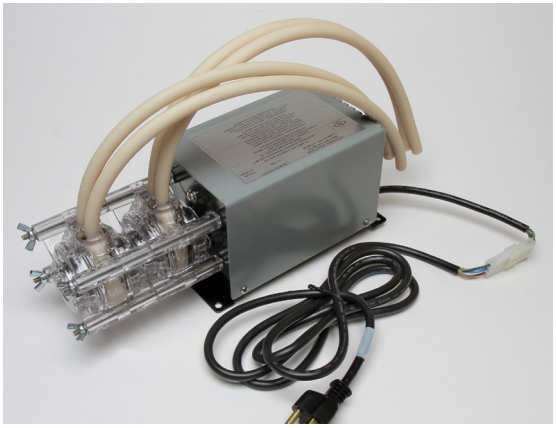
Accessories

Flow Meters

All of our flow meters consist of an acrylic block but vary in sizes and range, with direct reading scales in both SAE and SI units for air and water. For other gases and liquids, special scales can be provided. Accuracy is within ± 5% Full Scale. The floats are made of black glass and the fittings and valves are made of stainless steel. Maximum pressure and temperature are 100 psig (690 kPa) at 150°F (65°C).



Peristaltic Pumps

Our peristaltic pump system is enclosed in a metal case, which allows direct panel mounting. This six rpm system (at 115VAC) can accommodate one to three tubes simultaneously depending on the quantity of heads purchased. The pump head contains three rollers made of either cold-rolled steel (CRS) or the more chemical resistant stainless steel (SS). The standard pump heads allow a flow rate of 10.2mL/min (each head) at six rpm. The heads are housed in a durable, clear polycarbonate shell.

Sample Pumps

Our ADI Mini Dia-Vac® sample pump is completely self contained and is used either in our built in or portable systems. Weighing at only eight or nine pounds, depending on single or double head specifications, our sampling pumps are ideal for use in industrial plants, laboratories, process control, environmental and remote sampling. The powerful sample pump has a 1/15 HP, ¼ NPT port connection, and powered by either 115V, 50/60 HZ 1.7 amps (single head) or 230 V., 50/60 HZ 0.8 amps (double head).

Available in: Stainless Steel, Kynar/Glass, Kynar/Kynar, Hastelloy C-276

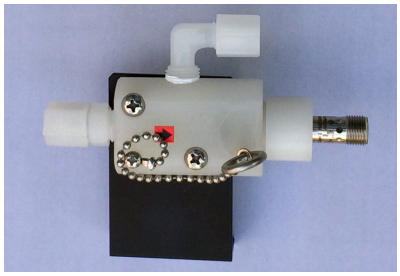
Heat Exchangers 5" and 10"

The heat exchangers or impingers used in our gas sample coolers are designed to minimize the gas/condensate area as well as time of contact to minimize the removal of water soluble gasses. It is important that our heat exchangers remove the water vapor and still leave the water soluble gas fraction(s) in the sample. The result is a dry gas sample which has the same composition on a dry basis before and after passing through the heat exchanger. The stainless steel impinger is highly polished and through its cylindrical shape, the surface can efficiently be cooled to the desired dew point temperature for gas/water seperation. After the hot, wet sample travels through an insulated tube within the cylinder, it is then subjected to pass through a narrow, annular area at a relatively high Reynolds number in order to insure the entire sample is influenced by the cold outer surface of the cylinder. The condensate forms on the cool polished impinger and drops out in the form of a sheet which minimizes the surface area in contact with the gas sample. The stainless steel heat exchangers can withstand a maximum inlet temperature of 700°F and a maximum pressure of 300 psi for the non-welded exchanger, and 1000 psi for the welded version. The kynar impinger is a smooth, cylindrical shaped instrument, encased by an outer glass surface which efficiently cools to the desired dew point temperature for gas/water seperation of the sample. After the hot, wet sample travels through an insulated tube within the kynar/glass cylinder, it is then subjected to pass through a narrow annular area at a relatively high Reynolds number in order to insure the entire sample is influenced by the cold surface of the glass. The condensate forms on the cool glass cylinder and drops out in the form of a sheet which minimizes the surface are in contact with the gas sample. The kynar/glass heat exchangers can withstand a maximum inlet temperature of 280°F and a maximum pressure of 25 psi.

