

# ACES™ Gas Analysis Sampling System

## Eliminate Condensation Problems When Analyzing With Electro-Chemical Sensors

- 20-80% RH sample outlet
- Built-in sample pump
- 0.1 µ particulate filter
- NEMA 4X housing
- Low maintenance
- Corrosion resistant
- Nafion® drying technology
- Samples up to 2 lpm

The Perma Pure ACES™ systems prepare gas samples for analysis by electro-chemical sensor (ECS) analyzers when the sample is too humid for analysis but not condensing at ambient temperature. ECS analyzers suffer reliability problems when the sample is either too wet or too dry. ACES systems reduce sample humidity to the ideal range for ECS (typically 20-80%RH), while also removing any dust or dirt particles.

### Principle of Operation

ACES sampling systems offer full corrosion resistance and very high selectivity, so complex samples can be processed without loss of analyte gases. Nafion® dryer technology is the driving force behind this system. Operating as a self-contained

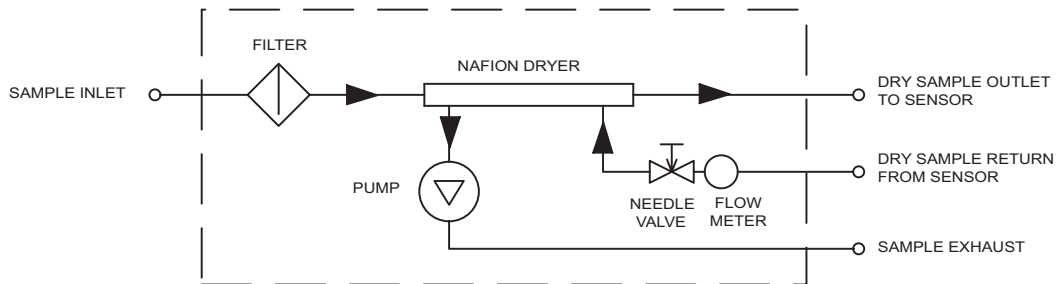
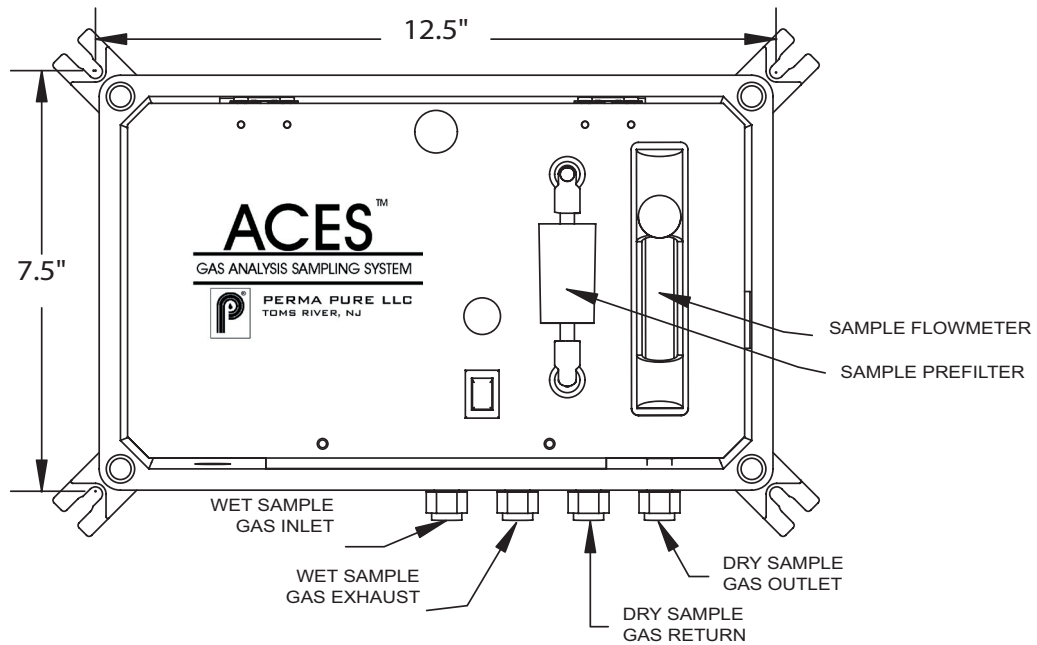
unit, the ACES incorporates a built-in pump to draw the sample gas through a filter and MD-Series™ Nafion® dryer. Dried sample then flows to the sensor where the measurement is made. After exhausting from the ECS, the gas passes through a needle valve and expands, causing a reduction in vapor pressure. It then re-enters the dryer to be used as a purge gas. Because the purge gas is generated from the exhaust stream of the sensor, the ACES is a self-regenerating and transportable conditioning system. System power is supplied by a standard 120 or 220VAC circuit. If electrical power is not available or the system is to be installed in a hazardous area, an air-driven version is also available.

All models are housed in NEMA 4X housings that measure 12"W x 7"H x 6"D and have a clear hinged cover for convenient inspection of the flow rate and disposable filter. No tools are required for replacement of the filter or panel-mounted fuse. Vertical installation is required for proper operation of the flowmeter.



PERMA PURE

<b>Model Number</b>	<b>AG-1207-F3</b>
<b>Enclosure</b>	12" w x 7"h x 7"d NEMA 4X with clear cover
<b>Sample Flow Rate</b>	0.1 to 2 lpm
<b>Max. Inlet Water Content</b>	21°C dew point; 2.5% by volume
<b>Gas Inlet/Outlet Fittings</b>	1/4" tube compression



System Specifications	
Power Requirements	110 VAC, 220 VAC
Fuse	5x20 mm, 1.5A
Filter	DIF-K70, disposable, 95% of 0.1 $\mu$ particles
Piping Connections	1/4" O.D. tube compression fitting
Operating Environment	to 21°C ambient; 0-95 %RH

ACES™ is a Trademark of Perma Pure LLC, Nafion® is a Registered Trademark of E.I. DuPont



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