

# SAM-C (Sample. Analyze. Monitor.)

Integrated AMC system for continuous airborne molecular contamination monitoring in semiconductor fabs

# PICARRO

- Accommodates up to 4 Picarro analyzers
- Fast system response
- Automated reference and clean cycles
- User-configurable graphing and trend analysis
- Easy to use AMC plan editor
- Available with 24 or 32 sample ports
- Supports 100+m inlet tube lengths
- Minimal wait time when switching from port to port
- No 3rd party integrator required
- Fab production ready



Picarro SAM-C AMC Monitoring System

## Overview

### The Picarro SAM-C AMC Monitoring System

integrates Picarro's industry leading cavity ring-down spectroscopy (CRDS) analyzers into a high-performance sampling system. Traditional sampler designs degrade individual analyzer performance through the use of a linear manifold which limits the gas flow rate to each analyzer. As a result, traditional samplers limit analyzer performance due to inefficiencies in the sampler design. Time to detect an AMC is ultimately affected, which can lead to a false alarm or even missing an AMC event altogether. The SAM-C is designed and built by Picarro and is optimized to work efficiently with Picarro Analyzers. The superior design of the SAM-C system is optimized to ensure the highest combined performance, utilizing a patent-pending non-linear multiplexing system that enables high gas flow rates, minimizes cross port contamination, and quickly reports accurate AMC concentrations. The Picarro system can be configured to sample up to 32 different locations and pairs with Picarro's gas analyzers to measure ammonia ( $\text{NH}_3$ ), hydrogen fluoride (HF), hydrogen chloride (HCl), and sulfur dioxide ( $\text{SO}_2$ ).

# System Software

- Easily configure recipe to define sampling times and locations, and schedule a recipe to run any time
- Generate customized data visualization of all species in real-time and analyze historic data
- Set threshold levels to identify excursions and detect faults
- Ensure security with single sign-on user management
- Connect to remote host using Restful API



SAM-C Software

## SAM-C Specifications

<b>Gas Detected</b>	NH <sub>3</sub> , HF, HCl, SO <sub>2</sub> , H <sub>2</sub> S (Depending on choice of up to 4 analyzers from table below)	
<b>Sampling Line</b>	1/2"OD x 3/8" ID UHP-PFA tubing	
<b>Number of Ports</b>	24 or 32	
<b>Dimensions</b>	<b>Keyboard Tray Closed</b> 79" (H) x 34" (W) x 38" (D) 2012 mm (H) x 864 mm (W) x 971 mm (D)	<b>Keyboard Tray Open</b> 79" (H) x 34" (W) x 46" (D) 2012 mm (H) x 864 mm (W) x 1172 mm (D)
<b>Weight (without Analyzers)</b>	24 Port: 440 lbs (200 kg) 32 Port: 475 lbs (215 kg) Add 75 lbs (34 kg) for each analyzer	
<b>Power Requirements</b>	220-240 VAC single phase, 50/60 Hz, 20 Amp	
<b>Communication</b>	Ethernet TCP/IP, RESTful API	

Analyzers	Gases Measured
SI3401	NH <sub>3</sub> , HF, HCl
SI2205	HF
SI2108	HCl
SI2104	H <sub>2</sub> S
SI2306	HF, NH <sub>3</sub>
SI2103	NH <sub>3</sub>
SI5450	SO <sub>2</sub>

## Part Numbers (Other Combinations Available)

<b>SAM-C-24-A000</b>	24 port stationary AMC system for NH <sub>3</sub> , HF, HCl
<b>SAM-C-32-A000</b>	32 port stationary AMC system for NH <sub>3</sub> , HF, HCl
<b>SAM-C-32-ABG0</b>	32 port system for NH <sub>3</sub> , HF, HCl, H <sub>2</sub> S, SO <sub>2</sub>