



500 Series

Thermo-Electric Gas Cooler

Sample System Specialists for Gas Analysis

General Description

The Series 500 Sample Coolers are our moderate capacity thermoelectric coolers. They provide a self-regulated 4.0°C dew point gas sample. The 500

Series Coolers condense the water from a wet gas sample with minimal loss of the water soluble gas fraction. This results from the unique design of the heat exchangers. The separation occurs in the heat exchangers which have a highly polished cylindrical surface cooled by thermoelectric Peltier devices to the desired dew point temperature. These heat exchangers are available in a variety of materials including Stainless Steel, Kynar/Glass, and Hastelloy.

The 500 series coolers can be either panel or wall mounted and can contain one or more 5" heat exchangers. The number of heat exchangers and cooling scheme can be configured to satisfy your application need. The unit's Peltier elements are cooled by heat sinks which are then cooled using either ambient air or a continuous supply of water.

The 500 Series Coolers can be easily integrated with other Universal Analyzers' sample components including a water slip sensor with or without an integral water coalescing filter, peristaltic pump, sample pump, manual switches, external terminal strip, or PLC controlled sample handling systems, PLC controlled sample sequencers and our complete line of Stack Filter Probes. For high pressure applications, metal heat exchangers can be welded together as a single assembly. For special applications, stainless steel heat exchangers can be Silcosteel* or Sulfinert* coated.



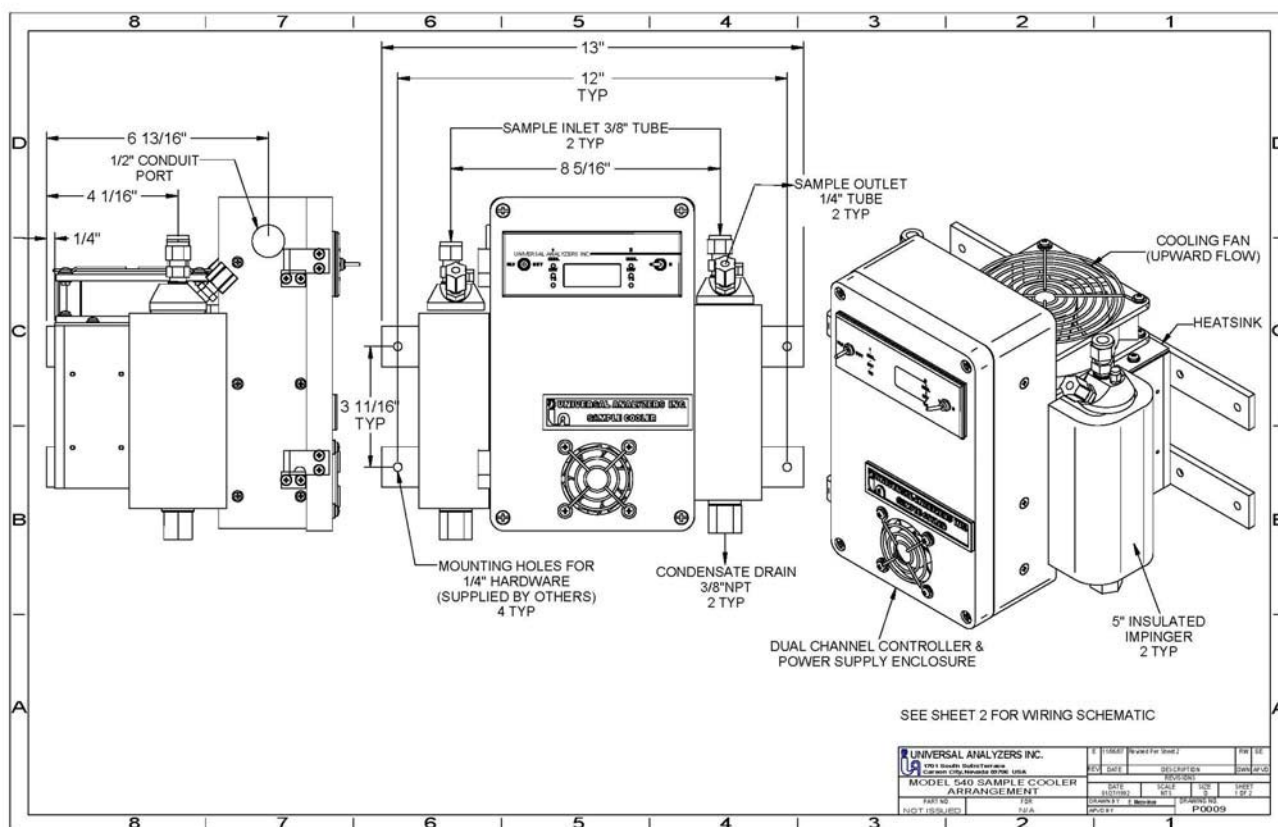
Applications

- ◆ CEMS Integration
- ◆ Process Analysis
- ◆ Process System Integration
- ◆ In-Plant Chiller Requirements

