



## MAKING A HOUSE A HOME WITH IMPROVED IAQ:

### CHALLENGE

To address the effects of harmful VOCs and other indoor air contaminants, custom green home builder Panorama Homes needed a high-performance, energy efficient whole home ventilation strategy that packed a punch.

### SOLUTION

Working with Panasonic, Panorama determined the Intelli-Balance 100 Energy Recovery Ventilator (ERV) system and WhisperGreen® Select™ vent fan delivered the perfect combination of powerful, precision ventilation and efficiency to install in several newly constructed single family homes.

### RESULT

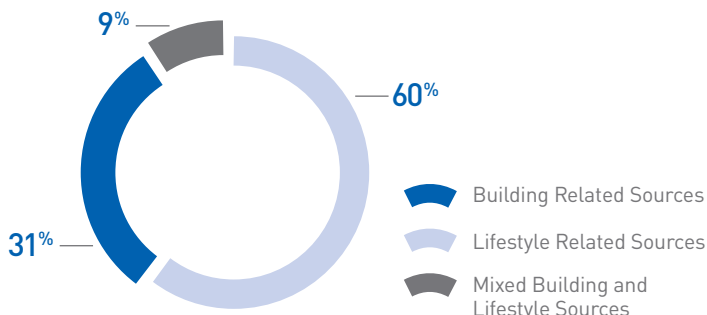
The Panasonic Intelli-Balance 100 ERV and WhisperGreen Select vent fan improved IAQ by effectively lowering the concentration of VOCs by 92%.

### Panorama Homes Enlists Panasonic Intelli-Balance 100 ERVs and WhisperGreen® Select™ vent fans to improve overall IAQ

Professional builders face several Indoor Air Quality (IAQ) challenges in the home building process before, during and after a home or set of homes is built. A reliable ventilation partner to counteract building and lifestyle sources of air contamination is a primary driver in any home ventilation plan.

Panorama Homes, a custom green home builder in Albuquerque, New Mexico, needed an ERV system and ventilation fan to install in several newly constructed single family homes. Volatile organic compounds (VOCs) are especially common in newly built homes from using products such as paints, sealants, and coatings. IAQ conditions worsen when specific areas or rooms, like attached garages, are used to store equipment like cars, mowers, paints or lubricants which can contain various toxic substances that can easily migrate indoors. With this in mind, Panorama Homes felt it was crucial to select a competitive, high performing ventilation system and fan that could bring in enough fresh air to dilute these harmful indoor pollutants and create an easier breathing environment for the families that were about to grow up and make memories in these new homes.

### CONTAMINATION INDEX SOURCE GROUPS



Source: Contamination Index™ Report Sampled by Dan Stih, March 2018



#### HARMFUL

Pollutants such as smoke, formaldehyde, dust, humidity and VOC's accumulate in a poorly vented building.

Source: Panasonic



#### HEALTHY

Ventilation fans help to maintain indoor air flow and air quality.



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### Solution Details

Carol Orona of Panorama Homes selected Panasonic Eco Solutions' Intelli-Balance 100 ERV to be the primary ventilation system in all new single family homes. Its overall efficiency and cost effectiveness surpasses the competition, and its technical features provide builders with much needed flexibility, automatically adjusting to any home in any climate zone in North America. To address spot ventilation in the garage, the Panasonic WhisperGreen Select vent fan was installed to exhaust excessive pollutants caused by a sealed garage floor and the home owner's car collection and materials stored there for the up keep of the autos. The fan's revolutionary ECM motor with intelligent self-adjusting SmartFlow™ technology senses the amount of resistance in the duct run and automatically adjusts the fan speed to deliver the optimal CFM output, even in the case of a complicated duct run.

*"Installing Panasonic's Intelli-Balance 100 ERV and WhisperGreen Select vent fan turned out to be a major success. Together, they improved the home's IAQ to about 610 ng/l, significantly reducing the level of indoor air pollutants."*  
 – Daniel Stih, Certified Indoor Environmental Consultant (CIEC)



Sources	VOC ng/l	
	ERV & Fan OFF	ERV & Fan ON
Coatings (paints, varnishes, etc)	1,300	<b>240</b>
Gasoline	3,200	<b>65</b>
Light Hydrocarbons (fuel)	530	<b>4</b>
Personal Care Products	680	<b>100</b>
Alcohol Products (cleansers, sanitizers, solvents)	930	<b>150</b>
Odorants and Fragrances	<b>160</b>	210
<b>Total VOC (All Compounds) ng/l</b>	<b>7,600</b>	<b>610</b>

Source: (Pilot study) Indoor Air Quality Assessment Report Prepared by Dan Stih, March 2018

### SUMMARY

The installation and function of the Intelli-Balance 100 ERV units and WhisperGreen Select vent fans in the first set of newly built Panorama Homes in the area have proved to be successful. A certified Indoor Environmental Consultant performed measurements and demonstrate the effectiveness of the Intelli-Balance system and the WhisperGreen Select fan on a new home's IAQ. Air sample measurements of IAQ factors such as VOCs were collected after the unit was installed. Overall results show a 92% reduction in the total VOC.

Panorama Homes received recognition from The Home Builders Association of Central New Mexico (HBA) with the Parade of Homes award for 'Most Innovative' category in Spring 2018.

[http://www.builderonline.com/products/green-products/the-next-big-thing-healthy-homes\\_o?o=1](http://www.builderonline.com/products/green-products/the-next-big-thing-healthy-homes_o?o=1)  
<https://www.thespruce.com/stop-garage-flumes-from-polluting-indoor-air-1398086>