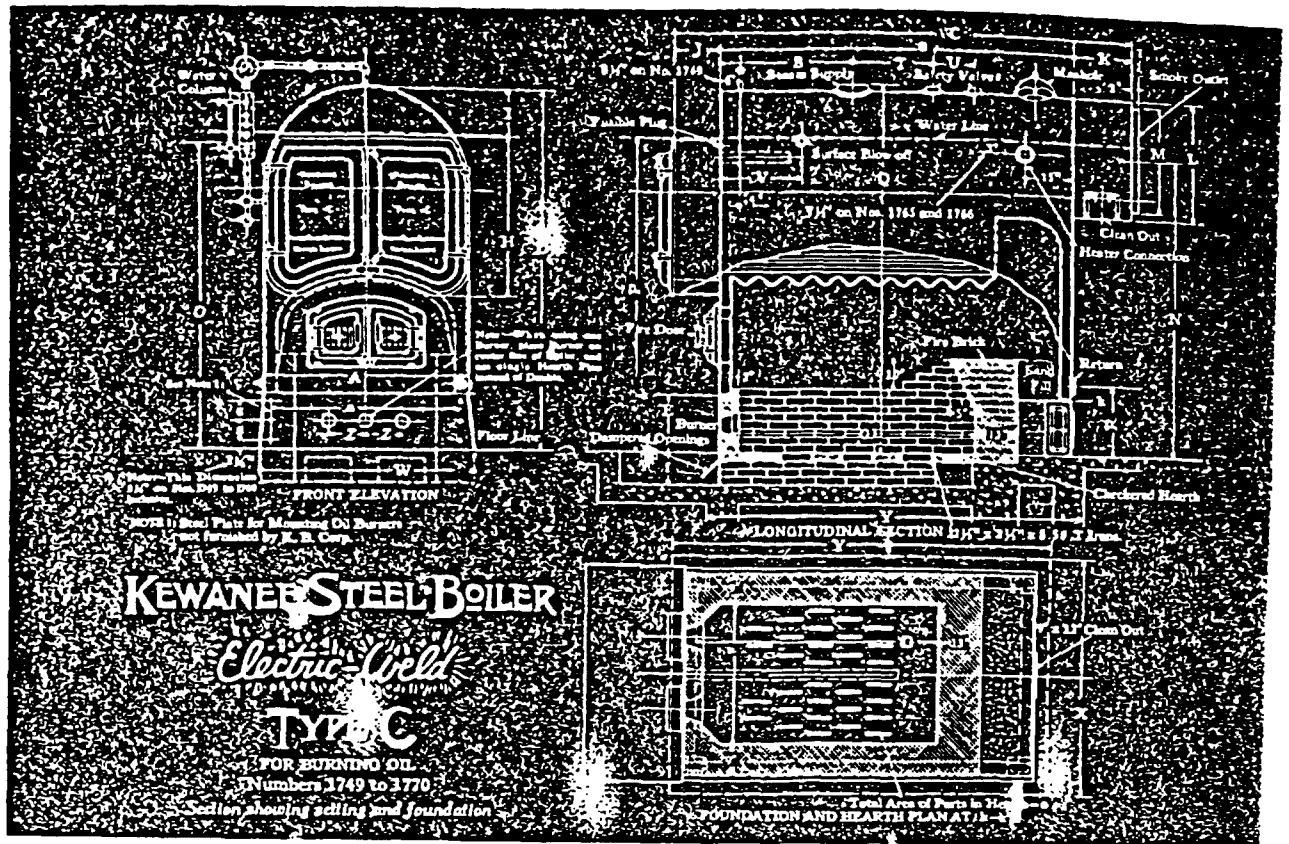
Electric-Weld

TYPE C

SPECIFICATIONS AND DATA
for burning oil

Number of Boiler.	1749	1750	1751	1752	1753	1754	1755	1756	1757	1758	1759	1760	1761	1762	1763	1764	1765	1766	1767	1768	1769	1770
Code Steam Boiler	Cob4y	Cob4b	Cob4m	Cob4j	Cob4p	Cob4r	Coc4n	Coc4p	Coc4r	Coc4s	Coc4n	Coc4p	Coc4r	Coc4s	Coc4r	Coc4s	Coc4r	Coc4s	Coc4r	Coc4s	Coc4r	Coc4s
Capacity, Steam Boiler, sq. ft.	2790	3260	3940	4450	4930	5520	6370	7220	7850	8500	10040	11670	13180	14700	17420	19880	22650	25200	27300	31000	34900	40200
Heating Surface . . . sq. ft.	164	192	232	262	290	325	375	425	462	591	686	775	865	1025	1170	1333	1482	1608	1824	2056	2362	
Furnace Volume. . . . cu. ft.	24.0	26.8	31.1	35.7	44.0	47.6	52.1	61.8	67.0	72.2	86.7	96.0	113.1	124.8	151.1	168.8	185.9	201.0	230.6	256.0	275.7	309.6
Width of Boiler in.	36	36	36	36	42	42	42	48	48	48	54	54	60	60	66	66	72	72	78	78	84	84
Length of Boiler in.	50	56	68	76	70½	78½	90	73	79	85	89½	103	96½	107	115	130	118½	131	130	146½	131	149
Overall Height, Floor to Top of Shell in.	77½	77½	77½	77½	83½	83½	83½	97	97	97	99	99	108½	108½	111½	111½	117½	117½	121½	121½	135	135
Overall Length of Boiler ft. in.	5-10	6-4	7-4	8-0	7-10½	8-6½	9-6	8-3	8-9	9-3	9-8½	10-10	10-4½	11-3	11-11	13-2	12-8½	13-9	13-8	15-0½	13-9	15-3
Height of Water-line . . in.	69	69	69	69	72	72	72	82	82	82	85	85	94	94	95	95	101	101	103	103	114	114
Approx. Weight, Pounds . .	3600	3800	4200	4600	5000	5400	5900	6600	7000	7300	8800	9600	10600	11500	13700	15100	16600	17800	19200	21100	24300	27000
Length of Firebox . . . in.	43	49	62	70	4	72	84	67	73	79	83	97	89	100	107	122	111	122	123	139	123	141
Width of Firebox in.	30	30	30	30	36	36	36	42	42	42	47½	47½	52½	52½	58½	58½	64	64	70	70	76	76
Height of Firebox in.	26	26	26	26	29	29	29	32	32	32	34	34	36	36	38	38	40	40	42	42	42	42
Size of Steam Opening . . in.	6	6	6	6	6	6	6	8	8	8	8	8	8	8	8	8	8	8	8	10	10	10
Size of Return Opening . in.	4	4	4	4	4	4	4	5	5	5	5	5	6	6	6	6	6	6	6	6	6	6
Size of Safety Valve Opening in.	2	2	2	2	2	2	2½	2½	3	3	3	3½	3½	3½	3½	4	4	2-2½	2-2½	2-3	2-3	2-3
Diameter of Breeching, One Boiler in.	20	22	22	22	24	24	24	26	26	26	28	28	32	32	34	34	36	36	40	40	42	42
Diameter of Stack, One Boiler in.	18	20	20	20	22	22	22	24	24	26	26	28	30	30	32	32	34	34	38	38	40	40
Min. Height of Stack, One Boiler ft.	45	50	50	55	55	55	60	60	60	65	65	65	70	70	70	70	80	90	90	90	100	100
Diameter of Breeching, Two Boilers in.	28	30	30	30	34	34	34	38	38	40	40	44	46	46	50	50	52	52	54	56	56	56
Diameter of Stack, Two Boilers in.	26	28	28	28	31	31	31	34	34	36	36	40	42	42	46	46	48	48	52	54	54	54
Min. Height of Stack, Two Boilers ft.	55	60	60	65	65	65	70	70	70	75	75	75	80	80	80	80	90	100	100	100	110	110
Number of Fire Brick Required	290	320	350	390	450	470	490	460	490	520	610	640	720	770	800	850	920	960	990	1050	1220	1300
Outside Surface to Cover sq. ft.	62	68	80	89	93	102	115	116	124	132	145	165	172	187	210	234	231	252	265	294	294	328

