Delco Appliance Corporation

Subsidiary of General Motors

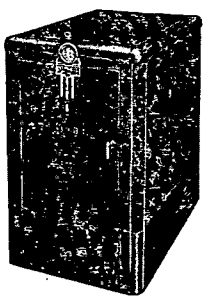
Rochester, N. Y.

DELCO-HEAT

Delco-Heat Harmonized Boiler

A Complete Unit with Boiler and Burner Designed for Each Other—To secure the greatest benefits with the use of oil as the heating medium, it is necessary to have a boiler which is designed to be used with oil heat. An oil burner operates at full volume as soon as it is turned on. It is therefore necessary that a very large heating surface be provided in the boiler to absorb this heat as rapidly as possible in order to prevent waste. The Delco-Heat Boiler is designed with the proper heating surface to insure this efficiency of absorption with the type of flame produced by the Delco-Heat Burner.

The Boiler is built for steam vapor or hot water heating systems. It has capacities of from 625 to 1725 sq ft of steam radiation and from 1000 to 2750 of hot water radiation. It can be passed through any average doorway in units not exceeding 420 lb in weight. The boiler section is insulated on top and all sides with heavy insulation. The bottom of the boiler is uninsulated to heat the air which passes under the boiler to the burner and is preheated before being used for combustion. The steel cabinet, finished in two-tone green and chromium, encloses the boiler and all equipment and controls.

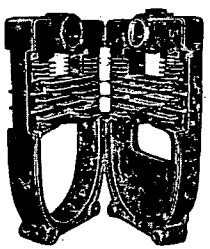


One of the advantages of the design of this boiler-burner unit is that the burner is located in the front of the cabinet, entirely outside the combustion chamber. It is therefore easily accessible if servicing is required. It is designed and built as part of this boiler but otherwise is similar to the standard Delco-Heat Burner. The Burner is designed to utilize low cost domestic fuel oil which requires no preheating.

Efficiency of Fins and Construction

The efficiency of cast iron fin type construction for heat transmission has been demonstrated for two decades in air-cooled Delco-Light electric plants where rapid heat liberation is desired. In the Delco-Heat Boiler, the process is reversed and cast iron fins rapidly absorb the heat from flame and gases in the boiler. The fins contain a thin sheet of water which quickly absorbs heat and circulates back into the main body of water, causing quick steaming. The position of fins and the staggered and broken-up flame and gas flow are clearly shown in the illustration. Progress of the flame is thus delayed until it finally enters a central duct at top of the boiler and then passes out the flue.

The upper nipple port is unusually large, permitting free circulation of water and steam within the boiler. Unrestricted circulation above the crown sheet is possible because of the unusual design. The boiler operates with a steady water line which is important, as a fluctuating water line operation might cause low water cut-off and stop burner.



Delco Heat Boiler Sections Showing Fin Arrangement

The boiler is used for steam, vapor or hot water heating systems, the only difference being in the accessories. The hot water heater consists of a special copper tube set into the rear section of the boiler and submerged in the boiler water. There are two capacities. On the DL-3, DL-4 and DL-5 boilers, the hot water heater will raise 33 gal of water 100 deg (when the boiler is 180 deg) each hour. On model DL-6 under the same circumstances, the heater has a capacity of 50 gal per hour.

Automatic Controls

Complete Automatic Control Service is standard equipment with the Delco-Heat Harmonized Boiler.

See also Pages 835 and 890

THE BABCOCK & WILCOX COMPANY

85 Liberty Street, New York, N. Y.

Manufacturers of

Water-Tube Boilers
Oil Burners

Chain-Grate Stokers
Seamless Steel Tubing and Pipe

Branch Offices and Representatives in all Principal Cities

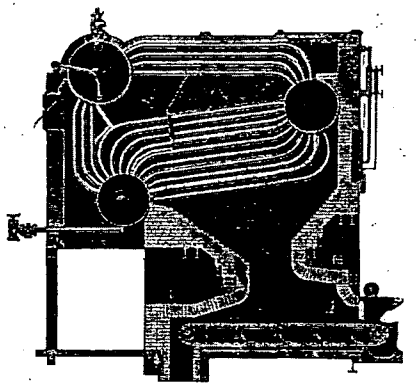
Type H Stirling Boiler

The Babcock & Wilcox Type H Stirling Boiler is a highly efficient unit built for moderate pressures at moderate prices. . . . and is designed to occupy minimum floor space and head room for the heating surface required.

