

VanAir™ Ventilated Door

Door Series

RELATIVE HUMIDITY

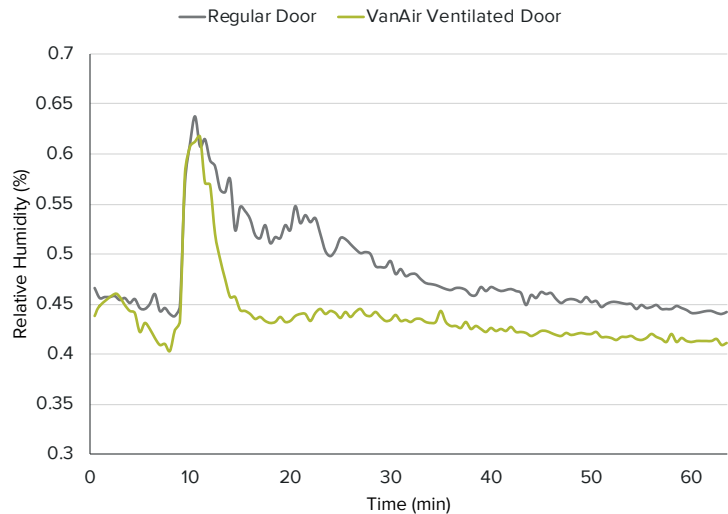
Managing humidity in your home is important for the health of your family and the longevity of the living space.

Activities like showering and cooking release large amounts of water vapor into the air. Water vapor condenses into liquid droplets on surfaces around your home, especially on cold and out-of-sight corners. The build-up of water droplets creates the ideal conditions for mold, mildew and rot.

To avoid this, we employ the use of exhaust fans in our bathrooms to extract the humid air from showering or bathing. However, exhaust fans can only extract as much air as is supplied. When you shower with the door closed and the exhaust fan on, you create a negative zone of pressure in the bathroom. Exhaust fans often struggle to get enough make-up air through the gaps, cracks, outlets, lighting fixtures, and door undercut. The solution is not to put bigger exhaust fans in your bathroom, but to provide more make-up air by removing the bottleneck.

Installing a VanAir door in the bathroom provides additional make-up air to the room, allowing the exhaust fan to work more effectively. The VanAir door reduces humidity by up to 20% after a shower and returns to original levels immediately compared to a standard door.

RELATIVE HUMIDITY BUILD-UP DURING A SHOWER



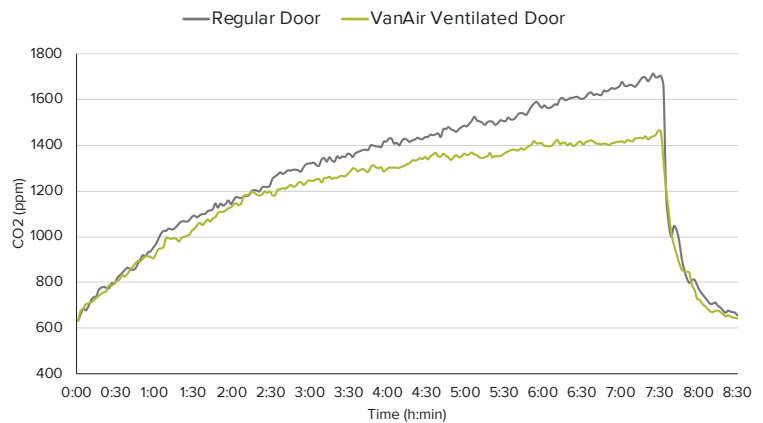
INDOOR POLLUTANTS AND CARBON DIOXIDE BUILD-UP

As humans, we breathe oxygen in the air and exhale CO2 as a by-product. We spend most of our time indoors in our homes and at work. As a result, the CO2 we produce can build up to an uncomfortable level if there is not adequate air circulation. CO2 in excess can affect our respiratory health and lead to sleep and breathing disorders.

VanAir ventilated doors provide an airflow pathway to allow air circulation in bedrooms with or without mechanical systems. This helps to reduce the number of contaminants in the air and reduces the build-up of CO2. VanAir doors have been shown to reduce the CO2 build-up of one occupant sleeping at night by 20% compared to a regular door with standard ventilation.

*Study conducted with a single occupant overnight with closed windows and doors, and without mechanical ventilation, relying only on thermal buoyancy or natural ventilation. The VanAir ventilated door marked an improvement in an environment with less than ideal air quality.

CARBON DIOXIDE BUILD-UP DURING SLEEP



*The concentration of CO2 is measured in units of parts per million (ppm), as a ratio of the volume of CO2 particles to the volume of air. To better understand how CO2 affects us, refer to the chart below:

350 – 450 ppm	Normal fresh outdoor levels.
< 1,000 ppm	Typical levels in occupied indoor spaces with good air exchange.
1,000 – 2,000 ppm	Complaints of drowsiness and poor air.
2,000 – 5,000 ppm	Headaches, sleepiness, and stagnant, stale, stuffy air; poor concentration, loss of attention, increased heart rate and slight nausea may also be present.
> 5,000 ppm	Unusual air conditions where high levels of other gases also could be present. Toxicity or oxygen deprivation could occur. This is the permissible exposure limit for daily workplace exposures.