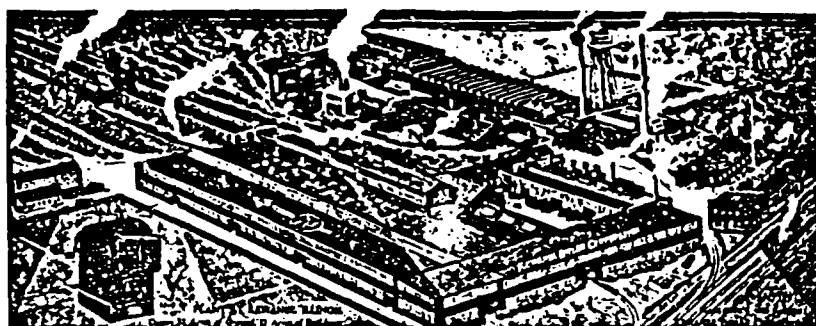
Rated Capacity for Water Boiler is 60% Greater than Capacity of Steam Boiler
For Water add word to code, example: Ship today one COBEM WATER complete.



SETTING AND BOILER MEASUREMENTS

for burni

Number of Boiler	1749	1750	1751	1752	1753	1754	1755	1756	1757	1758	1759	1760	1761	1762	1763	1764	1765	1766	1767	1768	1769
A—Width of Boiler in.	36	36	36	36	42	42	42	48	48	48	54	54	60	60	66	66	72	72	78	78	84
B—Length of Boiler ft. in.	4-2	4-8	5-8	6-4	5-10 1/2	6-6 1/2	7-6	6-1	6-7	7-1	7-5 1/2	8-7	8-0 1/2	8-11	9-7	10-10	9-10 1/2	10-11	10-10	12-2 1/2	10-1
C—Overall Length of Boiler ft. in.	5-10	6-4	7-4	8-0	7-10 1/2	8-6 1/2	9-6	8-3	8-9	9-3	9-8 1/2	10-10	10-4 1/2	11-3	11-11	13-2	12-8 1/2	13-9	13-8	15-0 1/2	13-4
D—Overall Height of Boiler in.	77 1/2	77 1/2	77 1/2	77 1/2	83 1/2	83 1/2	83 1/2	97	97	97	99	99	108 1/2	108 1/2	111 1/2	111 1/2	117 1/2	117 1/2	121 1/2	121 1/2	135
E—Height of Base in.	14	14	14	14	14	14	14	14	14	14	14	14	17	17	17	17	17	17	17	17	21
F—Width of Furnace in.	18	18	18	18	24	24	24	30	30	30	36	36	42	42	48	48	54	54	60	60	66
G—Length of Furnace in.	37	43	50	60	54	58	62	57	63	69	68	74	68	76	72	81	85	92	88	98	98
H—Hgt. of Front Smokebox in.	34	34	34	34	34	34	34	42	42	42	42	42	48	48	48	48	51	51	52	52	61
I—Top of Front Smokebox to Top of Boiler in.	10	10	10	10	13	13	13	16	16	16	16	16	16	16	18	18	17	17	19	19	21
J—Depth of Front Smokebox in.	9	9	9	9	10	10	10	11	11	11	12	12	12	12	12	12	14	14	14	14	14
K—Depth of Rear Smokebox in.	11	11	11	11	14	14	14	15	15	15	15	15	16	16	16	16	20	20	20	20	20
L—Hgt. of Rear Smokebox in.	26	26	26	26	29	29	29	35 1/2	35 1/2	35 1/2	35 1/2	35 1/2	36	36	39	39	43	43	45 1/2	45 1/2	49 1/2
M—Diam. of Smoke Outlet in.	22	22	22	22	24	24	24	26	26	26	28	28	32	32	34	34	36	36	40	40	42
N—Height Smoke Outlet Above Floor in.	64 1/2	64 1/2	64 1/2	64 1/2	69	69	69	79	79	79	81 1/2	81 1/2	90 1/2	90 1/2	93	93	96	96	99	99	111 1/2
O—Height of Water Col. in.	67	67	67	67	70	70	70	80	80	80	82	82	91	91	92 1/2	92 1/2	98	98	100	100	111
P—Height of Water Line in.	69	69	69	69	72	72	72	82	82	82	85	85	94	94	95	95	101	101	103	103	111 1/2
Q—Height of Steam Supply in.	79 1/2	79 1/2	79 1/2	79 1/2	85 1/2	85 1/2	85 1/2	99	99	99	101	101	110 1/2	110 1/2	113 1/2	113 1/2	119 1/2	119 1/2	123 1/2	123 1/2	13
R—Height of Return in.	18	18	18	18	18	18	18	19	19	19	19	19	22	22	22	22	22	22	22	22	26
S—Location of Steam Supply in.	10 1/2	14	14	16	14	16	18	16	18	21	18	21	18	21	18	21	21	21	21	21	21
T—Location of 1st Safety Valve in.	8 1/2	10	10	10	10	10	11	12	13	14	13	14	13	14	13	14	14	14	14	14	14
U—Location of 2nd Safety Valve in.																					
V—Location of Surface Blow-off in.	12	12	12	12	12	12	12	12	12	12	18	24	24	24	24	24	24	24	24	24	24
W—Width of Base in.	38 1/2	38 1/2	38 1/2	38 1/2	44 1/2	44 1/2	44 1/2	50 1/2	50 1/2	50 1/2	56 1/2	56 1/2	63	63	69	69	75	75	81	81	87
X—Width of Foundation in.	46	46	46	46	52	52	52	58	58	58	63 1/2	63 1/2	68 1/2	68 1/2	74 1/2	74 1/2	80	80	86	86	9
Y—Length of Foundation in.	59	66	77	85	80	88	99	82	88	94	81	81	91	91	91	113	127	140	138	154	13
Z—Location of Burners in.																					
a—Bolt Centers in Front Plate in.	31 1/2	31 1/2	31 1/2	31 1/2	37 1/2	37 1/2	37 1/2	43 1/2	43 1/2	43 1/2	49 1/2	49 1/2	55 1/2	55 1/2	61 1/2	61 1/2	67 1/2	67 1/2	73 1/2	73 1/2	76
b—Total Area of Ports in Hearth in.	42	49	59	67	74	83	95	108	118	128	150	175	198	220	260	300	340	378	410	465	52
c—Depth of Pit in.	9	9	9	9	9	9	9	10	10	10	10	10	10	10	11	11	12	12	12	12	1
d—Bolt Centers in Front Plate in.	41	41	41	41	41	41	41	41	41	41	41	41	51	51	51	51	51	51	51	51	7
e—Size of Dampered Opening in.	No Openings	6x11	6x12	6x14	6x16	7x15	7x17	7x18	7x21	7x25	12-7x14	2-7x16	2-8x16	2-8x19	2-9x21	2-9x21	2-9x23	2-9x23	2-9x26	2-10	



