



ADVANCING
VENTILATION®



Outside Air Solutions

From S&P USA Ventilation Solutions

TD In-Line Fan Series - Premium CHOICE Exhaust Fan Series - TR Energy
Recovery Ventilator Series - reFresh Filtered Supply Fan

What is IAQ?

Indoor Air Quality (IAQ) refers to the quality of the air within buildings and structures, as it relates to the health and comfort of the occupants. IAQ encompasses various factors, including the presence of pollutants, temperature, humidity, and ventilation.

Tighter building construction and everyday activities such as showering, cooking, laundry and even breathing decrease indoor air quality. Poor IAQ can pose serious health risks to occupants and cause structural damage to buildings.



Outside Air Solutions (OAS)

Outdoor Air Solutions improve IAQ by exchanging stale, polluted indoor air for fresh outdoor air. S&P USA offers the industry's widest selection of Outside Air Solutions to help create healthy indoor environments and meet ventilation codes.

Codes and Standards

The ASHRAE 62.2 standard sets the minimum requirements for mechanical ventilation systems to provide acceptable IAQ in residential buildings. Building codes such as the International Residential Code (IRC) and International Mechanical Code (IMC) amend and reference these requirements to ensure occupant health. There are 2 basic requirements:

1. Whole House Ventilation

Intended to dilute the unavoidable contaminant emissions from people, materials, and background processes. An exhaust fan, supply fan, motorized damper with outside air controller, Energy Recovery Ventilator (ERV), or combination thereof can all be used to meet the continuous or intermittent whole-house ventilation requirements illustrated by IRC 2021. IRC 2021/IMC 2021 encourage balanced ventilation by reducing the outside air requirement by 30% if the whole house ventilation system is balanced and ventilation air is ducted to each bedroom along with one of the following rooms: Living Room, Dining Room or Kitchen.

2. Continuous Whole House Ventilation

Equation:

- $Required\ Rate = (0.01 \times Floor\ Area) + (7.5 \times (Number\ of\ Bedrooms + 1))$
- If the number of occupants exceeds the assumed 2 persons for the first bedroom and 1 for each additional bedroom, increase the ventilation rate as follows:
Number of additional occupants x 7.5 CFM

Ventilation Air Requirements Table (CFM)					
Floor Area (ft ²)	Bedrooms				
	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

Intermittent Whole House Ventilation						
Runtime percentage in each 4-hour segment	25%	33%	50%	66%	75%	100%
Factor	4	3	2	1.5	1.3	1.0

Area To Be Exhausted	Exhaust Rates
Kitchens	100 CFM intermittently or 25 CFM continuous
Bathrooms-Toilet Rooms	Mechanical exhaust capacity of 50 CFM intermittently or 20 CFM continuous

In addition to these 2 basic requirements, the 2021 International Energy Conservation Code (IECC) requires that the whole-dwelling mechanical ventilation system fan efficacy meets the requirements in the table below.

Fan Location	Air Flow Rate Minimum (CFM)	Minimum Efficacy (CFM/WATT)
HRV or ERV	Any	1.2 CFM/WATT
In-Line Supply or Exhaust Fan	Any	3.8 CFM/WATT
Other Exhaust Fan	< 90	2.8 CFM/WATT
Other Exhaust Fan	≥ 90	3.5 CFM/WATT
Air-Handler that is integrated to tested and listed HVAC equipment	Any	1.2 CFM/WATT

OA Motorized Damper Kits

TD In-line Mixed Flow Duct Fans



MDX-ES24VK



TD-MIXVENT



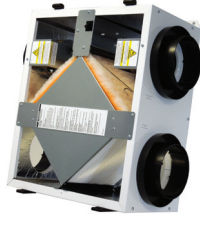
TD-SILENT

Energy Recovery Ventilators

reFresh Filtered Supply Fans



TR130



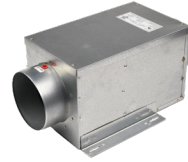
TR90



TRLPe110



RF10



RFV8



RF8

Premium CHOICE Series Exhaust Fans



PC80XP • PC110XP • PC150XP



PCD80XHP



PCD110XP



PCLP80XP

Accessories



FT622
ASHRAE 62.2 Bath Fan
Ventilation Control







FT247
Programmable Fan Timer



ES24V
EnviroSense Ventilation
Control

PRODUCT APPLICATIONS AND ARRANGEMENTS

	GOOD	BETTER	BEST
MD6-ES24VK Outside Air Motorized Damper Kit	 <p>Supply Only - Central Fan Integrated</p>	 <p>Balanced Solution</p>	
TD In-line Mixed Flow Duct fan	 <p>Supply Only or Exhaust Only</p>	 <p>Balanced Solution</p>	
PC Premium CHOICE Bathroom Exhaust Fans	 <p>Exhaust Only</p>	 <p>Balanced Solution</p>	
reFresh Filtered Fresh Air Supply In-line Fans	 <p>Supply Only - Dedicated</p>	 <p>Balanced Solution - Dedicated</p>	
TR Total Recovery ERVs			 <p>Balanced Solution - Filtered with Energy Recovery</p>



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