NATIONAL RADIATOR COMPANY

General Offices: JOHNSTOWN, PA.

Branches

NEW YORK, 47 W. 42nd Street
PHILADELPHIA, 121 N. Broad Street
BALTIMORE, 2622 Frisby Street
WASHINGTON, 1228 H Street
RICHMOND, 1538 E. Cary Street
PITTSBURGH, 1402 Arrott Building
CLEVELAND, 6308 Kinsmam Road
CINCINNATI, Suite 826-827 Union Central Building

Plants

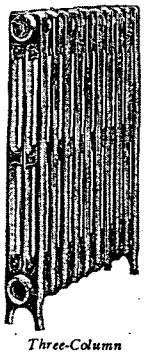
JOHNSTOWN, PA. NEW CASTLE, PA. TRENTON, N. J.

Warehouses

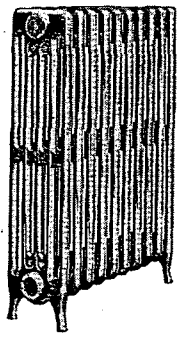
NEW YORK NEW ROCHELLE BALTIMORE WASHINGTON RICHMOND CLEVELAND

Manufacturers

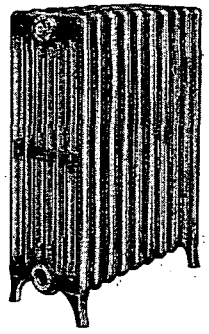
National Smokeless, Novus Upright and Sectional, Acme Round, Radium Gas and Hot Water Supply Boilers, also Aero and Premo Radiators.



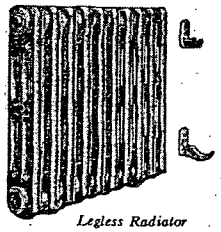
Three-Column



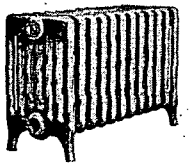
Five-Column



Seven-Column



Legless Radiator



Window Radiator

Patents Applied For

AERO RADIATORS

The Aero Radiator was designed by Engineers with more than 30 years experience in radiator manufacture. In the Aero line is represented a real effort to simplify the multiplicity of radiator patterns and heights.

Large buildings are now warmed with the more modern, efficient, economical and easily controlled vapor and vacuum systems. These necessitate the use of a radiator pattern with top and bottom nipple connection—the type known as a water section. The demand for the straight steam section, with bottom nipple connection only, is consequently negligible.

The Aero Radiator is made in one type only—the top and bottom nipple connected section.

It is tapped top and bottom both ends. The top tappings are plugged and the bottom tappings bushed to size required.

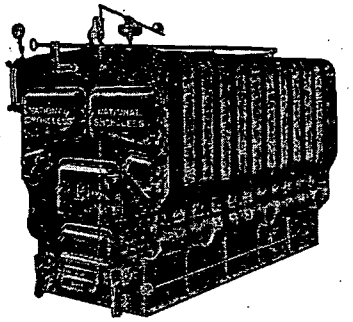
All radiators are vented for both steam and hot water. One vent is plugged. Any Aero Radiator can be used for either steam, hot water or vapor.

Aero Radiators are made in three patterns—Three, Five and Seven Column. A total of 16 heights composes the entire line.

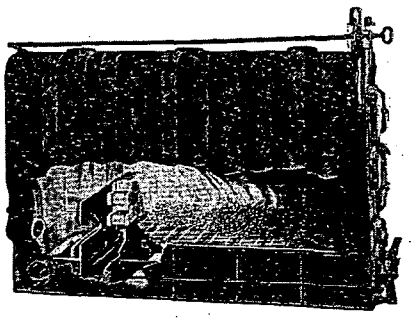
Roughing-in measurements are standard. All sections measure 2½ in. from center to center.

The Three-Column pattern is 5⅛ in. wide, the Five-Column pattern 8⅜ in. wide and the Seven-Column pattern 12 in. With these widths and standard roughing-in measurements they can be used on any standard specification.

Aero radiators are sold at the same price as standard radiation.