KEWANEE STEEL BOILERS

CATALOG 84 Steel Boilers Electric-Weld

Pages	Numbers	Type of Boiler	Sq. Ft. Radiation
2-8	749-770	Type C Portable.....	Coal 2300-33070
9-11	1749-1770		Oil 2790-40200

ALL TYPES OF KEWANEE BOILERS LISTED BELOW MAY ALSO BE SHIPPED FROM STOCK—CATALOGS GIVE THE DETAILS

CATALOG 90 Steel Firebox Boilers Riveted

		Brickset Types	
4-7	0-20	Up-Draft Firebox.....	(Coal 510-18610 Oil 1440-26600)
20-21	104-112	Down-Draft Smokeless Firebox.....	(Coal 1650-7490 Oil 3500-9100)
		Portable Types	
8-11	307-324	Down-Draft Smokeless Firebox.....	(Coal 3390-36810 Oil 5050-44700)
12-15	407-424	Up-Draft Firebox.....	(Coal 2550-33980 Oil 4730-40480)
30-32	524-544	Up-Draft Firebox—"500" Series.....	(Coal 7060-28880 Oil 10110-35070)
28-29	832-843	Up-Draft Firebox—"800" Series.....	(Coal 7920-35170 Oil 9620-42700)
26-27	932-943	Down-Draft Smokeless—"900" Series.....	(Coal 7560-36790 Oil 10060-44670)
22-25	0K-20K	Up-Draft Firebox—Type K.....	(Coal 510-15810 Oil 1040-19190)
18-19	104K-112K	Down-Draft Smokeless—Type K.....	(Coal 1650-5950 Oil 2670-7220)

CATALOG 87 All Types for Burning Oil

CATALOG 88 Steel Residence Boilers Electric-Weld

2-7	740-748	Residence Type R.....	Bituminous (Coal 370-1960)
	2740-2748		Anthracite (Coal 430-1960)
8-9	1740-1748		Oil 450-2380

Separate Catalogs on
Kewanee Steel Water Heating Garbage Burners,
Tabasco Water Heaters and Tanks, Kewanee Power
Boilers and Kewanee Radiators, Sent on Request

KEWANEE BOILER CORPORATION

division of American Radiator & Standard Sanitary Corporation

Head Office and Works: KEWANEE, ILLINOIS

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Dominion Kewanee Boiler Company, Ltd., Toronto, Ontario



