

Chamber Pressure Monitoring in Autoclaves/Sterilizers

Application Note



BACKGROUND:

Autoclaves/sterilizers are used in medical, food and process industries for sanitizing and biohazard reduction. The primary use is to disinfect instrumentation or treat biohazard waste prior to disposal. Laboratories also use this equipment to create a controlled environment in which to grow bacteria. The equipment comes in a variety of sizes from small units the size of a microwave oven to those that are room-sized. There are four main types of sterilizers: steam, gas, electric, and UV. Applications for pressure sensors are normally limited to steam or gas autoclaves/sterilizers.

PROBLEM:

Chamber pressures must be controlled and the door must remain closed when the chamber is pressurized. In this application, the pressure sensor performs a dual role of both monitoring the pressure and providing feedback for controlling the door safety mechanism. The P (pressure) in the equation $PV=RT$ is controlled assuring that pressure tolerances are met for the various processes. The pressure sensor also is used to indicate to the control device when the pressure has reached a safe level to allow the door safety mechanism to be released and the door to be opened.

SOLUTION:

Honeywell MLH Series pressure sensors are rated to 125 °C [257 °F] to meet the high temperature demands of autoclaves and sterilizers. MLH Series sensors provide a total error band of less than +/- 2% full scale over the full temperature range, excellent shock and vibration specifications, and isolation of the media from the electronics, Application Specific Integrated Circuitry (ASIC) and compact size.

⚠ WARNING

PERSONAL INJURY

DO NOT USE these products as safety or emergency stop devices or in any other application where failure of the product could result in personal injury.

Failure to comply with these instructions could result in death or serious injury.

ENVIRONMENT:

Steam and gas autoclaves and sterilizers are generally located in large equipment areas within a hospital or laboratory. These environments often contain oil and dust, and may be subject to harsh cleaning chemicals and temperature swings. The MLH Series sensors are protected from these adverse environmental conditions by a housing designed to meet IP65 standards and temperature compensation circuitry.

SUMMARY:

The rugged and highly dependable Honeywell MLH Series pressure sensors are a perfect choice for this type of application. The thru-wall mounting capability, broad range of pressures, along with a variety of pressure ports and connector styles to choose from make this a very versatile product that can be readily adapted to a variety of applications.

WARRANTY/REMEDY

Honeywell warrants goods of its manufacture as being free of defective materials and faulty workmanship. Contact your local sales office for warranty information. If warranted goods are returned to Honeywell during the period of coverage, Honeywell will repair or replace without charge those items it finds defective. **The foregoing is Buyer's sole remedy and is in lieu of all other warranties, expressed or implied, including those of merchantability and fitness for a particular purpose.**

Specifications may change without notice. The information we supply is believed to be accurate and reliable as of this printing. However, we assume no responsibility for its use.

While we provide application assistance personally, through our literature and the Honeywell web site, it is up to the customer to determine the suitability of the product in the application.

For application assistance, current specifications, or name of the nearest Authorized Distributor, contact a nearby sales office. Or call:

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