Features

- ▶ Digital Display
- ▶ Alarm Contacts
- ▶ Status Indicator Lights
- ▶ 5" Impingers available in different materials (wetted parts)
- ▶ Heat sink cooled by a highly efficient blower
- ▶ Stable dew point
- ▶ Can be integrated into your sample system

500 Series



Technical Specifications

- ▶ Maximum Inlet Sample Temperature: 300F w/ Glass/Kynar Heat exchangers
700F w/ Stainless Heat exchangers*
- ▶ Maximum Inlet Water Concentration: 50%*
- ▶ Minimum Ambient Temperature: 32F (0°C)
- ▶ Maximum Ambient Temperature: 105F (41°C)*
- ▶ Outlet Sample Dew Point: 39.2F (4°C)
- ▶ Voltage: 115/230 VAC 50/60 HZ
- ▶ Electrical Classification: General Purpose
- ▶ Dimensions: 9.25" x 8.875" x 6.375" HWD
- ▶ Weight: 18 LB (8KG)
- ▶ Soluble Gas Removal Rates:

NO	0% Loss
NO2	<10% Loss
SO2	<2% Loss
CO	0% Loss
CO2	<2% Loss

*At reduced flow rates, see capacity chart.

500 Series - Operating Specifications

Number Streams	Impingers		Heat sink Cooling	Wetted Materials	Model
	Number	Control			
Single	One	Active	Ambient Air	316 Stainless Steel	520SS
				Hastelloy C-276	520C
				Teflon coated SS	520ST
				Glass/Kynar	520PV
			Water	316 Stainless Steel	520WSS
				Hastelloy C-276	520WC
				Teflon coated SS	520WST
				Glass/Kynar	520WPV
Single	Two	Passive Active	Ambient Air	316 Stainless Steel	530SS
				Hastelloy C-276	530C
				Teflon coated SS	530ST
				Glass/Kynar	530PV
			Water	316 Stainless Steel	530WSS
				Hastelloy C-276	530WC
				Teflon coated SS	530WST
				Glass/Kynar	530WPV
Single	Two	Active Active	Ambient Air	316 Stainless Steel	560SS
				Hastelloy C-276	560C
				Teflon coated SS	560ST
				Glass/Kynar	560PV
Dual	Two	Active Dual Control	Ambient Air	316 Stainless Steel	540SS
				Hastelloy C-276	540C
				Teflon coated SS	540ST
				Glass/Kynar	540PV
			Water	316 Stainless Steel	540WSS
				Hastelloy C-276	540WC
				Teflon coated SS	540WST
				Glass/Kynar	540WPV
Single/ Dual	Four	Passive Active Dual Control	Ambient Air	316 Stainless Steel	570SS
				Hastelloy C-276	570C
				Teflon coated SS	570ST
				Glass/Kynar	570PV
Quad	Four	Active Active Dual Control	Ambient Air	316 Stainless Steel	574SS
				Hastelloy C-276	574C
				Teflon coated SS	574ST
				Glass/Kynar	574PV



500 Series - Operating Specifications

Performance @ Max. Inlet temp of 300°F & 77°F Ambient (Air Cooled)						
Series:	520	530	540	560	570	574
LPM sample @ 12%	2.5	4.0	5.0	5.0	8.0	10.0
15% H ₂ O	2.0	4.0	4.0	4.0	8.0	9.0
30% H ₂ O	1.0	4.0	2.0	2.0	8.0	5.0
50% H ₂ O	0.6	4.0	1.0	1.0	8.0	3.0
BTU per Hour	63	63	126	126	126	252
Power Consumption	175W	175W	250W	250W	400W	740W

Performance @ Max. Inlet temp of 300°F & 77°F Ambient (Water Cooled)			
Series:	520W	530W	540W
LPM sample @ 12% H ₂ O	3.5	5.0	7.0
15% H ₂ O	2.8	5.0	5.0
30% H ₂ O	14.0	5.0	3.0
50% H ₂ O	0.8	5.0	1.6
BTU per Hour	95	95	150
Power Consumption	175	175	375

Additional Options

- ▶ Metal impingers can be welded for high pressure applications
- ▶ Stainless impingers can be Silcosteel* or Sulfinert* coated to decrease surface reactivity
- ▶ All units above can be fitted for panel mount configuration

* Restek Registered Processes