

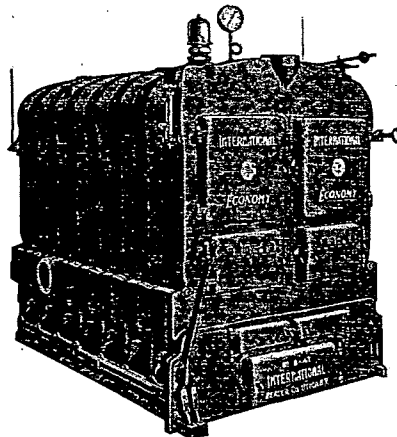
INTERNATIONAL HEATER COMPANY

Utica, N. Y.

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Manufacturers of Heating Apparatus



No. 8-47 International Economy Steam Boiler

INTERNATIONAL ECONOMY BOILERS

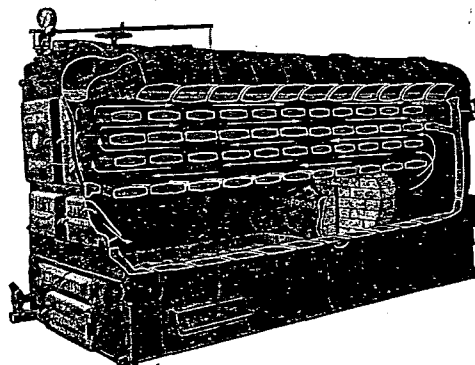
On the following pages we present condensed data on the International Economy Sectional Boilers.

Both the Regular and the Smokeless patterns have the following distinctive features in common: They will absolutely deliver dry steam to the system without the use of a special header. The grate bars have their connections entirely outside the boiler and shaking attachment may be placed on either side. They have a low water line. The water gauge is tapped directly into the section. Large doors give easy access for cleaning from the front. They have a high evaporative power and they are conservatively rated from actual tests according to the A. S. H. & V. E. Code.

In the regular pattern boilers provision is made so that tongues of flame pass up between the sections of the crown sheet and thoroughly ignite the gases in the mixing chamber, as the lower row of flues is called. This is the well known carburetor principle which has always been a feature of Economy Boilers.

The International Economy Smokeless Boiler

is an up-draft boiler. It is built on the Kent Wing Wall principle so that the smokeless feature is entirely outside of the fire box and practically independent of the fireman. It has no special grates or arches in the fire box, holds several hours' supply of coal and requires the least possible attention. Excess air is always under control,—an important feature that promotes fuel economy.



Cutaway View of No. 130-47 Smokeless Boiler

INTERNATIONAL HEATER COMPANY

STANDARD SPECIFICATION FOR SMOKELESS BOILER INSTALLATION

Low pressure up-draft smokeless steam boilers, of the push nipple sectional cast iron type, shall be furnished complete; boiler to be equipped with an all metal automatic damper regulator, water gauge, try cocks, pressure gauge, safety valve, firing and cleaning tools, etc.

In burning bituminous coal of high volatile content of over 30 per cent., the smoke density produced by the boilers shall come within the regular smoke ordinance requirements of not to exceed 10 per cent. in density per hour according to Ringlemann's standard. To meet this smoke requirement special exacting methods of firing and special expert skill shall not be required of the fireman in charge, and the excess air required over the fire shall be under convenient control of the fireman.

Boiler, when operating under standard code conditions, shall be capable of producing at least four thousand pounds of dry steam per hour, an equivalent of sixteen thousand square feet of direct steam radiation. The rated capacities of the boiler shall have been determined according to the Testing Code of the A. S. H. & V. E. and the soft coal ratings shall not exceed that of the hard coal ratings for the same size boiler of similar overall dimensions.

To minimize the frequency of firing fuel, fire box shall contain ample fuel to develop the rated capacity of the boiler for at least two and one-half to three hours, and the depth of the fuel on the grates shall in no place be less than sixteen inches, with the top of the fuel bed at least four to six inches below the lower projection of the crown sheet. A fuel capacity of one ton is ample in the largest size boilers and the length of the fire box shall not exceed 80 inches. The fuel capacity and evaporative power of each boiler at the rated capacity given shall be stated in the bid.

The height of the water line shall not exceed sixty-four inches and shall be so

located that all heating surfaces exposed to the fire and hot flue gases shall be backed up by water and not steam. The boiler shall be capable of delivering dry steam at the boiler outlet when subjected to overloads of 50 to 100 per cent. for short periods when forced to the limit in cold spells. Boiler construction features such as accessibility for keeping the heating surfaces clean, the absence of soot pockets, the direction of the flue travel and its effect on the positive water circulation within the boiler sections, dry steam conditions, quality of heating surface, etc., shall be considered before any boiler is accepted as meeting the requirements for this particular installation.

An ashpit twelve inches deep of good concrete or hard brick construction shall be placed under the entire grate of the boiler. In mounting the boiler, as each section is pulled up into position it shall be thoroughly cemented with boiler cement (not regular asbestos covering) or joints packed with asbestos rope to prevent short circuiting of the hot gases within the boiler. After the boiler is mounted and the push nipples made water tight under 15 pounds water pressure, the space between each section around the outer edge shall be thoroughly cemented with boiler cement (not asbestos covering), also along base of sections and around smoke box, to prevent air leakage into the fire or flue travel, and the nuts on the tie rods shall be loosened up to allow for expansion of the sections. No rigid flow or return headers shall be allowed. During temporary heat none of the condensed water shall be permitted to return to the boiler until all oil, grease, sand, etc., shall be eliminated from the system. The boiler, piping and radiation shall be free from oil, grease and foreign matter before the plant is accepted. A durable damper with quadrant adjustment shall be placed in the smoke pipe from boiler and another in the main breeching near the chimney.