Brickset Up-Draft



Portable Down-Draft



Portable Up-Draft



Type K Up-Draft



Type K Down-Draft



"500" Series



"800" Series



"900" Series



Oil Burning



Residence Type R



H. R. Tubular



Oil Country Boiler



Type D Garbage Burner



Tabasco Water Heater



Tabasco Magazine Feed



Extra Heavy Tank



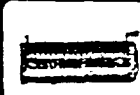
Window Radiator



3-4-5-1 Tube



Blow-Off Tank



Air Receiver

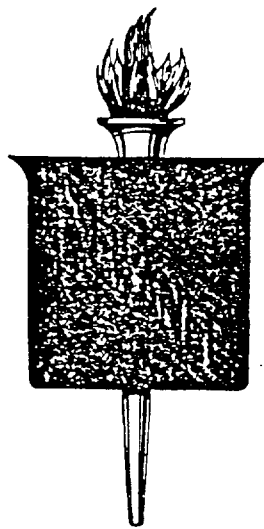


Type A Garbage Burner

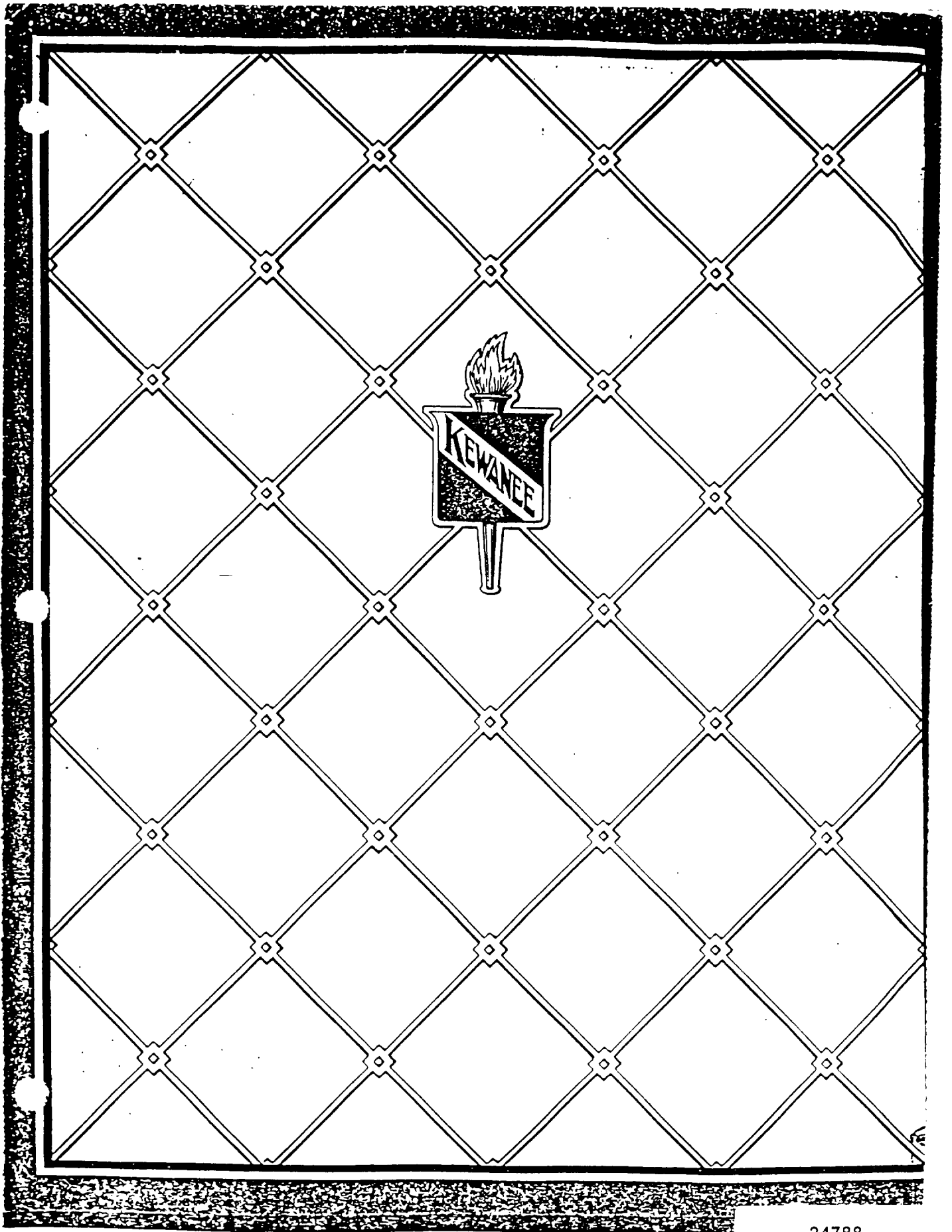


Type H Garbage Burner

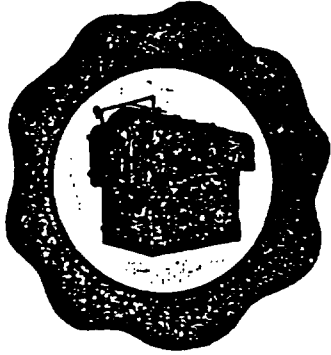
KEWANEE MAKES A STEEL HEATING BOILER TO SUIT EVERY CONDITION OF SERVICE



C. U. MARTIN, AGENT
637 MINNA STREET
SAN FRANCISCO
PHONE: MARKET 3512



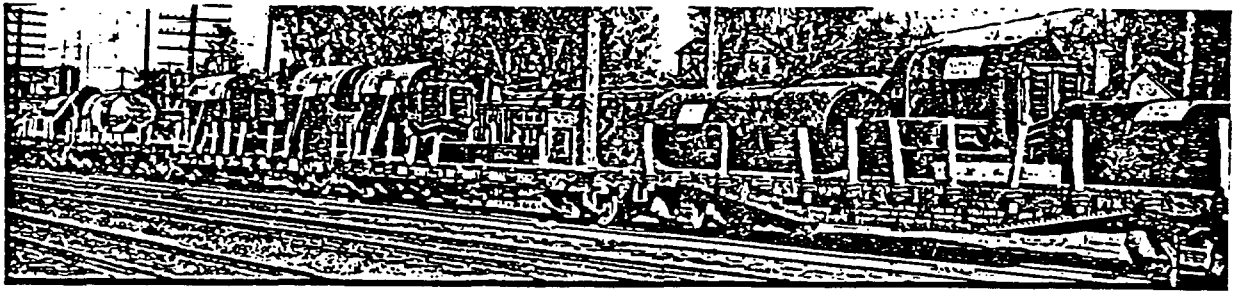
KEWANEE



TYPE C

Electric-Weld

STEEL BOILERS



TRAINLOAD SHIPMENT MADE SAME DAY ORDER IS RECEIVED

Catalog No. 84e
Coal Burning Boilers

—Pages 2 to 8

Oil Burning Boilers

—Pages 9 to 11

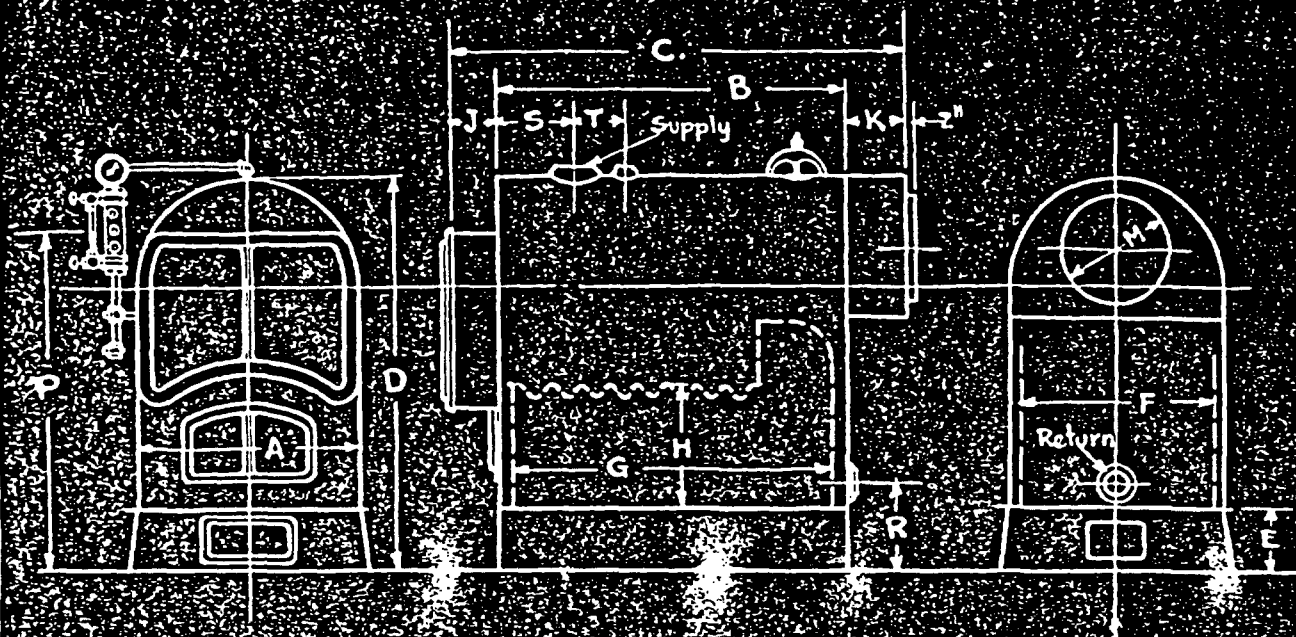
KEWANEE BOILER CORPORATION

division of American Radiator & Standard Sanitary Corporation

Head Office and Works
KEWANEE, ILLINOIS
MEMBER OF STEEL HEATING BOILER INSTITUTE
Branch list page 12

