

## Dual Sequential Fine Particle Sampler

SIMULTANEOUS COLLECTION OF PARTICLES AND GASES | URG-2000-01K

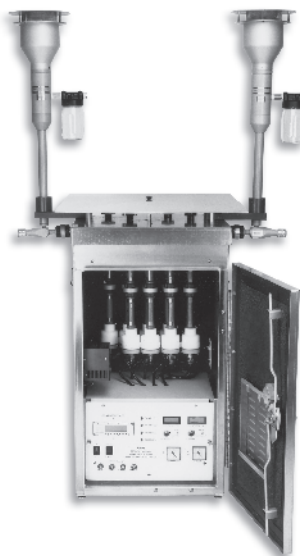
URG's Dual Sequential Fine Particle Sampler collects aerosols, semi-volatile organic compounds and mass in preset time sequences. It can be programmed to collect up to four pairs of samples in parallel for comparison and quality assurance. The system can be left unattended for up to four days making it ideal for remote areas.

### Measurement Capabilities

- Collects four pairs of samples in parallel
- Collects aerosols, SVOCs and mass
- Low maintenance, Ideal for remote areas
- Internal components are interchangeable
- Volumetric flow control
- Constant temperature control
- Capable of viewing and programming multiple settings

### Specifications

- Temperature regulated sampling box, 36" x 22" x 13.5", 80 lb
- 16.7Lpm, 2.5 $\mu$ m
- Available as 115VAC or 220VAC



### Research

- Determining the sources of pollutants that impact visibility and air quality
- USEPA's IO-4.2 Determination of Reactive Acidic and Basic Gases and Strong Acidity of Fine Particles
- Identifying points and properties of emissions
- Contributing to pollution at power plants
- Showing if polluted air has recently been admitted or if it has formed secondary particulate matter

### Uses

- Establishing preliminary assessment of air quality
- Quantifying the impact of acidic and basic air pollutants on issues related to acidic rain
- Assessing the impact of particulate nitrate and sulfate on visibility
- Comparing particulate levels and health effects



### Sharp Cut Cyclone

Teflon® coated to minimize the loss of reactive gases in the cyclone's internal surfaces. Available in a variety of cutpoints and flow rates.



### 47mm Teflon® Filter Packs

Design ensures sample integrity and allows for easy transportation to and from lab. Available with 1-4 stages to allow for sampling on multiple filters at once.



### Polyurethane Foam Sampler

Collects semi-volatile and condensable organic Polynuclear Aromatic Hydrocarbons (PAHs).



### PM-10 Inlet

Used prior to the cyclone to minimize losses of particles less than 10µm at high wind speeds and to reduce intake of rain and insect debris.



### Dry Gas Meter

Mechanically counts liters that have passed through the annular denuder system.



### Annular Denuder

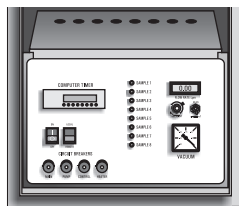
Multi-channel configuration provides additional surface area to expand the denuder's capacity to absorb the gas species of interest. URG's annular denuders do not easily break because they are sealed in a Teflon® coated stainless steel sheath.



### Built-In Computerized Sampling Console for URG-2000-01J

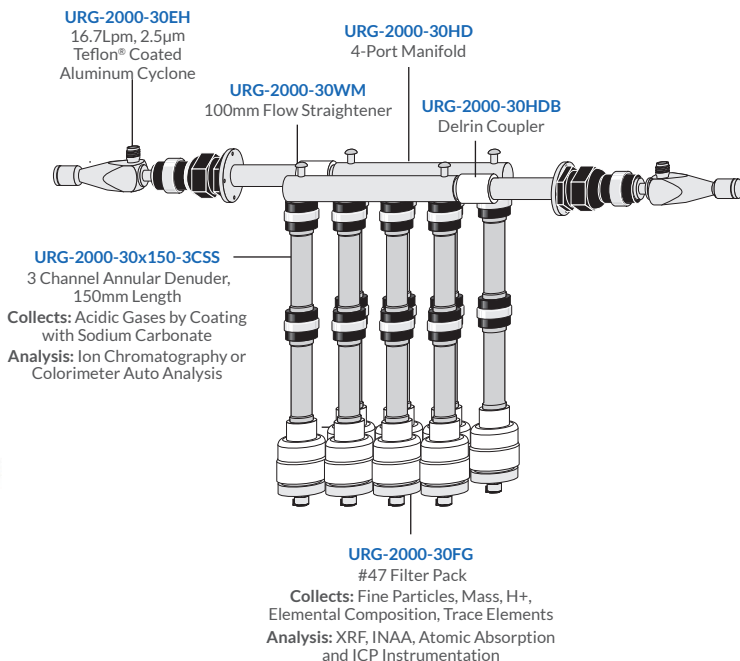
The sampler console allows the user to operate / view the following:

- Flow Range 2-18Lpm
- 7 Day Programmable Timer
- Circuit Breakers
- On/Off Switch
- Vacuum Gauge
- Pump Control
- A quiet low pulsation external pump hooks up to the sampling system. The pump is available as 115VAC or 220VAC.



Chemical Species Collected				
Gases				
HCHO	HF	NO <sub>2</sub>	O <sub>3</sub>	NO <sub>x</sub>
HCOOH	SO <sub>2</sub>	CH <sub>3</sub> COOH	HNO <sub>2</sub>	H <sub>2</sub> O <sub>2</sub>
PAN	Nicotine	PAH	NH <sub>3</sub>	Pesticides
Particulate				
NO <sub>3</sub> -NH <sub>4</sub> <sup>+</sup>	SO <sub>4</sub> <sup>=</sup> HNO <sub>2</sub> <sup>-</sup>	NO <sub>2</sub> -H <sup>+</sup>	SO <sub>4</sub> -Nicotine	
Hazardous Air Pollutants (HAPS)				
#78 Ammonia (NH <sub>3</sub> )	#98 Fluoride (F <sup>-</sup> )	Nitrites (NO <sub>2</sub> )		
Hydrochloric Acid	Hydrogen Fluoride (HF)	Fluorine (F)		
#126 Sulfuric Acid (H <sub>2</sub> SO <sub>4</sub> )	#65 Hydrogen Fluoride	#230 Nitrates (NO <sub>3</sub> )		
Once collected, the pollutant concentrations are quantified by Ion Chromatography Analysis, Colorimeter Auto Analysis, Thermal-Optical Analysis, GC/MS, GC/FID, or GC/ECD, PIXIE, XRF and Flame Absorption Spectroscopy				

### URG-2000-01K Internal Components



### Additional Literature Available

- Complete URG Parts Catalog
- Compendium of Methods for the Determination of Inorganic Compounds in Ambient Air - IO-4.2 Determination of Reactive Acidic and Basic Gases and Strong Acidity of Fine Particles, USEPA publication 625/R-96/01a
- URG Systems Overview  
[Download at www.URGcorp.com](http://www.URGcorp.com)
- Compilation of research papers documenting URG Air Sampling Instruments from 1983 to present  
[Contact URG to receive by email](mailto:info@urgcorp.com)