

UV3000P

In situ DeNO_x, DeSO_x, Multi-Gas Continuous Emissions Monitor



Continuous In situ Multi-Component Monitoring

Ammonia Slip / DeNO_x

DeSO_x / Flue Gas

Desulfurization

General CEMs



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...DeSO_x, DeNO_x, Ammonia Slip

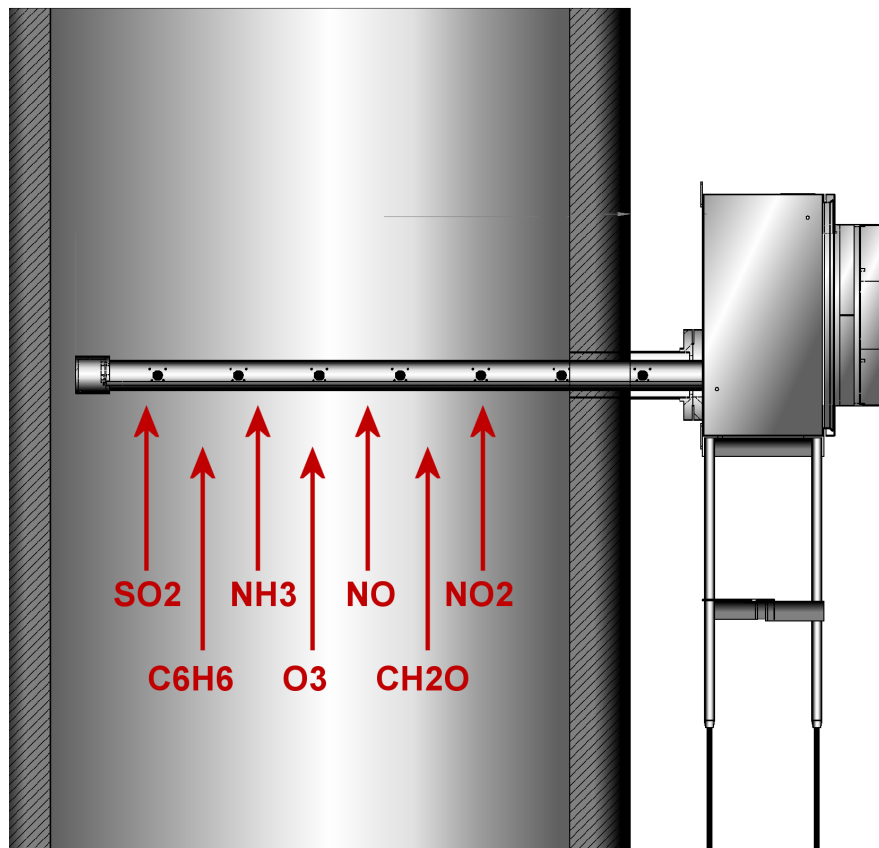


Cost Effective Insitu Process Monitoring: DeNOx, DeSOx, NH₃

The UV3000P presents a high performance, cost effective single analyzer solution for monitoring of DeNOX / Ammonia Slip, DeSOx and general Continuous Emissions Monitoring applications. Operating on the principle of UV light absorbance target gases are measured directly within a probe installed in the stack gas stream. The method is unaffected by water vapor. Probes and dynamic ranges of target compounds are engineered for the application.

Low Cost Installation

Cost savings begin with simplified installation. The UV3000P mounts directly to the process via a standard ANSI 150# flange. A single port, power and communications are required on only one side of the flue. The insitu measurement technique mitigates the requirement for installation of sample extraction and sample conditioning hardware.



Low Maintenance, Increased Uptime

The UV3000P is designed for fully autonomous continuous operation. Inherent calibration and automated quality assurance eliminate the need for labor intensive routine calibration. Quality assurance audits require only small quantities of primary standard gas, and there is no need for spiking. Synthetic background implementation mitigates drift, zeroing the analyzer each acquisition cycle without concern for purging the probe. The 4000 hour half-life warranted UV source and probe filters are the only consumables. The probe is easily removed without removal of the analyzer.

Simplified Integration

MODBUS TCP and VNC via Ethernet are standard communication and remote control protocols, allowing direct integration with factory control systems. A variety of optional data outputs are available upon request.

