Williams Oil-O-Matic Heating Corporation

Manufacturers of Automatic and Manually Controlled Fuel Oil Burners, Year 'Round Air Conditioning Systems, Williams Ice-O-Matic Compressors

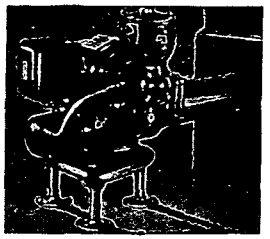
Bloomington, Illinois

New York, N. Y., 2014 Graybar Building

A Complete Line

Williams Oil-O-Matic offers six Oil-O-Matic burner models—a genuine Williams Oil-O-Matic for every size and type of house, for every apartment, public building or commercial structure.

Complete boiler burner and furnace-burner units; a new type of oil-burning automatic water heater; an oil-burning range burner for heavy duty ranges are available.



WILLIAMS OIL-O-MATIC HEATING

Complete Boiler-Burner and Furnace-Burner Units

A complete line of boiler-burner and furnace-burner units equipped with OIL-O-MATIC burners are available.

Boiler-burner units automatically provide domestic hot water supply the year 'round. Indirect heating coils may be included. Furnace-burner units provide winter air conditioning.

Heating Capacities of Oil-O-Matic Burners

Model	Domestic Shipping Weight, Lb	Length, in.	Width, in.	Height, in.	HP	RPM	Gals. Fuel Oil per Operating Hour: Minimum	Gals. Fuel Oil per Operating Hour: Maximum
K-150	125	29	15¼	19¾	1/10	1800	½	1½
K-3	145	30	15⅝	20¾	1/10	1800	1	3
K-4.5	170	33½	20¼	22¼	1/5	1800	2½	4½
K-7	175	32½	22¼	21¾	1/5	1800	4	7
J-1800	255	45	20	24	1/2	1800	8	15
JJ	295	50	32	24	1	1800	12	25

Standard draft pipe 11 in. 17-in. length draft pipe optional.

Standard electric current is 110-volt, 60-cycle.

Water Heaters

WHA*	600	57	22½	28	1/10	1800	....	½
WHB†	885	75	23	28	1/10	1800	½	1
WHC‡	1385	90	29	34	1/10	1800	1	1¾

*Output: 90 F rise, 60 gal per hour. †Output: 90 F rise, 120 gal per hour. ‡Output: 90 F rise, 210 gal per hour.

How to Decide Size of Burner

For low pressure domestic boilers, 1 gal of fuel oil per hour (140,000 Btu) is required for approximately:

300 sq ft of steam radiation or its equivalent.

480 sq ft of hot water radiation or its equivalent.

70,000 Btu when using hot air furnace ratings.

24 sq ft steam boiler heating surface (or 2.2 hp).

For exact detail data, see Oil-O-Matic Installation and Service Manual.

Oil-O-Matic Water Heaters

3 sizes cover ordinary home use, large home and heavy duty requirements. The Oil-O-Matic oil burner, combustion chamber, water reservoir, and automatic controls combined in one compact unit.

Underwriters' Listing

By Underwriters' Laboratories, Inc.

Fuel Oil Range Burners

Williams Oil-O-Matic fuel oil burners as an integral part of Oil-O-Matic South Bend heavy duty ranges.

Year 'Round Air Conditioning

Williams Air-O-Matic provides cooling and dehumidification in summer, heating and humidification in winter, together with ventilation, air circulation and cleansing throughout the entire year. This complete year 'round air conditioning is provided by one integrated system.

Refrigeration is furnished by a new type of absorption unit, using low pressure steam as its source of energy, developed specifically to better meet the unique requirements of air conditioning. Both refrigerant and solvent are essentially non-toxic, non-explosive, and non-combustible under normal atmospheric or normal operating conditions. Air-O-Matic is an automatic-fired complete year around temperature and humidity control unit.

Air-O-Matic offers these principal advantages: quiet operation; low power requirement; negligible deterioration; economy of operation and maintenance; and mechanical simplicity. Low pressures prevailing in the absorption unit minimize the possibility of losing a refrigerant charge either when the unit is in operation or when idle.

