ASHRAE Standard 62.2 Made Simple

Whole House (Continuous) Ventilation Requirements

Whole House or Continuous refers to providing a consistent level of ventilation throughout the day in order to remove indoor air pollutants of all types. The maximum sound level is 1.0 Sones. To determine the cfm requirements for whole house or continuous ventilation, ASHRAE provides a simplified* table (A) based on size of the home and number of bedrooms. The cfm levels in the chart can be met by testing the installed ventilation devices for actual airflow or simply using the certified ratings of a fan at 0.25" static pressure assuming a proper duct size is used. The minimum duct diameters are listed in Table B and show that 6" ducted fans are the acceptable choice for all installations. It is only acceptable to use 4" duct for installations using a 50 cfm fan or an 80 cfm fan where duct length is 3' or less without bends.

TABLE A

Whole House Ventilation Air Requirements (CFM)					
	Bedrooms				
Floor Area (ft^2)	0-1	2-3	4-5	6-7	>7
<1500	30	45	60	75	90
1501-3000	45	60	75	90	105
3001-4500	60	75	90	105	120
4501-6000	75	90	105	120	135
6001-7500	90	105	120	135	150
>7500	105	120	135	150	165

Requirements are minimums and assume continuously running fans.
* Table A is dervied from the following formula which can also be used:
CFM = (sq. ft. x .01) + 7.5 x (no. of bedrooms + 1)
Note: Larger fans with more cfm are always better to remove steam more quickly.

TABLE B

Duct Sizing						
Duct Type	Flex Duct			Smooth Duct		
Fan Rating cfm @ 0.25 in. w.g.	50	80	100	50	80	100
Diameter, in.	Maximum Length, ft.					
3"	X	X	X	5'	X	X
4"	70'	3'	X	105'	35'	5'
6"	∞	∞	125'	∞	∞	∞

Assumes no elbows. Deduct 15 ft of allowable duct length for each elbow.
∞ = infinite or unlimited
X = not allowed, any length of duct of this size with assumed turns and fitting will exceed the rated pressure drop.

Meet Standard 62.2 Whole House Ventilation Requirements With These Fans From Broan-NuTone

Models in the chart are color-coded to correlate with Table A. Multiple fans are needed for larger homes requiring more than 90 cfm.

HVI Certified CFM @ 0.25"	Description	Broan Model	NuTone Model	Duct Size	HVI Certified Sones @ 0.1"	Energy Star
39	50 CFM Fan	QTXE050	QTXEN050	6"	<0.3	Yes
55	80 CFM Fan	QTXE080	QTXEN080	6"	0.3	Yes
55	80 CFM SmartSense® Fan	SSQTXE080		6"	0.3	Yes
55	80 CFM Fan/Fluorescent Light	QTXE080FLT	QTXEN080FLT	6"	0.3	Yes
55	80 CFM Fan	QTRE080	QTREN080	4"	0.8	Yes
55	80 CFM Fan/Fluorescent Light	QTRE080FLT	QTREN080FLT	4"	0.8	Yes
67	80 CFM Fan	QTR080	QTRN080	4"	1.0	No
67	80 CFM Fan/Light	QTR080L	QTRN080L	4"	1.0	No
82	110 CFM Heater/Fan/Light	QTX110HFL	QTXN110HFL	6"	0.9	No
90	110 CFM Humidity Sensing Fan	QTXE110S	QTXEN110S	6"	0.7	Yes
90	110 CFM Fan	QTXE110	QTXEN110	6"	0.7	Yes
90	110 CFM SmartSense® Fan	SSQTXE110		6"	0.7	Yes
90	110 CFM Humidity Sensing Fan/Fluorescent Light	QTXE110SFLT	QTXEN110SFLT	6"	0.7	Yes
90	110 CFM Humidity Sensing Fan/Light	QTXE110SL	QTXEN110SL	6"	0.9	No
90	110 CFM Fan/Fluorescent Light	QTXE110FLT	QTXEN110FLT	6"	0.7	Yes

Local (Intermittent) Ventilation Requirements

Local or Intermittent Ventilation refers to usage such as to remove humidity from showers or cooking at a maximum sound level of 3.0 Sones. It requires a rating of at least 50 cfm at 0.25" of static pressure and a maximum of 3.0 Sone rating at 0.1" of static pressure. All models in the above chart (except QTXE050 and QTXEN050) meet the requirement as do the following:

	Broan	NuTone
Fans	QTXE150, QTR140,QTRE110, QTR110, QTRE100S, QTR070, HD80, 683, 684	QTXEN150, QTREN110, QTRN110, HD80NT, 671R, 8832WH, 8832SA
Fan/Lights	QTXE150FLT, QTR140L, QTRE110FLT, QTR110L, QTR070L, 744, 744FL, 683L, 757SN	QTXEN150FLT, QTREN110FLT, QTRN110L, HD80LNT, 744NT, 744FLNT, 757SNNT, 768CHNT, 769RL, 769RFT
Heater/Fan/Lights	100HL, 100HFL	765HL, 765HFL

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