Enhanced Detection Performance

The UV3000P probe length is selected to meet specific monitoring requirements. Sulfur Dioxide measurements are unaffected by the presence of NO_x, and there is no loss of water soluble compounds. Typical dynamic ranges for DeNO_x and DeSO_x applications are specified below, however the UV3000P may also be configured to monitor additional compounds.

Cerex UV3000P Dynamic Range of Single Gas Compounds, TYP DeNO _x or FGD Applications						
Gas Species	1.7 Meter Probe		1 Meter Probe		0.5 Meter Probe	
	Minimum PPM	Maximum PPM	Minimum PPM	Maximum PPM	Minimum PPM	Maximum PPM
Ammonia (Low Range)	< 0.2	18	< 0.3	30	< 0.4	60
Ammonia (High Range)	< 14	3000	< 25	6000	< 45	10000
Nitrogen Monoxide	< 1	125	< 1.5	200	< 2	425
Nitrogen Dioxide	< 5	1500	< 8	2650	< 16	5300
Sulfur Dioxide (Low Range)	< 0.2	30	< 0.4	50	< 0.8	100
Sulfur Dioxide (High Range)	< 2	640	< 5	1300	< 9	2500

UV3000P Additional Detectable Compounds		
1,3 Butadiene C ₄ H ₆	Ethyl Benzene C ₈ H ₁₀	Phenol C ₆ H ₅ OH
Acetaldehyde C ₂ H ₄ O	Formaldehyde CH ₂ O	Styrene C ₆ H ₅ C ₂ H ₃
Benzene C ₆ H ₆	Mercury Hg	Toluene C ₇ H ₈
Carbon disulfide CS ₂	Ozone O ₃	o-Xylene C ₈ H ₁₀
Chlorine Cl ₂	Isoprene C ₅ H ₈	m-Xylene C ₆ H ₄ (CH ₃) ₂
Chlorine dioxide ClO ₂	Naphthalene C ₁₀ H ₈	p-Xylene C ₆ H ₄ C ₂ H ₆

UV3000P Specifications

UV3000P Typical Product Specifications	
General	
Technology	Deuterium Source UVDOAS
Application	Insitu Multi-gas CEM, DeSOx, DeNOx TYP
Installation	
Input Voltage	120VAC or 240VAC , Single Phase 47-63Hz
Input Current	10A Max
Mounting	ANSI 150# Flange
Operating Ambient Temperature	0 to +50°C
Maximum Sample Temperature	190°C (300°C Optional)
Operating Humidity	Non-condensing (heated window probe)
Enclosure	NEMA 4X TYP (48.2 x 43.1 x 22.8 cm)
Probe Length	Centimeters - 1.7 meter, Application specific
Ports	QTY 2 Swagelok® or equivalent, TYP 6MM.
Connectors	RJ45 LAN, WAN, USB TYP
Communication	Remote Control via Network, MODBUS TCP
Performance	
Spectral Range	200nm to 330nm
Accuracy	Application Specific, TYP: ±3% Reading
Precision	Application Specific, TYP: ±3% Reading
Spectral Resolution	0.20nm
Acquisition Time	User Selectable, 60s Typical
Zero Drift	Self Compensating
Span Drift	Inherent Calibration, N/A
Maintenance	
UV Source Lamp Half- Life	4000 Hour Half-Life Warranty
Probe Filters	Field Serviceable
Options	
Hazardous Location Hardware	Z-Purge and Air Conditioner for Class 1, Division 2, Groups A-D Operation
Outputs	4-20mA, Serial ASCII, Modbus RTU

1,3 Butadiene C4H6
 Acetaldehyde C2H4O
 Ammonia NH3
 Benzene C6H6
 Carbon disulfide CS2
 Chlorine Cl2
 Chlorine dioxide ClO2
 Ethyl Benzene C8H10
 Formaldehyde CH2O
 Mercury Hg
 Nitrogen Dioxide NO2
 Nitrogen Monoxide NO
 Ozone O3
 Isoprene C5H8
 Naphthalene C10H8
 Phenol C6H5OH
 Styrene C6H5C2H3
 Sulfur Dioxide SO2
 Toluene C7H8
 o-Xylene C8H10
 m-Xylene C6H4(CH3)2
 p-Xylene C6H4C2H6

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