C. U. MARTIN, AGENT
637 MINNA STREET
SAN FRANCISCO
PHONE: MARKET 3612

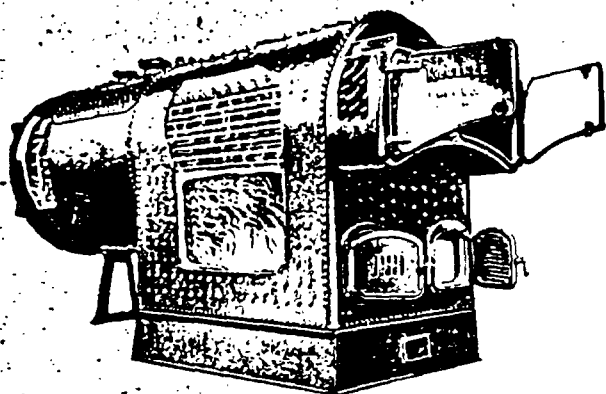
KEWANEE TYPE "C" GAS BOILERS 2" Tubes



Boiler Number	1749	1150	1151	1152	1153	1154	1155	1156	1157	1158	1159	1160	1161	1162	1163	1164	1165	1166	1167	1168	1169	1170
Rating - Steam - Sq. Ft.	3600	4120	5110	5860	6460	6710	8090	9180	10660	11550	12600	14610	16200	16600	17600	18600	20600	21600	22600	23600	24600	25600
Heating Surface - Sq. Ft.	212	248	304	345	365	410	476	515	671	679	741	863	1075	1147	1383	1541	1713	2120	2472	2782	3149	
Furnace Volume - Cu. Ft.	19.6	22.0	25.9	28.7	35.4	39.1	44.7	50.5	54.4	58.0	15.6	80.3	90.8	100.2	124.9	131.8	151.3	166.5	177.1	196.9	190.9	214.1
Width of Boiler - Ft. in.	A	36	36	36	36	42	42	48	48	48	54	54	60	60	66	66	72	72	78	78	84	84
Length of Boiler - Ft. in.	B	4-2	4-8	5-8	6-4	5-10	7-6	7-2	7-10	8-5	7-5	8-7	8-0	8-11	9-7	10-10	10-10	10-10	12-2	10-11	12-5	
Length Overall - Ft. in.	C	5-10	6-4	7-4	8-0	7-10	9-6	9-4	10-0	10-7	9-8	10-10	10-4	11-3	11-11	13-2	12-3	13-9	13-8	15-0	13-9	15-3
Height Overall - Ft. in.	D	17	17	17	17	18	18	18	18	18	18	18	18	18	18	18	18	18	18	18	18	18
Height Base - Ft. in.	E	14	14	14	14	14	14	14	14	14	14	14	14	14	14	14	14	14	14	14	14	14
Firebox Width - Ft. in.	F	30	30	30	30	36	36	42	42	42	42	42	42	42	42	42	42	42	42	42	42	42
Firebox Length - Ft. in.	G	43	43	43	43	43	43	43	43	43	43	43	43	43	43	43	43	43	43	43	43	43
Firebox Height - Ft. in.	H	25	25	25	25	25	25	25	25	25	25	25	25	25	25	25	25	25	25	25	25	25
Front Smokebox - Ft. in.	J	9	9	9	9	10	10	10	11	11	11	12	12	12	12	12	14	14	14	14	14	14
Rear Smokebox - Ft. in.	K	11	11	11	11	11	11	11	11	11	11	15	15	15	15	15	16	16	16	16	16	16
Smoke Outlet Dia. - In.	M	20	22	22	22	24	24	24	24	24	24	24	24	24	24	24	24	24	24	24	24	24
Stack Dia. - In.	N	15	16	18	20	20	21	23	25	26	26	28	28	32	32	34	34	36	36	40	40	42
Stack Height - Ft. in.	O	35	35	40	45	40	45	50	45	45	50	50	50	55	55	65	70	75	85	85	90	90
Breeching Dia. - In.	P	15	16	18	20	20	21	23	25	26	26	28	28	32	32	34	34	36	36	40	40	42
Water Line Height - Ft. in.	Q	64	64	64	64	64	64	64	64	64	64	64	64	64	64	64	64	64	64	64	64	64
Return Height - Ft. in.	R	18	18	18	18	18	18	18	18	18	18	18	18	18	18	18	18	18	18	18	18	18
Location Steam Supply - In.	S	10	14	14	16	14	16	16	18	18	21	18	21	18	21	18	21	21	21	21	21	21
Location Safety Valve - In.	T	8	10	10	10	10	10	11	12	13	14	13	14	13	14	13	14	14	14	14	14	15
Surface to Cover - Sq. Ft.	U	62	68	80	84	83	102	115	116	124	132	145	165	172	189	210	234	231	252	244	244	328
Shipping Weight - Lbs.	V	3310	3440	4140	4510	4540	5230	5410	5540	6040	6340	7010	7410	7310	7410	7410	7410	7410	7410	7410	7410	7410

Less Base

Kewanee



500 Series . . . heavy duty

15 sizes . . . 30 to 304 hp
125 and 150 lb swp

for heavy-duty service . . . providing heat for large apartments, schools, hospitals, office buildings and factories, or for power or process steam . . . Kewanee "500" is a real giant. It is strong, dependable and very efficient. A two-pass firebox type, it is the design which made the name Kewanee famous.

From top to bottom and from front to rear it is built with just one idea . . . to make it the most efficient, dependable and long lived boiler that can be constructed.

Big high fireboxes provide plenty of space and air for the fuel to combine with oxygen and burn, completing the process of combustion before the gases reach the return tubes. In the long travel of the hot gases through the firebox and the lower tubes, then through the upper tubes to the exit chamber, all usable heat is transferred to the boiler's water.

Water surrounds both upper and lower banks of tubes and all sides and top of the fire chamber so the transfer of heat is rapid and certain. Waterways are free of obstructions promoting rapid rise of the steam bubbles to the steam disengaging area and into the capacious steam chamber at the top of the boiler.

