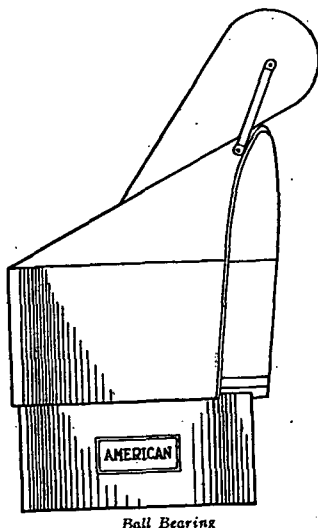


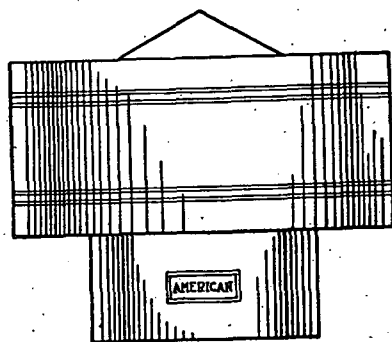
AMERICAN AUTOMATIC VENTILATORS



Diameter Inches	Area in Sq. In.	Shipping Weight	List Price
10	78	20	\$23.24
12	113	25	28.24
14	153	35	33.74
16	201	45	43.74
18	254	48	45.00
20	314	60	46.88
22	380	70	51.24
24	452	78	54.38
26	530	94	61.24
28	615	110	65.00
30	706	140	68.74
32	804	155	81.24
34	907	165	87.50
36	1017	197	92.50
38	1134	225	112.50
40	1256	250	125.00
42	1385	275	130.00
44	1520	300	142.50
46	1661	350	152.50
48	1809	378	162.50
50	1963	400	175.00
52	2123	425	187.50
54	2290	450	200.00
56	2463	500	217.50
58	2642	575	230.00
60	2827	660	245.00

NOTE.—Furnished in galvanized iron only unless otherwise ordered. Base extra.

AMERICAN STATIONARY VENTILATORS



Diameter Inches	Area in Sq. In.	Shipping Weight	List Price
12	113	40	\$ 7.12
14	153	50	10.24
16	201	60	15.74
18	254	70	19.36
20	314	90	25.00
24	380	100	31.24
30	706	150	42.50
36	1017	210	67.50
42	1385	350	90.00
48	1809	450	115.00
54	2290	570	137.50
60	2827	700	168.74

NOTE.—American Ventilators are received by all transportation companies under Classification One, double rate.

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METHOD OF CALCULATION FOR D-I SANITARY VENTILATING AND HUMIDIFYING UNITS

The following method of calculation for amount of air required is based on State requirements of Indiana, and will naturally vary in states where the requirements are

different: However, the general principles of the method will apply to all cases.

1. The amount of Direct Radiation installed, which is not enclosed with the

Air Diffusers, is that required for the exposed wall and glass. This Radiation is determined in the following manner:

2. Multiply square feet of glass surface in room by 89, if from zero to 70 deg.; or by 99 if from -10 deg. to 70 deg.

3. Multiply the net wall by 27, if from zero to 70 deg.; or by 37 if from -10 deg. to 70 deg.

4. Add results of 2 and 3, and divide by 250. This will give you the square feet of direct radiation necessary to overcome heat losses through glass and walls, which in the average school room is 120 to 140 sq. ft. Add 10 per cent to above figures for north or west exposures.

5. To determine the number of Wall Boxes required, first determine the number of pupils for the room. This can be obtained by dividing the cubical contents of the room by 225 (allowing 225 cu. ft. of contents per pupil).

6. Multiply the number of pupils by the amount of air required for each pupil per minute, which, for Indiana, is 30. This gives the total amount of the air required for the room per minute.

7. Divide the total amount of air required per minute by the capacity of the Wall Box to determine the number of boxes required.

8. Example: Assemble a room designed for 34 pupils; then, 34×30 (cu. ft. of air per minute per pupil) equals 1020 cu. ft. per minute; 1020 c.f.m. divided by 300 (capacity of 8 x 30 in. Wall Box) equals 3.4, or it will be necessary to use four 8 x 30 in. Wall Boxes.

9. Therefore, there will be required in the room four radiators, with a Wall Box for each radiator. Since, when using an 8 x 30 in. Wall Box, twelve sections of 3-column 38 in. radiator are enclosed by the air diffusers, there will be 60 sq. ft. of radiation enclosed in each radiator, or a total of 240 sq. ft. for ventilation.

10. To the preceding amount must be added the direct radiation required for wall and glass. Assume this to be 120 sq. ft. There would then be a total of 240 sq. ft. plus 120 sq. ft., making 360 sq. ft. in the room.

11. In designing the boiler, take special notice that the 240 sq. ft. of indirect radiation, or those sections enclosed in the Air Diffusers will condense two and one-half

times as much steam as ordinary direct radiation. Therefore, the four radiators in the room will be equivalent to $2\frac{1}{2} \times 240 = 600 + 120$, or a total of 720 sq. ft. of direct radiation.

12. If the building is an eight-room school house, it will require 8×720 plus whatever direct radiation there may be required in the halls, toilets, offices, etc.

13. Say there are 500 sq. ft. of radiation in the halls, etc. Then $8 \times 720 = 5760$ sq. ft.; 5760 sq. ft. + 500 sq. ft. = 6260 sq. ft.

The size of the boiler, together with the supply and return piping, should be based on an equivalent of 6260 sq. ft. of radiation, making due allowances for mains and risers.

We recommend, on account of better air distribution, the use of four Wall Boxes for the ordinary class room, the size depending, of course, upon the requirements.

Do not use tube radiation.

Do not use radiation less than 26 in. high.

All Ventilating Radiators should be legless.

Ventilating Radiators for one pipe steam should be tapped $1\frac{1}{2}$ in. up to 70 sq. ft., inclusive, all above 70 sq. ft. 2 in.

Ventilating Radiators for two-pipe steam should be tapped $1\frac{1}{2}$ in.

Each class room should be provided with a suitable foul air vent-flue, constructed on the opposite side of the room from the ventilating radiators. The size of this foul air vent-flue is based upon the number of pupils in the room. The State of Indiana requires 16 sq. in. in the foul air vent-flue for each pupil. Aspirating Radiators should be installed in each foul air vent-flue, allowing $\frac{3}{4}$ sq. ft. per pupil on the first floor and $\frac{1}{8}$ sq. ft. on the second floor.

All Foul Air Ventilating Flues should be connected to a foul air collecting chamber or chambers constructed in attic. The size of collecting chamber or chambers should be 10 per cent larger than the combined free area of all ventilating flues connecting into same. The foul air collecting chamber or chambers should be connected to a revolving automatic ventilator on the roof of the building of sufficient size and capacity to meet all requirements.

In determining size of American Automatic Ventilator one-half sq. in. free area in ventilator should be allowed to each one sq. in. of free area in foul air vent-flue.

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