

Gas Sampling System



Monitoring combustible or toxic gases in areas with condensing levels of moisture often results in premature sensor failure. Water condensing on sensor surfaces or within the sensor flame arrestor can be difficult to avoid due to widely variable ambient conditions.

ATI has developed a solution to this problem with a gas sampling system that also conditions the sample by removing water vapor. The **DRI-GAS** sampling system draws gas samples from high humidity vent stacks, ducts, wet wells, or other humid locations. The system removes water vapor from the gas sample by contact with a cold plate that condenses moisture and delivers a dehumidified gas sample suitable for toxic and combustible gas monitoring equipment. Excess condensate is pumped to a drain fitting on the bottom of the enclosure and can be collected if necessary.

DRI-GAS systems contain a diaphragm sampling pump with brushless DC motor providing operational life in excess of 10,000 hours. The pump is capable of pulling inlet line vacuum of up to 10" Hg. making it suitable for sampling duct system with negative pressures. The outlet of the pump is controlled by an adjustable rotameter allowing system sample flow to be set to the normal rate of 500 cc/min.

A differential pressure switch across the pump provides an alarm should the inlet line or outlet lines become blocked. An alarm lamp on the door provides local alarm indication and a SPDT alarm contact is available for remote alarm indication.

An optional inlet filter assembly is available for applications where gas streams may contain dust or debris that might cause problems in the air pump. A replaceable filter element on the end of the inlet assembly can be easily changed when necessary. A plugged inlet filter will be indicated by a fault indication. A package of filter elements are supplied with the inlet assembly.

FEATURES

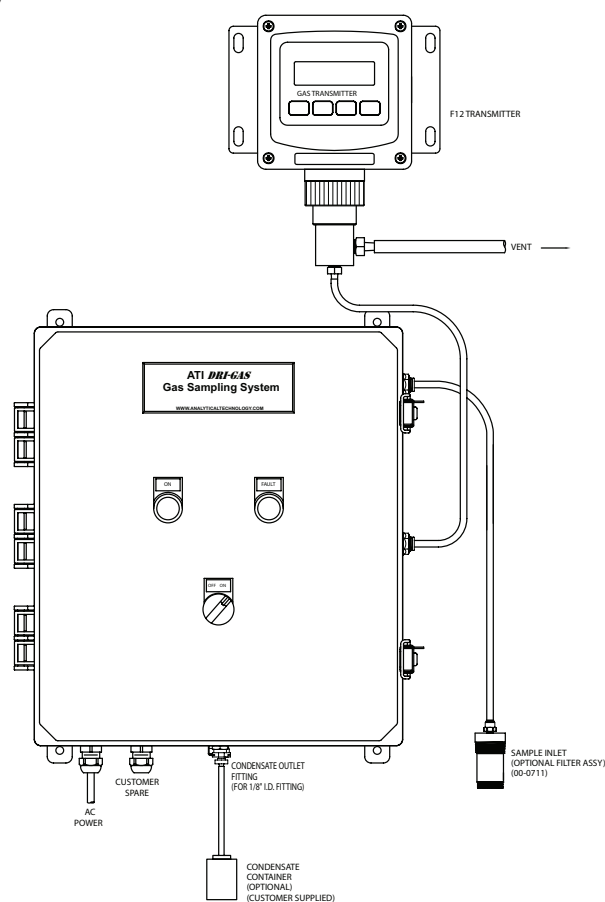
- Condensing Water Vapor Removed Continuously
- Samples from ducts under vacuum
- Gas Sensor "Blinding" Eliminated
- Virtually Maintenance Free
- Options for 120 VAC or 230 VAC Operation

DRI-GAS SAMPLING SYSTEM

INSTALLATION

The gas sampling system is suitable for either indoor or outdoor installation, but outdoor installations must be protected from wind driven rain. It is also best to protect it from direct sunlight to minimize solar heating of the interior. Outlet tubing containing the dried air sample should be connected directly to gas sensor flowcells and distances should be kept as short as possible. Teflon lined PVC sample inlet and outlet tubing is recommended to minimize loss of reactive gases.

The diagram below shows a typical installation with the output to an F12 transmitter. This is an example only. The dried gas sample can be fed to a variety of gas sensors including ATI's A12, D12, D12IR, B12, or A11 systems.



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SPECIFICATIONS

Power	120 VAC, 50/60 Hz., 230 VAC Optional, 35VA Max.
Pump	6 VDC powered diaphragm type, brushless motor rated 10,000 hours
Flowrate	Adjustable, 300 - 800 cc/min., 500 cc./minute recommended
Inlet	Push to connect fitting for 1/4" O.D. tubing
Outlet	Push to connect fitting for 1/4" O.D. tubing
Sample Pump Rating	Maximum 10" Hg. Vacuum on inlet Maximum 4 PSIG pressure on outlet
Alarms	Low Flow alarm lamp on front door SPDT alarm relay for low flow remote indication
Enclosure	NEMA 12 / IP-52 Polycarbonate Flammability V-0
Temperature	Operating: 2° - 45° C
Storage	-25° to +55° C
Size	15" W x 17" H x 9" D (380 x 430 x 200 mm)
Weight	18 lbs. (8.2 Kg)
Accessories	2 replacement peristaltic pump tubes 2 replacement fan/inlet grill filters
Options	Inlet filter assembly with package of 10 replacement inlet filters

ORDERING INFORMATION

Model C21-A-B Dri-Gas Sampling System

Suffix A - Power

- 1 - 120 VAC, 50/60 Hz
- 2 - 240 VAC, 50/60 Hz

Suffix B - Inlet Assembly

- 1 - Without Inlet Filter
- 2 - With Inlet Filter Option

NOTE: Gas Condition Systems do not include inlet and outlet tubing as every application requires different lengths. Order the total length of tubing needed for both inlet and outlet lines.

44-0124 Tygon/FEP Lined Tubing, 1/4" O.D., 1/8" I.D.

ACCESSORIES

- 23-0002** Fuse, 2A Slo-Blow
- 36-0063** Replacement fan/inlet grill filters, pkg. of 6
- 05-0116** Peristaltic pump tubing kit, pkg. of 10

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