Aprilaire®

Ventilation Worksheet

Ventilation is essential for both new and existing homes. The Aprilaire Ventilation Control System provides control of the quantity and quality of ventilation for both new and retrofit applications.

Quantity of air is regulated by setting the Ventilation Time and Cycle Time. The CFM required and CFM delivered by the fresh air intake will determine the Ventilation Time and Cycle Time settings.

Quality of air is regulated by preventing ventilation when the air is too hot, too cold or could raise the relative humidity in the home above 60%.

CFM required will be based on:
- ASHRAE Ventilation Standard or Air Change Rate (ACH)
- Area and occupancy

CFM delivered will be based on:
- Length of fresh air intake
- Static pressure of the return
- Type of duct

This document walks you through three simple steps to assure proper adjustment of the controller.

STEP 1. How much ventilation is needed?

Step 1 determines ventilation required. For ASHRAE 62.2 use CHART 1. For Air Changes per Hour (ACH) use the formula below.

ACH Formula

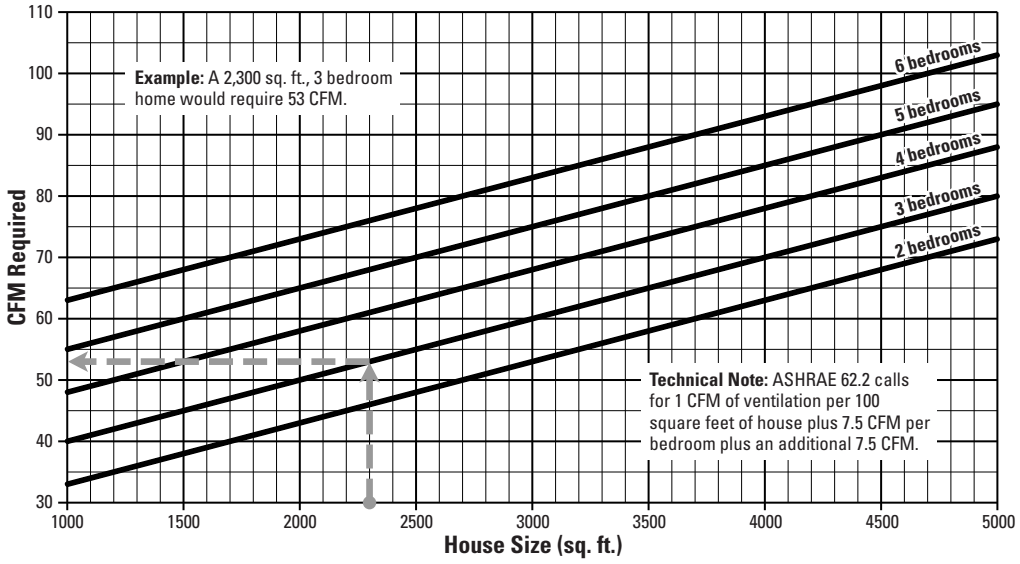
$$\frac{\text{House Size (sq. ft.)} \times \text{Ceiling Height (ft.)} \times \text{ACH}}{60} = \text{CFM Required}$$

TO USE CHART 1:

- Locate the **house size** (sq. ft.) on the horizontal axis.
- Draw a vertical line up from the bottom to the point that intersects the line for the number of **bedrooms** in the house.
- From the point where the **house size** and **bedroom** lines intersect, draw a horizontal line to the left (vertical) axis to determine the how much ventilation air (CFM) is required.

Record the **CFM required** here: _____

CHART 1: Ventilation Air Required – per ASHRAE Standard 62.2



STEP 2. How much ventilation will the system deliver?

Step 2 determines how much ventilation air can be brought into the house based on the length and type of fresh air duct used as well as the static pressure in the return duct

CHART 2: AIRFLOW DELIVERY VS NEGATIVE STATIC PRESSURE AS MEASURED FOR RETURN DUCT OR PLENUM (IN WC)

DUCT LENGTH	0.05		0.10		0.15		0.20		0.25		0.30	
	FLEX	PIPE	FLEX	PIPE	FLEX	PIPE	FLEX	PIPE	FLEX	PIPE	FLEX	PIPE
10 FT	60	65	85	90	105	110	120	125	135	140	150	160
20 FT	55	60	80	85	100	105	115	120	130	135	140	150
30 FT	50	55	75	80	95	100	110	115	125	130	130	140

Record the **CFM delivered** here: _____

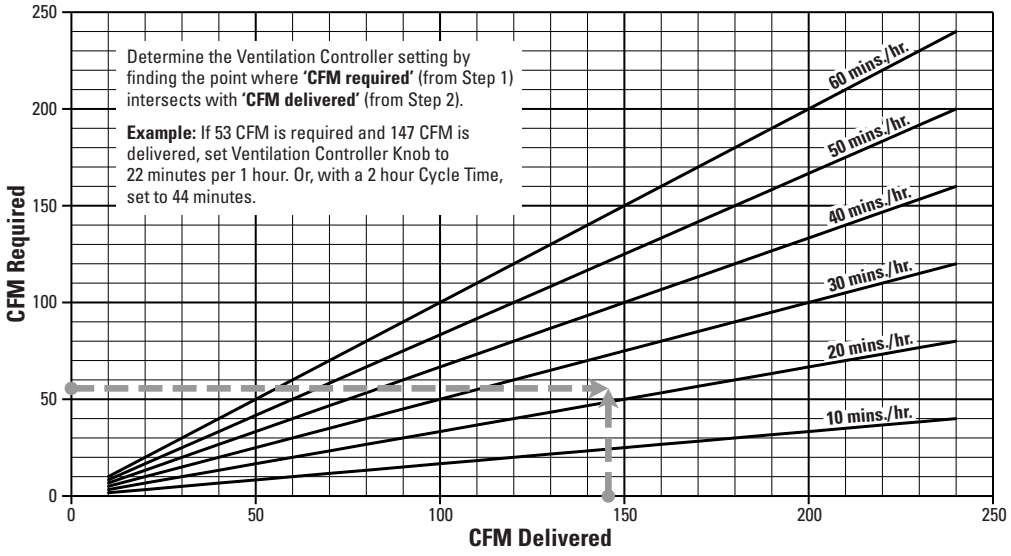
Step 3. What should the Ventilation Controller be set to?

Step 3 takes the information from the first two steps and indicates where the 'Ventilation Time' knob on the Ventilation Controller should be set.

TO USE CHART 3:

- Using the value obtained in Step 1, locate the **CFM required** on the left (vertical) axis and draw a horizontal line to the end of the chart.
- Using the value obtained in Step 2, locate the **CFM delivered** on the horizontal axis and draw a vertical line up from the bottom to a point beyond the vertical **CFM required** line.
- The point where the two lines intersect indicates where the 'Ventilation Time' knob should be set. It may be necessary to estimate the precise setting if the intersection point falls between two lines.

CHART 3



Record the 'Ventilation Time' setting here: _____

Note: the chart in Step 3 indicates the min./hr. setting for a 1 hour Cycle Time. For other Cycle Times, multiply the min./hr. setting in the chart by the Cycle Time length. For example, 15 min./hr. for a 1 hour Cycle Time is equal to 45 min./hr. (15 X 3) for a 3 hour Cycle Time.

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