

Breath-actuated Triggers

PRODUCTS



AWM700 Series



AWM40000 Series



AWM2000 Series

BENEFIT:

- These sensors are inherently bidirectional. They can measure both inhaled and exhaled breath. Exhaled carbon dioxide will increase the output 1%. (Not all listings are bidirectional. See online catalog for available listings.)

CONTACT US

For application assistance, current specifications or name of the nearest Authorized Distributor, check the Honeywell web site or call:

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1-800-737-3360 Canada
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BACKGROUND:

Breath-actuated triggers deliver a measured amount of air, oxygen or medication therapy to a patient's lungs without the need for the patient to coordinate the timing of the device. Unlike conventional press-and-breathe inhalers that require training to allow the patient to synchronize delivery with the breathing cycle, breath-actuated triggers automatically synchronize with the patient's inhalation. Optimal therapy delivery begins just as inhalation commences and ends just as inhalation ceases. This approach allows for the correct amount of therapy to be delivered to the right place, the lungs, instead of the back of the throat or the lining of the mouth.

SOLUTION:

Delivery of the therapy can best be measured and controlled by a very fast gas flow sensor with high accuracy at very low flows, and low hysteresis/repeatability errors at high flows. Honeywell's AWM mass airflow sensors may be used in these applications. These sensors are configurable to measure direct flow, sampled flow, or very small differential pressures. Table 1 compares selected Honeywell mass airflow sensors and these three flow types.

Table 1: Comparison of Honeywell's Mass Airflow Sensors

Mass Airflow Sensor Series	Flow Type	Advantage	Disadvantage
AWM700	Direct	<ul style="list-style-type: none"> • Flow type provides simplest approach • Flow type provides an exact measurement of total breath • Sensor provides best zero flow accuracy and null stability 	<ul style="list-style-type: none"> • Sensor is large
AWM40000	Sampled	<ul style="list-style-type: none"> • Sensor is small • Sensor has low cost • Sensor is easily mounted without tubing due to its manifold mounting capability (face sealed with o-rings) 	<ul style="list-style-type: none"> • System design is more complex because the customer must: <ul style="list-style-type: none"> - laminarize flow - design the bypass
AWM2000	Very small differential pressures	<ul style="list-style-type: none"> • Sensor has low cost • Technology is the most mature • System size has potential to be the smallest • System has lowest cost 	<ul style="list-style-type: none"> • Sensor has widest span accuracy, especially over temperature/altitude • Sensor has widest null stability specification • Sensor has widest zero flow accuracy specification

Notes:

- For medication delivery, ensure the sensor is mounted so that the inside is neither physically contaminated nor the medication reacted by direct contact with the 185 °C heater element.
- To avoid condensation on electrically active surfaces, heat exhaled breath, or the sensor itself, 2 °C to 3 °C.

Additional Mass Airflow Sensor product information is available on the web at: <http://content.honeywell.com/sensing/prodinfo/massairflow/>