National Smokeless Boiler



Sectional View

Patented

LIST PRICES AND RATING

Size	Steam Rating	Water Rating	Number Sections	Number Grates	Grate Area sq. ft.	Combustion Chamber Area sq. ft.	Height Water Line Inches	Height Top Outlets Inches	Height Including Trimmings	Width Boiler Inches	Width Including Trimmings Inches	Length Including Smokehood Inches	Size Base Inches	Outlets No. and Size	Size Smoke Pipe
25- 9	2525	4175	9	5	6.11	3.48	49	57¼	65⅝	36½	40¾	74⅛	27⅛x 60⅝	3-4"	12
25-10	2825	4675	10	6	7.27	3.48	49	57¼	65⅝	36½	40¾	81⅝	27⅛x67⅝	3-4"	12
25-11	3125	5175	11	7	8.43	3.48	49	57¼	65⅝	36½	40¾	88⅝	27⅛x74⅝	3-4"	12
25-12	3425	5675	12	8	9.59	3.48	49	57¼	65⅝	36½	40¾	95⅝	27⅛x 81⅝	3-4"	12
31- 9	3625	5975	9	5	8.55	5.07	52	61	71¼	50	54	79¼	33¾x 65¼	3-5"	15
31-10	4050	6675	10	6	10.24	5.07	52	61	71¼	50	54	88	33¾x 74	3-5"	15
31-11	4475	7375	11	7	11.93	5.07	52	61	71¼	50	54	95½	33¾x 81½	3-5"	15
31-12	4900	8075	12	8	13.62	5.07	52	61	71¼	50	54	103	33¾x 89	3-5"	15
31-13	5325	8775	13	9	15.31	5.07	52	61	71¼	50	54	110½	33¾x 96½	3-5"	15
36- 9	5125	8475	9	5	11.50	6.75	60¼	70	78¾	56	60	87½	41⅜x 73½	3-5"	16
36-10	5750	9500	10	6	13.75	6.75	60¼	70	78¾	56	60	95⅞	41⅜x 81⅞	3-5"	16
36-11	6375	10,525	11	7	16.00	6.75	60¼	70	78¾	56	60	104¼	41⅜x 90¼	3-5"	16
36-12	7000	11,550	12	8	18.25	6.75	60¼	70	78¾	56	60	112⅝	41⅜x 98⅝	3-5"	16
36-13	7625	12,575	13	9	20.50	6.75	60¼	70	78¾	56	60	121	41⅜x107	4-5"	16
36-14	8250	13,600	14	9	20.50	9.50	60¼	70	78¾	56	60	129⅜	41⅜x115⅜	4-5"	16
36-15	8875	14,625	15	10	22.75	9.50	60¼	70	78¾	56	60	137¾	41⅜x123¾	4-5"	16
36-16	9500	15,650	16	10	22.75	12.25	60¼	70	78¾	56	60	146⅛	41⅜x132⅛	4-5"	16
48- 9	9200	15,100	9	5	18.23	10.65	68	80	89	67	71	109¼	53⅞x 89¼	3-6"	20
48-10	10,325	16,950	10	6	21.78	10.65	68	80	89	67	71	119⅞	53⅞x 99⅞	3-6"	20
48-11	11,450	18,800	11	7	25.33	10.65	68	80	89	67	71	130½	53⅞x110½	4-6"	20
48-12	12,575	20,650	12	8	28.88	10.65	68	80	89	67	71	141⅛	53⅞x121⅛	4-6"	20
48-13	13,700	22,500	13	9	32.43	10.65	68	80	89	67	71	151¾	53⅞x131¾	5-6"	20
48-14	14,825	24,350	14	9	32.43	14.20	68	80	89	67	71	162⅜	53⅞x142⅜	5-6"	20
48-15	15,950	26,200	15	10	35.98	14.20	68	80	89	67	71	173	53⅞x153	5-6"	20
48-16	17,075	28,050	16	10	35.98	17.75	68	80	89	67	71	183⅝	53⅞x163⅝	5-6"	20



Sylph-Oil Air Regulator Patents Applied For

The National Up-Draft Smokeless Boiler will conform to any smoke ordinance.

Burning smoke depends upon the temperature to which the air discharged over the fire is preheated. The National Preheating Air device heats air to in excess of 1000 deg. It is discharged into the smoke and gases as they pass over the Refractory Bridge wall into the Combustion Chamber.

The National Smokeless Boiler will clear to the No. 1 Smoke Screen in from 10 to 15 seconds and to a clear stack in less than one minute after firing a charge of green coal.

National Smokeless boilers show an average increase of 28 per cent in evaporation on the same fuel charge and consequently are very economical in operation.

The volume of preheated air necessary to burn smoke varies with the state of combustion. The air should be gradually decreased and cut off almost completely during a period of about 20 minutes from the time fuel is charged. Unless this is done the preheated air has a tendency to chill rather than increase the gas temperatures and the boiler efficiency and evaporation is decreased.

The Sylph-Oil Regulator operates the Preheating Air Device automatically and positively can be regulated to close the air intake in any time from one half-a minute to one hour after fuel is charged.