The use of 3 inch tubes permits more tubes and more heating surface further helping make the "500" a very fast and efficient steamer. And this efficiency is maintained even when the boiler is pushed to produce 50% and more steam than is guaranteed by its rated capacity.

Both banks of tubes are easily accessible through the large doors at front and rear. Manholes and hand holes provide access to the waterways.

Specifications and data are shown for mechanically-fired boilers. For information regarding fast-fired coal types consult the nearest Kewanee representative.

ratings • mechanically fired — oil, gas or coal

boiler number	576	577	578	579	580	581	582	583	584	585	586	587	588	589	590
rating—horsepower	30	35	39	44	52	61	74	87	109	130	152	174	217	261	304
—steam radiation, sq ft	4250	4860	5470	6080	7290	8520	10330	12150	15180	18220	21250	24290	30360	36430	42500
—Btu per hour, 1000's	1020	1166	1313	1459	1750	2040	2479	2916	3643	4373	5100	5830	7286	8743	10200
—steam per hour, 212 F. lb	1050	1200	1350	1500	1800	2100	2560	3010	3750	4510	5260	6010	7510	9010	10510
firing rate—oil gph*, . . .	13	15	16	18	22	26	31	37	46	54	64	73	91	110	127
—gas Btu per hr, 1000's	1910	2180	2460	2740	3280	3830	4650	5460	6840	8200	9560	10920	13670	16400	19120
heating surface (SBI min.) . . . sq ft	250	286	322	358	429	500	608	715	893	1072	1250	1429	1786	2143	2500
furnace volume (SBI min.) . . . cu ft	30.4	34.8	39.1	43.5	52.1	60.8	73.8	86.8	108.5	130.2	151.8	173.5	216.9	260.3	303.6
furnace height (SBI min.) . . . ft in.	2 6	2 6½	2 7¼	2 7¾	2 8¾	2 10	2 11½	3 1½	3 4¼	3 7	3 10	4 0¾	4 6½	5 0½	5 6
firebox vol. above mud ring, cu ft	39.6	39.6	48.5	48.5	62.1	69.6	97.0	110.4	130.9	157.2	180.2	183.2	207.8	231.9	245.5
*additional furnace height for stack (SBI min.) . . . ft in.													0 6		1 1
safety valve capacity															
—oil gas fired, lb steam per hr	2000	2288	2576	2864	3432	4000	4864	5720	7144	8576	10000	11432	14288	17144	20000
—water fired, lb steam per hr	1750	2007	2254	2506	3003	3500	4256	5005	6251	7504	8750	10003	12502	15001	17500

*Fuel burning rates based on 150,000 Btu oil

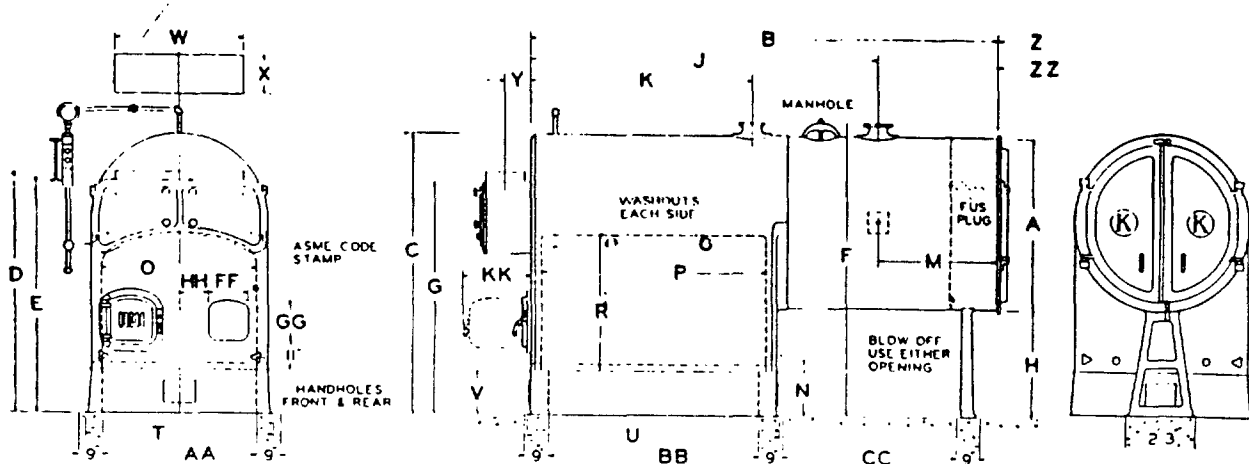
**Represents distance below bottom of water leg that height must be set for SBI minimum furnace volume and height

Standard equipment—Front and rear base panels have 8¼ x 11½ in. opening and cover plate. Flue cleaner and handle. Manhole furnished on 582 and larger. Baffle plate in rear combustion chamber furnished on 576 to 588

Standard trim, steam only—Safety valve, steam gauge with syphon and cocks; water column with water gage glass and three gage cocks, chain operated on 586 and larger

500 series

high pressure • oil, gas or coal fired



NOTE: Use dimension drawing on this attached fly-sheet. Do not use drawing printed beneath.

dimensions and data (feet—inches)

