Tiger's Tale

Quarterly Newsletter

Summer, 2018

Next Generation AMC Monitor: T-I Max Update

We are very proud to introduce the first of Tiger Optics' "Next-Generation" of products, the T-I Max family! To produce these incredibly powerful new analyzers, we've taken all the lessons learned from 10 years of cleanroom monitoring with our respected Tiger-i 2000 units and added the latest technology in:

- Optics
- Materials of construction for wetted surfaces
- Digital signal processors.

Our performance specifications meet or beat the best performance claimed by any competing Airborne Molecular Contamination (AMC) devices:

Key Specifications	T-I Max		
	NH_3	HCl	HF
LDL (3σ@100s)	300 ppt	100 ppt	20 ppt
Accuracy (greater of)	± 4% or 2xLDL		
Measurement Range	40 ppm	4 ppm	1 ppm
Precision (1σ, greater of) (Measurement Repeatability)	± 0.5% of reading or 1/3 LDL		
Speed of Response (T10/90+T90/10)	<1 min @ >100 ppb <3 min @ 20 ppb	<30 sec @ >100 ppb <30 sec @ 20 ppb	<1 min @ >100 ppb <3 min @ 20 ppb
Measurement Interval	< 1 second		
Weight	<15 kg excl. pump		
Space requirements	Half 19" rack slot		
Technology			
Measurement Technique	Cavity Ring-Down Spectroscopy		
Requirement of humidity corrections	None under typical cleanroom conditions		

Contact Tiger Optics today to get more information about our new T-I Max analyzers for cleanroom air monitoring!

Seeing Is Believing: Watch the Stinky Shoe Test

Here, we offer a vivid demonstration of the speed of the new T-I Max analyzer.

Ammonia, one of the most common airborne contaminants in the semiconductor cleanroom, is also produced and given off by the human body. If you need proof, just measure the ammonia that adheres to the inside of well-worn shoes! Watch our video and you'll see that the Tiger analyzer responds to the ammonia source almost instantly, while recovering just as quickly once the shoe is removed. Please click the link below:

(Click here to view demonstration)

Quality Reassurance for Your High-Purity Fluorinated Gases

In the electronics industry, high-purity fluorinated gases are playing an increasingly important role in many processes. Fluorinated gases like NF_3 and SF_6 are widely used in plasma etching and cleaning processes as a safe alternative to F_2 and HF. SF_6 is also used as an insulator for power testing as it prevents arcing when high voltages are present. In silicon deposition chamber cleaning, CF_4 is brought into the chamber and split apart by a plasma to generate fluorine radicals for removing SiO_2 and other silicon compounds which build up on the walls and other parts of the chamber over time.

Tiger Optics offers various analyzer models for measuring trace impurities in electronic grade fluorinated gases, with sensitivity of ppb or sub-ppb level and very wide dynamic ranges. The prime advantages of Tiger's Cavity Ring-Down Spectroscopy include:

- High sensitivity
- Low cost of ownership
- Freedom from calibration
- Low gas and power consumption
- Real-time measurements.

Contact Tiger Optics today to ensure the quality of your high-purity fluorinated gases!

Tiger's Solutions for Impurities in Nitrous Oxide (N_2O)

Nitrous oxide is vital to industries that range from chemical, semiconductor, medical, fertilizer, to rocket science.

In the semiconductor industry, where nitrous oxide is commonly used for diffusion and deposition processes, demand is mounting for nitrous oxide with a purity requirement topping 99.999 percent.

Impurity control and monitoring are critical for gas manufacturers and end users, especially to guard against dangerous moisture. If end users rely on older technologies such as GC, NDIR or FTIR to monitor impurities of nitrous oxide, they may also complain of daily drifting, calibration requirements and high maintenance.

Tiger Optics' CRDS technology has significant advantages over those traditional cumbersome technologies because it ensures:

- No drift
- Freedom from calibration
- Automated data processing with extremely low maintenance
- Ease of use with no highly skilled operators required
- Robust performance.

Contact us today to enjoy the benefits of CRDS technology.

Environmental Enclosure for Tiger Analyzers

Tiger Optics recently designed and installed a weatherproof outdoor enclosure with heating and air-conditioning at one of our customer sites. Its distinguishing features include:

- Protected environmental working conditions of 0 – 125°F (ambient) for a Tiger analyzer
- Enclosure dimensions of 24" H x 12" W x 30" D
- Easy access to the Tiger analyzer's VCR fittings, 4-20 mA signal & alarms.

Consider adding a Tiger-designed weatherproof enclosure for your Tiger analyzers deployed in:

- Outdoor monitoring required by certain Industrial gas plants (air separation units and nitrogen plants)
- Stationary ambient air monitoring for environmental applications.

To learn more about our engineering offers for your existing or future analysis needs, please do not hesitate to contact us!

Upcoming Events

SEMICON West 2018
July 10-12, 2018
San Francisco, CA

Micro-contamination in gas, tools, or air? Tiger tracks! Visit us at Booth 316 to see our analyzers which provide absolute accuracy, fast real-time response, high sensitivity, freedom from external calibration, exceptional ease of use and superior cost-of-ownership.

***About Tiger Optics*:** Founded in 2001, Tiger Optics offers a wide and proven array of customer-lauded trace gas analyzers, as well as atmospheric and cleanroom monitors. Based upon powerful Cavity Ring-Down Spectroscopy (CRDS), Tiger instruments afford outstanding detection capabilities, speed of response, dynamic range and accuracy, combined with continuous self-calibration, ease-of-use, and freedom from moving parts and consumables. From the cleanest of semiconductor fabs to the harshest coal-fired power plants, our analyzers work to improve your yields, reduce costs, and ease the burdens of regulatory compliance.

Please contact us at sales@tigeroptics.com for more information or to request a quote today!

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