



# SAES Pure Gas

The Technology of Pure Gas

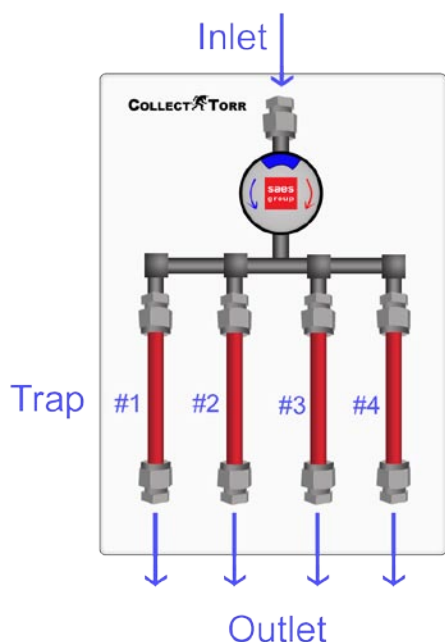


## CollectTorr: Microcontamination Inspection Service

This analytical service from SAES Pure Gas has been developed to provide end-users of lithography, inspection, and metrology equipment with a simple and reliable tool for parts-per-trillion (pptV) molecular contaminant certification.

The CollectTorr Sampling System is fully qualified by ASML™ and the other major lithography and metrology tool manufacturers. Tool owners can utilize CollectTorr for warranty certification of all facility gases, cleanroom air and compressed dry air.

### Interior View



Trap #1 Control Trap

Trap #2 Acids

Trap #3 Bases

Trap #4 Hydrocarbons / Refractory Compounds

### Applications

- Purge gas certification for optics
- Lithography, inspection, metrology tool certification
- Pre/post purifier assessment
- Gas piping and component outgassing survey
- Cleanroom analysis

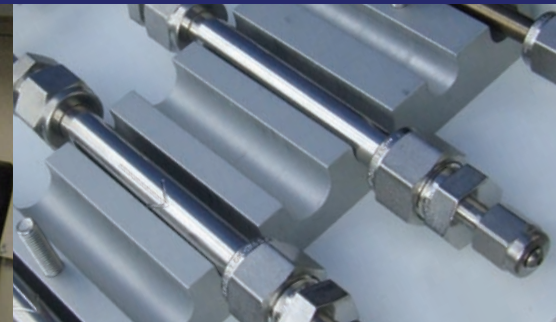
### Analytical Service Features

- Part-per-trillion volume (pptV) sensitivity
- Single sample connection which is easy to install
- Compact design which can be put in any orientation
- Solid-state trap sampling technology, no liquid impingers
- No utilities required

### Sampling Service Logistics

1. Sampling kit shipped to customer
2. 10 minute installation
3. Unattended collection 4 - 72 hours
4. Send back to SAES Pure Gas
5. Analysis report delivered within one week

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## Pressurized Gas

N<sub>2</sub>, CDA, CO<sub>2</sub>, Ar, He, H<sub>2</sub>  
 Pressure required: 30-120 psig  
 Flow required: 6 slpm  
 Connection: 1/4" VCR

## Ambient Air

Cleanroom Air

### Detection Limits 72 hour Sampling

### Detection Limits 6 hour Sampling

Contaminants	ng/L	pptV	ng/L	pptV
Fluoride (F <sup>-</sup> )	0.002	2	0.044	54
Chloride (Cl <sup>-</sup> )	0.002	2	0.057	38
Bromide (Br <sup>-</sup> )	0.002	1	0.056	17
Nitrite (NO <sub>2</sub> <sup>-</sup> )	0.002	1	0.057	29
Nitrate (NO <sub>3</sub> <sup>-</sup> )	0.005	2	0.113	43
Sulfite (SO <sub>3</sub> <sup>2-</sup> )	0.002	1	0.044	17
Sulfate (SO <sub>4</sub> <sup>2-</sup> )	0.002	1	0.036	14
Phosphate (PO <sub>4</sub> <sup>3-</sup> )	0.005	1	0.115	29
Acetate (C <sub>2</sub> H <sub>4</sub> O <sub>2</sub> <sup>-</sup> )	0.014	6	0.339	138
Formate (CHO <sub>2</sub> <sup>-</sup> )	0.005	3	0.114	60
Ammonium (NH <sub>4</sub> <sup>+</sup> )	0.004	5	0.049	66
Hydrocarbons (C6-C30 as Toluene)	0.002	1	0.028	7
Refractory Compounds (as HMDSO)	0.002	1	0.028	7

**saes group** **SAES Pure Gas**  
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SAES Pure Gas is ISO9001 certified



ISO 9001:2008

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Sampling time can be adjusted to meet the customer's required detection limit