Boiler number	576	577	578	579	580	581	582	583	584	585	586	587	588	589	590
A—boiler diameter	3-6	3-6	4-0	4-0	4-6	4-6	5-0	5-0	5-6	5-6	6-0	6-6	6-6	7-0	7-0
B—boiler length	8-7	9-6 1/2	8-11 1/2	9-8	9-2 1/2	10-6	11-1	12-9	12-10	1-9	14-9	14-9	17-7 1/2	17-9 1/2	20-0 1/2
C—boiler height	6-8 1/2	6-8 1/2	7-2 1/2	7-2 1/2	7-10 1/2	8-6	8-6	8-6	9-0	9-0	9-6	9-8	10-6	10-6	10-6
D—water line height	6-1	6-1	6-4	6-4	6-11	6-11	7-4	7-4	7-9	7-9	8-1 1/2	8-4	8-4	9-0	9-0
E—water column height	5-11	5-11	6-2	6-2	6-9	6-9	7-2	7-2	7-7	7-7	7-11 1/2	8-2	8-2	8-10	8-10
F—steam supply height	7-2	7-2	7-8	7-8	8-5	8-5	9-1	9-1	9-7	9-7	10-1	10-3	10-2 1/2	11-0 1/2	11-0 1/2
G—smoke outlet height	5-11	5-11	6-2	6-2	6-9	6-9	7-3	7-3	7-7	7-7	8-1	8-2	8-2	9-0	9-0
H—rear stand height	3-2	3-2	3-2	3-2	3-4	3-4	3-5	3-5	3-5	3-5	3-5	3-1	3-1	3-5	3-5
J—steam supply	6-0	6-6	6-0	6-6	2-11 1/2	2-11 1/2	3-4	3-6	3-9	3-8	3-8	2-9 1/2	12-6	12-6	13-3
K—safety valve	4-5	4-5	4-5	4-5	4-5	4-11	6-4	6-11	6-11	7-3	7-3	7-7	14-8	14-8	16-5
M—feed water, each side	2-3	2-9	2-6	2-8	2-7	2-11	2-9	3-2	3-2	3-9	3-5	3-7	4-1	4-3	4-3
N—blow-off height	1-7	1-7	1-7	1-7	1-7	1-7	1-10	1-10	1-10	1-10	1-10	1-10	1-10	2-2	2-2
O—firebox—width	3-0	3-0	3-6	3-6	4-0	4-0	4-5	4-5	4-11	4-11	5-5	5-11	5-11	6-5	6-5
P—length	4-2	4-2	4-2	4-2	4-2	4-8	6-0	6-10	6-10	7-2	7-2	7-6	8-6	8-6	9-0
R—height	3-5 1/2	3-5 1/2	3-8	3-8	4-1	4-1	4-1	4-1	4-4	4-4	4-6 1/2	4-7	4-7	4-9	4-9
T—base—width	3-11 1/2	3-11 1/2	4-5 1/2	4-5 1/2	4-11 1/2	4-11 1/2	5-6	5-6	6-0	6-0	6-6	7-0	7-0	7-6 1/2	7-6 1/2
U—length	4-11 1/2	4-11 1/2	4-11 1/2	4-11 1/2	4-11 1/2	5-5 1/2	6-11	7-9	7-9	8-1	8-1	8-5	9-5	9-5	9-11
V—height	1-2	1-2	1-2	1-2	1-2	1-2	1-5	1-5	1-5	1-5	1-5	1-5	1-5	1-9	1-9
W—smoke outlet—length	2-8	2-8	2-10	2-10	3-4	3-4	3-8	3-8	4-3	4-3	4-8	5-0	5-0	5-4	5-4
X—width	0-9	0-9	0-11	0-11	1-0	1-0	1-2	1-2	1-3	1-3	1-7	1-6	1-6	1-10	1-10
Y—location	0-6 1/2	0-6 1/2	0-7 1/2	0-7 1/2	0-8	0-8	0-9	0-9	0-9 1/2	0-9 1/2	0-11 1/2	0-11	0-11	1-1	1-1
Z—rear door clearance, min	3-6	3-6	4-0	4-0	2-6	2-6	2-9	2-9	3-0	3-0	3-3	3-6	3-6	3-9	3-9
AA—foundation—width	3-0	3-0	3-6	3-6	4-0	4-0	4-5	4-5	4-11	4-11	5-5	5-11	5-11	6-5	6-5
BB—length	3-6 1/2	3-6 1/2	3-6 1/2	3-6 1/2	3-6 1/2	4-0 1/2	5-6	6-4	6-4	6-8	6-8	7-0	8-0	8-0	8-6
CC—rear stand	2-9	3-8	3-0	3-8	3-3	4-0	3-0	3-10	4-0	5-6	5-6	5-2	6-10	6-8	7-0
FF & GG—fuel door opening in boiler width & height	one 2-3 x 1-1				two 1-3 x 1-3				two 1-6 x 1-4						
HH—centerline bl to fire door opp	1-8	1-8	1-8	1-8	0-5 1/4	0-5 1/4	0-8	0-8	0-11	0-11	0-11	1-1 1/4	1-1 1/4	1-4 1/4	1-4 1/4
KK—opened fire door to boiler	6-10	7-9	6-10	7-7	6-9	8-1	8-4	10-0	10-1	12-0	11-8	11-4	14-2	14-0	16-3
ZZ—tube replacement space	1-7	1-8	1-9	1-10	1-11	2-0	2-2	2-4	2-6	2-7	2-9	2-11	3-3	3-5	3-7
breaching diameter—one boiler	1-5	1-6	1-7	1-8	1-9	1-10	2-0	2-2	2-4	2-5	2-9	3-0	3-2	3-2	3-4
stack—diameter	45-0	50-0	45-0	50-0	45-0	50-0	50-0	60-0	60-0	70-0	70-0	80-0	85-0	90-0	105-0
—height	2-1	2-2	2-3	2-4	2-6	2-7	2-10	3-0	3-4	3-5	3-8	3-11	4-2	4-6	4-8
breaching diameter—two boilers	1-11	2-0	2-1	2-2	2-4	2-5	2-8	2-10	3-1	3-2	3-5	3-8	3-11	4-2	4-4
stack—diameter	55-0	60-0	55-0	60-0	55-0	60-0	60-0	70-0	70-0	80-0	80-0	90-0	95-0	100-0	115-0
—height	0-4	0-4	0-4	0-4	0-4	0-4	0-6	0-6	0-6	0-6	0-6	0-6	0-8	0-8	0-8
*steam supply size	0 1/2	0 1/2	0 1/2	0 1/2	0 1/2	0 1/2	0 1/2	0 1/2	0 1/2	0 1/2	0 1/2	0 1/2	0 1/2	0 1/2	0 1/2
blow off size	0 1/4	0 1/4	0 1/4	0 1/4	0 1/4	0 1/4	0 1/4	0 1/4	0 1/4	0 1/4	0 1/4	0 1/4	0 1/4	0 1/4	0 1/4
feed water size	1-30	1-40	1-50	1-60	1-80	1-95	2-25	2-55	2-85	3-20	3-40	3-60	4-15	4-55	5-05
**outside surface to cover sq ft															
approximate weight															
—125 lb s/w	7980	8510	9590	10100	11700	12760	14930	16530	19730	21940	26840	31210	35000	38820	42700
—150 lb s/w	8780	9360	10550	11110	12870	14030	16420	18180	21150	24130	26510	29520	34330	38500	42700

