

# Spot & Whole Home Ventilation Guidelines



## Overview

The American Society of Heating, Refrigeration and Air Conditioning Engineers (ASHRAE) has established guidelines that have been accepted in most States to provide a solution to the problem of increasing levels of indoor contaminants and mold growth in residential buildings. After years of intensive study and research, the ASHRAE 62.2 guidelines for Whole House Ventilation Requirements are:



*(square footage of the home /100) + ((number of bedrooms+1) X 7.5 cfm).*

## Whole Home Ventilation Requirements

Based on: ASHRAE 62.2, Table 4.1a (I-P)

Floor Area (ft <sup>2</sup> )	Number of Bedrooms				
	0-1	2-3	4-5	6-7	>7
≤1500 ft <sup>2</sup>	30	45	60	75	90
1,501-3,000	45	60	75	90	105
3,001-4,500	60	75	90	105	120
4,501-6,000	75	90	105	120	135
6,001-7,500	90	105	120	135	150
≥7,500 ft <sup>2</sup>	105	120	135	150	165



Two speed fans can be used to achieve both spot ventilation and whole home ventilation requirements. The fan will operate continuously on the lower speed setting, to meet whole home ventilation requirements. The SED110M uses a built in motion sensor to switch the fan to the higher speed, to fulfill spot ventilation requirements.



# Spot Ventilation Guidelines



FAN SIZING CHART SPOT VENTILATION	
ROOM VOLUME CUBIC FT	MINIMUM VENTILATION IN CFM
350	50
450	60
550	75
650	90
750	100
850	115
950	127
1050	140
1150	155
1250	167
1350	180
1450	195

Based on ASHREA 62.2 (2010)  
 Room volume / 7.5 = CFM  
 Fan CFM rating based on .25" wg

To calculate the fan size in CFM to fulfill spot ventilation requirements, divide the room volume by 7.5, and round up to the nearest CFM size available.

Duct sizing requirements are based on table 7.1 and will require the use of 6" duct for most applications over 50 CFM. Airzone fans included both 4" and 6" duct adaptors.

## ASHRAE Standard 62.2 Table 7.1

Duct Type	Flex Duct				Smooth Duct			
Fan Rating cfm @ 0.25 in. w.g.	50	80	100	125	50	80	100	125
	Maximum Allowable Duct Length (ft)							
Diameter, (in)	Flex Duct				Smooth Duct			
3	X	X	X	X	5	X	X	X
4	70	3	X	X	105	35	5	X
5	NL	70	35	20	NL	135	85	55
6	NL	NL	125	95	NL	NL	NL	145
7 and above	NL	NL	NL	NL	NL	NL	NL	NL

This table assumes no elbows. Deduct 15 ft of allowable duct length for each turn, elbow, or fitting.  
 NL = no limit on duct length of this size  
 X = not allowed, any length of duct of this size with assumed turns, elbows, fittings will exceed the rated pressure drop

