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

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

PICARRO

- Fast system response
- Automated reference and clean cycles
- User-configurable graphing and trend analysis
- Easy to use AMC plan editor
- Available with 8 or 16 sample ports
- Minimal wait time when switching from port to port
- No 3rd party integrator required
- User friendly GUI, minimal training required


Picarro SAM-S AMC Monitoring System

## Overview

The **Picarro SAM-S 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 relegate analyzer performance to the lowest common denominator. Time to detect an AMC is ultimately affected, which can lead to a false alarm or even missing an AMC event altogether. The superior design of the SAM-S 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 16 different locations and pairs with Picarro's SI3401 gas analyzer to measure ammonia ($NH_3$), hydrogen fluoride (HF), and hydrogen chloride (HCl).

## 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-S Software

| SAM-S Specification | |
|---|---|
| **Gas Detected** | $NH_3$, HF, HCl |
| **Sampling Line** | 1/2”OD x 3/8” ID UHP-PFA tubing |
| **Dimensions** | System: 33” W x 33” D x 48” H (84 x 84 x 122 cm)<br>Monitor Height: 12.5” (32 cm) |
| **Weight** | 8 Port: 405 lbs (183kg)<br>16 Port: 430 lbs (195 kg) |
| **Power Requirements** | 220-240 VAC single phase, 50/60 Hz, 15 Amp |
| **Communication** | Ethernet TCP/IP, RESTful API |

| Analyzers | Gases Measured |
|---|---|
| **SI3401** | $NH_3$, HF, HCl |
| **SI2205** | HF |
| **SI2108** | HCl |
| **SI2104** | $H_2S$ |
| **SI2306** | HF, $NH_3$ |
| **SI2103** | $NH_3$ |
| **SI5450** | $SO_2$ |

| Part Numbers (Other Combinations Available) | |
|---|---|
| **SAM-S-08-U-A0** | 8 port AMC system for $NH_3$, HF, and HCl with UPS (Uninterruptible Power Supply) |
| **SAM-S-08-N-A0** | 16 port stationary AMC system for NH3, HF, and HCl |
| **SAM-S-16-N-AG** | 16 port stationary AMC system for $NH_3$, HF, HCl and $SO_2$ |

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