Condensate Sensors: CCSF & CCS

Condensate Carry-Over Sensor with Filter (CCSF)

Our gas sample conditioning systems can contain additional components to insure that a clean, dry sample is presented to the analyzer panel, thereby minimizing any future maintenance or costly repairs. Universal Analyzers can provide two types of condensate slip sensors that should be purchased to detect the presence of condensate, should any exist in the tubing following the chiller. The version of the sensor that possess a filter is called a "CCSF" or "Condensate Carry-Over Sensor w\ Filter". The CCSF's visible coalescing filter collects particles on the outside of the cylindrical filter, surrounded by a transparent bowl that will allow the operator to inspect the condition of the heated stack filter. It differs from the other, CCS sensor, only in that it contains a filter.



Condensate Carry-Over Sensor (CCS)

Our gas sample conditioning systems can contain additional components to insure that a clean, dry sample is presented to the analyzer panel, minimizing any future maintenance or costly repairs. Universal Analyzers can provide two types of water slip sensors that may be purchased to detect the presence of condensate, should any exist in the tubing following the chiller. The version without a filter is called a CCS or Condensate Carry-Over sensor. The CCS has a sensor in the bottom of a housing unit will provide an early warning if the chiller allows condensate to slip past its liquid drain system.

Liquid Drain

Our liquid drain traps offer a free-floating guided lever. The elliptical floats and high leverage make it possible to open large orifices to provide adequate capacity for drain trap size and weight. This liquid drain trap provides service for up to 500psig or 34 bar at 380°C (440 psig or 30 bar at 260°C) and a maximum differential of 264 psig or 18 bar. The valve and seat, leverage system, float, and body is all completely made of stainless steel.

Temperature Controllers

Universal Analyzers offers a panel mounted, digital indicating, temperature controller with input for a temperature sensor from a thermocouple or RTD with dual outputs. The outputs may operate different modes for heating or alarm function. See the price book for a variety of DIN packages and options.

Heated Probe Assambly (HPA)

Universal Analyzer Heated Probe Assembly (HPA) is used on any Model 270 or 275 sample probes without a probe collar. The Probe/Flange assembly has 3” long mounting bolts that accommodate a standard stack flange. See price book for additional options.

Probe Tubes

There are two standard probe types (offered in an array of materials). One probe is designed to mate with a model 270SF type probe and has a 1/2” MNPT on one end (can be ordered with 1/2” MNPT on both ends for use with probe tip filter or probe tip demister). The other probe style mates with the 270S type probe which has a 1/2” MNPT to mate with the probe and a 3/4” MNPT facing the oposite direction to mate with the process. In addition there are special probe tube designs for high velocity flue and flare gas applications as well as special coatings whcih are available upon request (i.e. SilcoNert 2000) - contact the factory for more information.

Probe Type	# Theaded Ends	Available Materials	Lengths*	
270SF, 271, 275E, 275HD	1 or 2	Stainless Steel (316 & 310), Hastellloy C-276, Inconel, Ceramic	1 to 7 FT	0.25 - 2m
270S	1 or 2	Stainless Steel (316 & 310), Hastellloy C-276, Inconel	1 to 7 FT	0.25 - 2m

** Longer Probe tubes available upon request - contact factory with specifications.*

Material Type	Operating Temperature Limit
Stainless Steel, 316	1100°F
Stainless Steel, 310	2000°F
Inconel	1900°F
Hastelloy, C-276	2000°F
HR-160	2200°F
Ceramic	2600°F

Probe Tube Filter

Universal Analyzers offers Probe Tip Filters in 316 Stainless Steel and C-276 Hastelloy. Available in a 9” or 24” filter for high dust loading or high flow rates we also provide Volume Reducers to increase sample response time that is recommended for Dilution probes. See the Probe Tube price sheet for complete selection.