

BUMP TESTING SENSORS

Critical Environment Technologies Canada Inc.



A bump test is a brief exposure of the sensor to gas which involves flowing a concentration of gas slightly higher than the low alarm set point of the gas detector for a short period of time (1-2 minutes or less) to confirm sensor response. A bump test verifies that the sensor is responding and the alarm is functioning.

A bump test will let you know if the gas detector is still capable of reading gas levels.

A bump test will not tell you if it is reading the correct levels.

A bump test takes less time and requires less gas than a full calibration.

Electrochemical sensors tend to output a zero reading in clean air and a zero reading when the sensor is dead. Doing a bump test is a way to check that the sensor is not dead. If a bump test fails then a full calibration should be done. Calibration will correct any degradation or drift that the sensor may have experienced over time and let you know that the readings are accurate. Without regular calibrations, the gas level readings will become less and less true as time passes. If a sensor does not respond as expected after a full calibration, then the sensor probably needs to be replaced.

For some sensors, such as Ammonia (NH_3), it is important not to use a high concentration of NH_3 gas for bump testing as it will reduce the operational life span of the sensor. The sensor lifespan gets consumed with regular exposure to higher concentrations of NH_3 or long term exposure to very low levels of NH_3 .

For example: If your low alarm trip for NH_3 is 25 ppm, the bump gas concentration should be 50 ppm to 100 ppm at the most. Using a concentration of 300 ppm for monthly bump testing will certainly reduce the operational life span of an NH_3 sensor considerably.

The preferred flow rate of gas during a bump test is 0.5 LPM.