

## The V5-Cell™ Filter - Advanced Broad-Spectrum Gas and Odour Filtration

IQAir is a worldwide leader in providing advanced high-performance air cleaning solutions. Having mastered particulate filtration with its unique HyperHEPA™ performance, the IQAir HealthPro 250 model now sets a new standard in gas phase filtration with the **V5-Cell™ Gas and Odour Filter**. Combining the airflow advantages of V-shaped media chambers and high-performance filtration media with an environmentally friendly corrugated cardboard construction, the V5-Cell is the most advanced gas and odour control filter in its class.

The V5-Cell in the HealthPro 250 contains a blend of 2.5 kilos of broad-spectrum MultiGas™ gas and odour control media. The MultiGas™ media is composed of equal parts of uniquely formulated high-performance **activated carbon** and **activated alumina** impregnated with **potassium permanganate**.

The **activated carbon** removes gaseous molecules by a physical process called adsorption which physically binds the molecules within its porous carbon structure. Activated carbon is especially suitable to remove compounds with a high molecular weight such as volatile organic compounds (VOCs), for example benzene, toluene and xylene.

For control of gaseous contaminants with a low molecular weight, such as formaldehyde and hydrogen sulfide, the V5-Cell Gas and Odour Filter contains **chemically activated alumina**, also called **chemisorber**. This chemisorber media is made of activated alumina ( $Al_2O_3$ ) impregnated with potassium permanganate ( $KMnO_4$ ). This non-toxic media first physically binds selected contaminant molecules and then chemically destroys them through an oxidation process.

It is this combination of physical adsorption and chemisorption which is at the basis of the broad-spectrum gas and odour control capabilities of the HealthPro 250 model.

While the broad-spectrum media is impressive in itself, the way the technology is integrated into a compact, environmentally friendly filter with outstanding airflow characteristics makes the V5-Cell Gas and Odour Filter truly unique. With U.S. and international patents pending, the V5-Cell is based on five inversed V-shaped chambers which are filled with the gas and odour control media. This design allows for maximum amount of media, long contact time and exceptionally high airflow penetration. In fact, the V5-Cell reduces air delivery by less than 5% compared to the 20-60% airflow reduction of conventional granular carbon filters in room air purifiers.

Special care was taken in the selection of the housing material of V5-Cell. The housing is made from virgin corrugated cardboard. The only binder used in this cardboard is cornstarch. No recycled fibers are utilised to ensure that the cardboard does not off-gas. All printing on the cardboard is carried out with water based ink. Thanks to these environmentally friendly features, the V5-Cell can be disposed of with household waste or through incineration.