This boiler is built in four classes and 36 sizes ranging from 691 to 4980 sq. ft. of heating surface, and can be designed for operation with any fuel and every method of firing.

The moderate price is due only to the simplicity of design, efficient production methods and superior shop equipment.

Class	Heating Surface	Depth of Setting, Ft., In.	Width of Setting: Single Boiler, Ft., In.	Width of Setting: Two Boilers in Battery Ft., In.	Floor to Center of Mud Drum, Ft., In.	Floor to Face of Steam Outlet, Ft., In.	Floor to Top of Boiler, Ft., In.	Size of Steam Outlet, In.
H-1	691	15–2	6–0	11–0	5–2	14–5½	14–2¼	5
	921	"	7–0	13–0	"	"	"	"
	1152	"	8–0	15–0	"	"	"	"
	1382	"	9–0	17–0	"	"	"	"
	1612	"	10–0	19–0	"	"	"	"
	1843	"	11–0	21–0	"	"	"	"
	2073	"	12–0	23–0	"	"	"	"
	2304	"	13–0	25–0	"	"	"	"
H-2	877	17–8	6–0	11–0	4–9¾	14–5½	14–2¼	5
	1169	"	7–0	13–0	"	"	"	"
	1462	"	8–0	15–0	"	"	"	"
	1754	"	9–0	17–0	"	"	"	"
	2046	"	10–0	19–0	"	"	"	"
	2339	"	11–0	21–0	"	"	"	"
	2631	"	12–0	23–0	"	"	"	"
	2924	"	13–0	25–0	"	"	"	"
H-3	1063	20–2	6–0	11–0	4–5½	14–5½	14–2¼	5
	1417	"	7–0	13–0	"	"	"	"
	1772	"	8–0	15–0	"	"	"	"
	2126	"	9–0	17–0	"	"	"	"
	2480	"	10–0	19–0	"	"	"	"
	2835	"	11–0	21–0	"	"	"	"
	3189	"	12–0	23–0	"	"	"	"
	3544	"	13–0	25–0	"	"	"	"
	3898	"	14–0	27–0	"	"	"	6
	4252	"	15–0	29–0	"	"	"	6
H-4	1245	22–8	6–0	11–0	4–1¼	14–11	14–5½	5
	1660	"	7–0	13–0	"	"	"	"
	2075	"	8–0	15–0	"	"	"	"
	2490	"	9–0	17–0	"	"	"	"
	2905	"	10–0	19–0	"	"	"	"
	3320	"	11–0	21–0	"	"	"	"
	3735	"	12–0	23–0	"	"	"	"
	4150	"	13–0	25–0	"	"	"	"
	4565	"	14–0	27–0	"	"	"	6
	4980	"	15–0	29–0	"	"	"	6



Type H Stirling Boiler with Babcock & Wilcox Chain-Grate Stoker

The advantages of the Babcock & Wilcox Type H Stirling Boiler may be summarized as follows:

Unusual steaming capacity for the floor space and head-room required.

Boilers may be set singly or in battery.

Setting heights can be varied to suit any condition of firing.

The choice of three locations for gas exit reduces cost of flues and breeching.

Distribution baffles make effective all of the heating surface.

Tube renewal is facilitated by correct tube spacing, and a tube removal door.

Soot blowers can be readily installed to simplify thorough cleaning of all tubes.

A superheater can be furnished without any change in the standard design or construction.

The boiler is supported by a structural-steel framework entirely independent of the brickwork.

Ample provision is made for free movement of parts due to expansion and contraction.

A complete table of sizes and dimensions, together with pertinent installation data, is contained in a new 32 page bulletin which will be sent upon request. Simply ask for Bulletin G-8-A.