



ASHRAE Standard 62.2 2010

APPLICATION
GUIDE

ASHRAE Standard 62.2 2010 is a national standard that provides methods for achieving minimally acceptable indoor air quality (IAQ) for typical residences. This standard is applicable to single-family houses and multi-family structures of no more than three stories.

ASHRAE 62.2 2010 provides two ventilation methods, both of which need to be used to help achieve acceptable indoor air quality:

1. Whole-House Ventilation
2. Local Exhaust

WHOLE-HOUSE VENTILATION

ASHRAE 62.2 2010 has provisions for three basic ventilation strategies that can be used for whole-house ventilation:

1. Exhaust ventilation
2. Supply ventilation
3. Balanced ventilation
 - Both mechanical exhaust and supply ventilation
 - Mechanical exhaust and supply ventilation with heat or energy recovery
 - Mechanical exhaust and passive supply ventilation

When selecting the whole-house ventilation strategy that is best for your application, you should consider local code requirements, geographic location, special needs of occupants, and specific indoor and outdoor air-quality issues.

Each of these three whole-house ventilation strategies can be designed for continuous or intermittent operation. American ALDES Ventilation Corporation recommends that for proper indoor air quality the whole-house ventilation system be designed for continuous operation.

ASHRAE 62.2 2010 provides the following two methods for determining the minimum airflow required for a continuously operating Whole House Ventilation system:

	Ventilation Requirements					
	Floor Area (ft ²)	Bedrooms				
		0-1	2-3	4-5	6-7	>7
$Q_{fan} = 0.01A_{floor} + 7.5(N_{br} + 1)$ <i>where</i> Q_{fan} = ventilation flow rate, cfm A_{floor} = floor area, ft ² N_{br} = number of bedrooms; not to be less than one						
OR	<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

LOCAL MECHANICAL EXHAUST

A local mechanical exhaust system shall be installed in each kitchen and in each bathroom. The individual local mechanical exhaust can be designed for continuous or intermittent operation. ASHRAE 62.2 2010 provides the following methods for determining the minimum airflow required for a continuously or intermittently operating local mechanical exhaust system:

Intermittent Local Mechanical Exhaust Airflow Rates		Continuous Local Mechanical Exhaust Airflow Rates	
<u>Application</u>	<u>Airflow</u>	<u>Application</u>	<u>Airflow</u>
Kitchen	100 cfm	Kitchen	5 ach (<i>air changes per hour based on kitchen volume</i>)
Bathroom	50 cfm	Bathroom	20 cfm

When selecting the local mechanical exhaust strategy that is best for your application, you should consider local code requirements, geographic location, special needs of occupants, and specific indoor and outdoor air-quality issues.

American ALDES Ventilation Corporation offers a wide range of ventilation products to address your specific applications. The following examples identify various strategies to meet the requirements of ASHRAE 62.2 2010 for both whole-house ventilation and local mechanical exhaust.

EXAMPLE #1:

1000ft² apartment with one bedroom, one bathroom, and a 180ft² kitchen is required to have a minimum of:

- 25 CFM of continuous whole-house ventilation
- 20 CFM of continuous local exhaust or 50 CFM of intermittent exhaust in the bathroom
- 15 CFM of continuous local exhaust or 100 CFM of intermittent exhaust in the kitchen

The ventilation requirements of this example can be met with any one of the following strategies:

1. One continuously operating exhaust fan with a 20 CFM exhaust grille in the bathroom and a 15 CFM exhaust grille in the kitchen.
2. One continuously operating exhaust fan with a 20 CFM exhaust grille in the bathroom with boost feature for 40-175 CFM and a 15 CFM exhaust grille in the kitchen with boost feature for 40-175 CFM.
3. One continuously operating Heat or Energy Recovery Ventilator with a 20 CFM exhaust grille in the bathroom (with or without boost) and a 15 CFM exhaust grille in the kitchen (with or without boost).
4. One continuously operating Heat or Energy Recovery Ventilator with a 25 CFM exhaust grille in the bathroom (with or without boost). Additionally, an intermittent exhaust fan or vented range hood (minimum of 100 CFM) would be required in the kitchen.
5. One continuously operating exhaust fan with exhaust grille(s) for a total of 25 CFM. An intermittent local exhaust fan (minimum 50 CFM) in the bathroom and an intermittent local exhaust fan / range hood (minimum 100 CFM) in the kitchen.
6. One continuously operating supply fan with inlet grille(s) for a total of 25 CFM. An intermittent local exhaust fan (minimum 50 cfm) in the bathroom and an intermittent local exhaust fan / range hood (minimum 100 CFM) in the kitchen.

EXAMPLE #2:

3000ft² house with three bedrooms, two bathrooms, and a 300ft² kitchen is required to have a minimum of:

- 60 CFM of continuous whole-house ventilation
- 20 CFM of continuous local exhaust or 50 CFM of intermittent exhaust in each bathroom
- 25 CFM of continuous local exhaust in the kitchen or 100 CFM of intermittent exhaust

The ventilation requirements of this example can be met with any one of the following strategies:

1. One continuously operating exhaust fan with a 20 CFM exhaust grille in each bathroom and a 25 CFM exhaust grille in the kitchen.
2. One continuously operating exhaust fan with a 20 CFM exhaust grille in each bathroom with boost feature for 40-175 CFM and a 25 CFM exhaust grille in the kitchen with boost feature for 40-175 CFM.
3. One continuously operating Heat or Energy Recovery Ventilator with a 20 CFM exhaust grille in each bathroom (with or without boost) and a 25 CFM exhaust grille in the kitchen (with or without boost).
4. One continuously operating Heat or Energy Recovery Ventilator with a 30 CFM exhaust grille in each bathroom (with or without boost). Additionally, an intermittent exhaust fan or vented range hood (minimum of 100 CFM) would be required in the kitchen.
5. One continuously operating exhaust fan with exhaust grille(s) for a total of 60 CFM. An intermittent local exhaust fan (minimum 50 CFM) in each bathroom and an intermittent local exhaust fan / range hood (minimum 100 CFM) in the kitchen.
6. One continuously operating supply fan with inlet grille(s) for a total of 60 CFM. An intermittent local exhaust fan (minimum 50 CFM) in the bathroom and an intermittent local exhaust fan / range hood (minimum 100 CFM) in the kitchen.