Protect sensors from chemicals & hazardous conditions

Model ChemShield Containment Module

FEATURES

- Zone rated particle sensors
- Nitrogen purged enclosure
- Purged isolation of sensor signal cable and entry gland
- Ease of entry design

APPLICATIONS

- Chemical distribution system monitoring
- Wet bench monitoring
- High purity filter monitoring
- Parts cleaning station monitoring

In the semiconductor and electronics industries, chemicals and hazardous conditions continuously test the durability of particle monitors. The HIAC Model ChemShield™ online containment system protects the MicroCount™ series sensors from environmental degradation, enabling online monitoring of wet chemical process stations, chemical distribution systems, and high purity parts cleaning systems.

ChemShield allows process engineers to detect process-related issues at the onset of the problem. Issues such as non-conformal device etching, incomplete photoresist stripping and partial bath recovery are typical applications that improve productivity and die yield in wet chemical process stations. high purity parts cleaning stations also benefit from ChemShield. Filter breakthrough, parts cleaning endpoint, and bath clean up are examples of precision cleaning applications that ensure quality conformance for every batch of processed parts.

Chemical distribution systems, including chemical distribution modules and delivery lines, are the first line of defense for controlling particles in device fabrication areas. Chemical loading and filter breakthrough may be monitored to limit particle introduction into wet process environments.

The ChemShield Containment System employs a polypropylene enclosure that encases a chemically compatible sensor, teflon tubing and fittings, and durable FutureStar™ Flowmeter. By locating the flow meter, power/signal cable, and sample/purge lines on the front face, the sensor may be accessed quickly for periodic cleaning and yearly calibration. The sensor slides securely between two guide rails so the sensor may be easily removed when wearing chemically resistant gloves.

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SPECIFICATIONS

Flow Control	Facilitates one of two flowmeters for low and high viscosity (specify chemical at time of ordering for appropriate flowmeter and set points – examples below)
Sensors	Compatible with the MicroCount 100, 100S
Connections	Chemical in Chemical out Purge Nitrogen in (requires 2–5 psi to purge enclosure for use with corrosive chemicals) Exhaust out
Construction	Welded polypropylene
Dimensions	9.5" w x 7.3" h x 7.95" d (24.2 x 18.5 x 20.2 cm)
Weight	4.4 lbs (2 kg)

FLOW METER SELECTION GUIDE

Chemical	Symbol	Flowmeter	Set Point
Water	H_2O	Low Viscosity	6.30
PGME	PGME	Low Viscosity	6.80
EKC 265	EKC 265	High Viscosity	4.25
Nitric Acid 70%	HNO_3	Low Viscosity	10.00
Sulfuric Acid 96%	H_2SO_4	High Viscosity	4.60
Hydrochloric Acid 37%	HCl	Low Viscosity	8.75
Ammonium Hydroxide 29%	NH_4OH	Low Viscosity	6.75
Ammonium Fluoride 40%	NH_4F	Low Viscosity	6.75
Hydrogen Peroxide 30%	H_2O_2	Low Viscosity	7.00
Hydrofluoric Acid 50%	HF 50%	Low Viscosity	7.40
Hydrofluoric Acid 5%	HF 5%	Low Viscosity	6.50
Phosphoric Acid 86%	H_3PO_4	High Viscosity	7.00
Isopropyl Alcohol	IPA	Low Viscosity	7.50

AMERICAS • 481 California Avenue, Grants Pass, Oregon 97526 USA, Toll Free: 1 800 866 7889, Tel: 1 541 472 6500, Fax: 1 541 479 3057
EUROPE / ASIA • 6, route de Compois, C.P. 212, CH-1222 Vésenaz, Geneva, Switzerland, Tel: 41 22 855 91 00, Fax: 41 22 855 91 99
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