Engineering Service

Available to architects. See *A. I. A.* File No. 30 G-1.

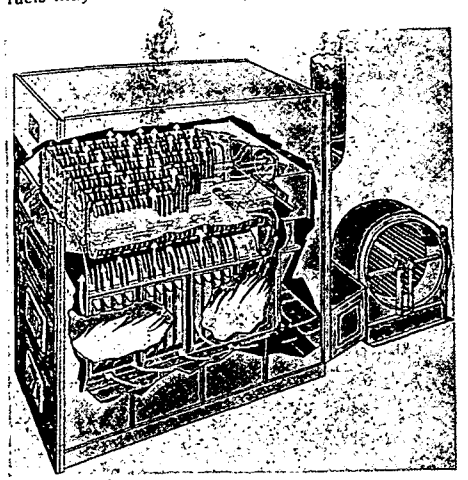
Acme Heating & Ventilating Co., Inc.

4224 Lowe Avenue, **Chicago, Ill.**

THE ACME HEATER—"It's in the Fins"

The Acme Heater has been designed by experienced heating engineers, and is constructed by expert craftsmen. It combines the best practice in the design of direct transmission heaters, with marked improvements resulting from practical experience.

Burns Any Kind of Fuel: A direct-transmission heater, such as the Acme, is not dependent upon the kind of fuel used—any type of fuel may be burned. Suitable grates may be provided so that bituminous, semi-bituminous, anthracite coal, or other solid fuels may be used with equal efficiency. Replacement of grates and linings by proper refractory material permits the use of automatic stokers or oil burning equipment.



Phantom View of Acme Heater Showing Flow of Gases and Air Travel.

Large Combustion Chamber: Provides ample space for ignition of gases of combustion, regardless of kind of fuel used. The unusually large combustion chamber, acting as "primary" heating surface, effects efficient transfer of heat, because of the great temperature difference between the burning gases inside the chamber and the air passing over the outside surface.

Efficient Radiator Section: Although the heating surface of the combustion chamber is large and efficient, still more heat must be extracted to obtain satisfactory overall efficiency. The "phantom view" as shown reveals how the gases of combustion enter the rear smoke chamber, flow to the front of the heater, and return again to the smoke-box. The gases are held in intimate contact with the heating surface, six times the length of the heater, before they are permitted to escape.

High Ratio of Heating Surface to Grate Area: The radiator tubes are covered with extended surfaces, or fins, typical of those used on indirect heating coils. The long, oval tubes of the radiator provide an exceptionally large heating surface which, combined with the surface of the combustion chamber, affords a remarkably high ratio of heating surface to grate area.

Balanced Construction of the Acme Heater provides ample free area and allows proper velocity of the air to be heated. Moreover, this air is brought into direct contact with as much heating surface as possible, resulting in the Acme of Efficiency.

Physical Data—Large Series

Size No.	Dimensions: Lgth	Width	Ht	Grate sq ft	Heat Surf. sq ft	Free Area sq ft Min.	Free Area sq ft Max.	Wt. Lb	Max. Capacity Btu
7	6'-6"	4'-0"	7'-0"	10.31	260	6.55	10.25	5900	900,000
8	8'-1"	4'-0"	7'-0"	11.91	340	7.73	12.50	7000	1,100,000
9	9'-8"	4'-0"	7'-0"	13.06	430	8.91	14.75	8000	1,300,000
10	11'-3"	4'-0"	7'-0"	14.43	500	15.82	22.62	9300	1,500,000

Junior Series

2	4'-6"	3'-6"	5'-8"	3.9	136	4.7	4.7	3200	350,000
3	6'-0"	3'-6"	5'-8"	6.1	183	5.9	6.9	4800	527,000
4	7'-6"	3'-6"	5'-8"	7.2	230	7.1	9.1	5000	634,000
5	9'-0"	3'-6"	5'-8"	9.3	280	8.3	11.3	6000	800,000

Note: For automatic firing add 10% to ratings given.