*For safety valves, see page 31

**300 lb American Standard Flange

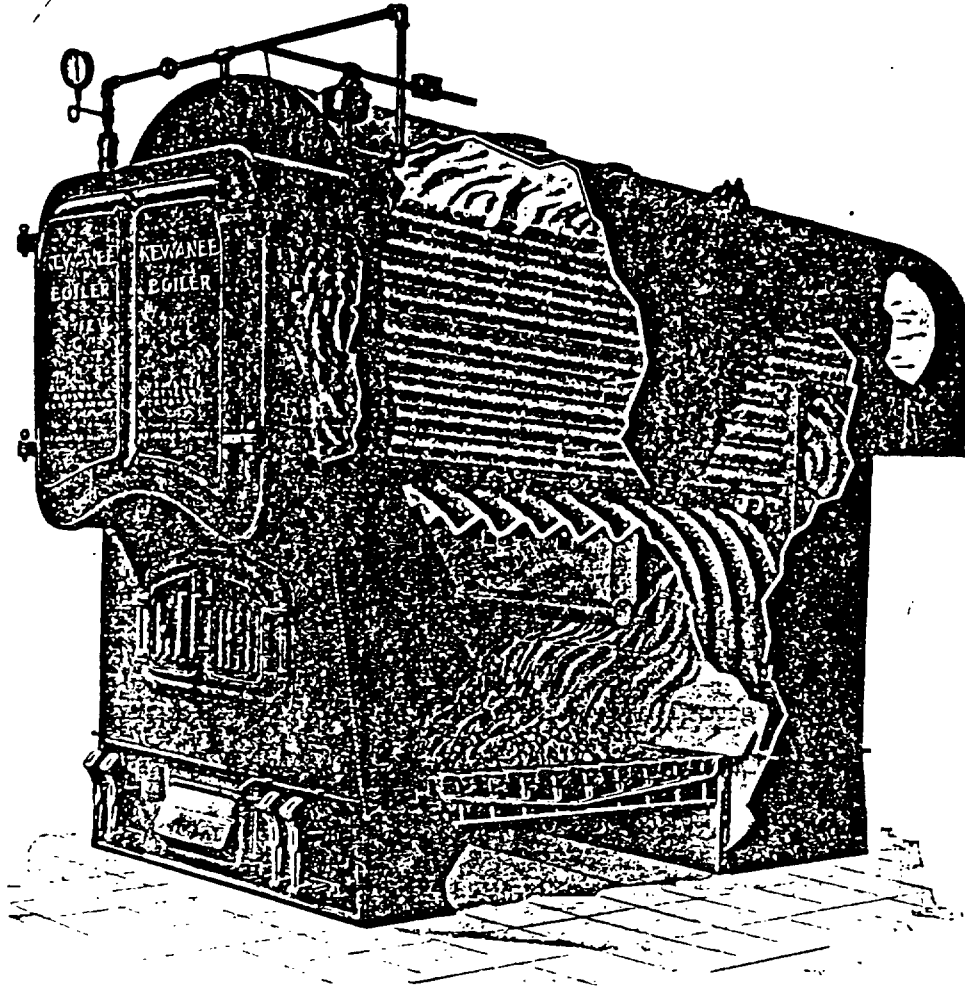
***Includes front head and smokebox

24792



KEWANEE-ROSS CORPORATION
Division of American Radiator & Standard Sanitary Corporation
KEWANEE, ILLINOIS

KEWANEE

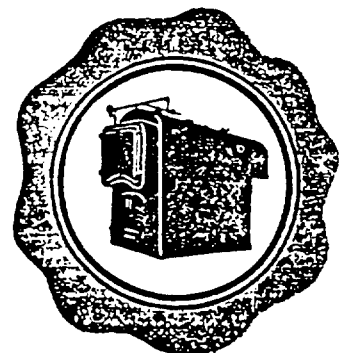


KEWANEE STEEL BOILER

Electric-Weld

TYPE C SMOKELESS

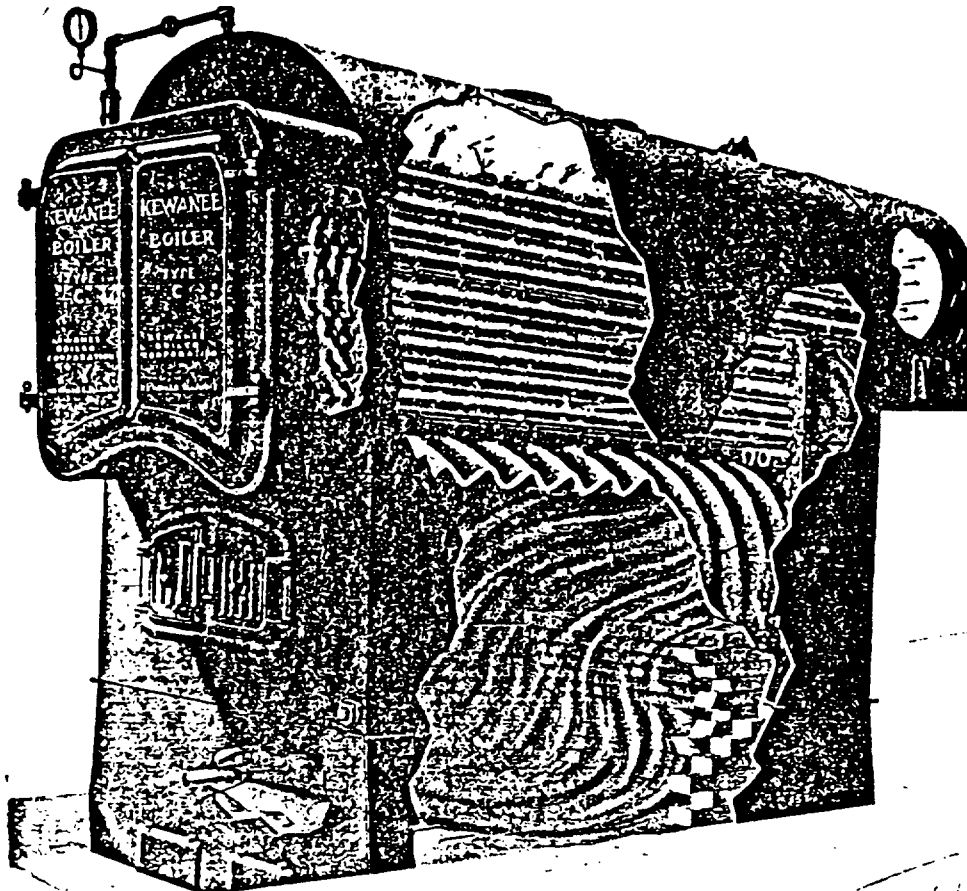
For Burning Coal



24793

(#7)

KEWANEE

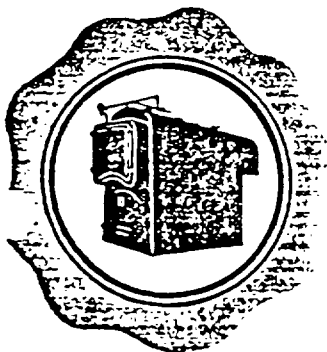


KEWANEE STEEL BOILER

Electric-Weld

TYPE C SMOKELESS

For Burning Oil



24794