

# Laparoscopic Surgery

## PRODUCTS



AWM700 Series



AWM5000 Series



AWM40000 Series



AWM2000 Series

## BENEFIT:

- The cost of using these sensors is lower than that of hotwire anemometers.

## CONTACT US

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

1-800-537-6945 USA  
 1-800-737-3360 Canada  
 1-815-235-6847 International

FAX 1-815-235-6545 USA

## INTERNET

www.honeywell.com/sensing  
 info.sc@honeywell.com

## BACKGROUND:

Laparoscopy is the examination of the interior of the body, usually the abdomen, using a laparoscope, a thin, fiber-optic tube with a lens at one end. A small incision is made in the abdomen and the laparoscope is inserted. The abdomen is then inflated with a gas to separate the organs to provide a better view of the interior.

## SOLUTION:

AWM mass airflow sensors may be used to monitor inflation of the abdomen during laparoscopic surgeries. This sensor provides feedback to a valve for automatic control of the gas flow. Table 1 provides a comparison of the Honeywell AWM Series mass airflow sensors for use in this application.

**Table 1: Comparison of the Honeywell AWM Mass Airflow Sensors**

AWM Sensor Series	Flow Type	Advantage	Disadvantage
AWM700 AWM5000	Direct	<ul style="list-style-type: none"> <li>• Flow type provides simplest approach</li> <li>• Flow type provides an exact measurement of the total breath</li> <li>• Sensor provides best zero flow accuracy and null stability</li> <li>• Sensor is rated for overpressures up to 4 bar (60 psi)</li> </ul>	<ul style="list-style-type: none"> <li>• Sensor is large</li> </ul>
AWM40000	Sampled	<ul style="list-style-type: none"> <li>• Sensor is small</li> <li>• Sensor is rated for overpressures up to 10 bar (150 psi) allowing it to be located anywhere in the system</li> <li>• Sensor is easily mounted without tubing due to its manifold mounting capability (face sealed with o-rings)</li> </ul>	<ul style="list-style-type: none"> <li>• System design is more complex because the customer must:                             <ul style="list-style-type: none"> <li>- laminarize flow</li> <li>- design the bypass</li> </ul> </li> </ul>
AWM2000	Sampled	<ul style="list-style-type: none"> <li>• Sensor has low cost</li> <li>• Sensor is rated for overpressures up to 1.5 bar (25 psi)</li> </ul>	<ul style="list-style-type: none"> <li>• System design is more complex because the customer must:                             <ul style="list-style-type: none"> <li>- laminarize flow</li> <li>- design the bypass</li> </ul> </li> </ul>

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