

Filtered Combustible (LEL) Sensor Information

BW Technologies by Honeywell multi-gas detectors are offered with either a non-filtered or filtered combustible gas (LEL) sensor. The filtered LEL sensor provides enhanced resistance to airborne sensor poisons such as high concentrations of hydrogen sulphide gas and volatile silicone vapours. Due to the physical size of some molecules, the filtered LEL sensor is not suitable for the detection of some compounds including complex hydrocarbons, alcohols, ketones and esters. The filtered LEL sensor is suitable for the detection of less complex molecules including C₁ to C₆ hydrocarbons, hydrogen and acetylene.

For applications requiring the detection of complex compounds, select a detector with a non-filtered version. The non-filtered version also has limitations and is not recommended for combustible liquids with flash points of 37.8°C (100°F) and higher. Consult the following chart for assistance in selecting a suitable combustible sensor:

Explosive Gas / Vapour	Detectable by Non-Filtered LEL Sensor	Detectable by Filtered LEL Sensor
Hydrogen (H ₂)	•	•
Methane (CH ₄)	•	•
Ethane (C ₂ H ₆)	•	•
Propane (C ₃ H ₈)	•	•
n-Butane (C ₄ H ₁₀)	•	•
n-Pentane (C ₅ H ₁₂)	•	•
n-Hexane (C ₆ H ₁₄)	•	•
n-Heptane (C ₇ H ₁₆)	•	
n-Octane (C ₈ H ₁₈)	•	
n-Nonane (C ₉ H ₂₀)	•	
Methanol (CH ₃ OH)	•	
Ethanol (C ₂ H ₆ O)	•	
Iso-propyl alcohol	•	
Acetylene (C ₂ H ₂)	•	•
1, 3 Butadiene (C ₄ H ₆)	•	•
Carbon monoxide (CO)	•	•
Acetone (C ₃ H ₆ O)	•	
Methyl ethyl ketone (C ₄ H ₈ O)	•	
Toluene (C ₇ H ₈)	•	
Ethyl acetate (C ₄ H ₈ O ₂)	•	
Ammonia (NH ₃)	•	•
Cyclohexane (C ₆ H ₁₂)	•	•
Leaded petrol (nafta/gasoline)	•	
Unleaded petrol (nafta/gasoline)	•	
Ethylene (C ₂ H ₄)	•	•
Benzine/nafta	•	

Note: This list is not all-inclusive. As combustible sensors are a non-specific sensing technology, it is recommended you verify detection capabilities for any specific compounds. The difference in response times between filtered and non-filtered LEL sensors is negligible. Catalytic bead sensors are not recommended for detection of combustibles with flash points greater than 37.8°C (100°F).