

CEMplicity Monitoring System

Forney introduces a low cost solution for your process monitoring and CEMS needs using proven technology. The CEMplicity provides the same cost savings as in-situ type systems without some of the drawbacks associated with “in process” monitors. The CEMplicity system relies on the more accurate and reliable performance utilizing EPA reference method analyzers (Chemiluminescence NO_x and Paramagnetic O₂ analyzers).

The CEMplicity is a close-coupled monitoring system packaged in a compact, climate controlled NEMA 4 enclosure. The system contains a sample conditioning system, a Chemiluminescent NO_x Analyzer with dual outputs provides the required information for most SCR applications, a Paramagnetic O₂ Analyzer (single range, 0-25%) for both combustion control and reporting requirements, and software for diagnostics and control run on a Pentium III processor. A differential NO_x measurement is also available as an option for ammonia slip measurements.

The sample conditioning and detection technologies are well established and will provide consistent and reliable data. The CEMplicity system is designed to be close-coupled where response time is an issue, but can also be located at grade if desired.

The CEMplicity is available in two versions. The CEMplicity I version allows for only one sample stream (NO_x, O₂ and/or CO). The CEMplicity II provides two sample streams (typically NO_x, O₂, and NH₃) for more complex monitoring requirements.

COST EFFECTIVE SOLUTION -

Proven technologies at an affordable price. Pre-packaged, pre-engineered product minimizes cost and lead time.

SAMPLING FLEXIBILITY -

Direct extraction or dilution extraction. Solutions are designed to meet customer needs with a variety of analysis options available (NO_x, CO, CO₂, O₂, SO₂, NH₃, CH₄, C₃H₈).

REMOTE DIAGNOSTICS -

Available as an Option.

LOW INSTALLATION AND CAPITAL EXPENDITURE COSTS -

Less equipment to buy, install, and maintain than with a conventional CEMS system, while maintaining the same proven reliability.

SERVICE -

Forney service engineers provide start-up expertise, and periodic maintenance capabilities to ensure your equipment operates reliably. Maintenance contracts and testing support is also available.

APPLICATIONS -

SCR control, FGD performance monitoring, process control and compliance monitoring.



ENVIRONMENTAL



CEMplicity



Re-powering your world





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System Specifications

Ambient Temperature	0°F to 131°F
Power Requirements	115 VAC, 30 amp
Air Requirements	80-100 PSIG @ 9 SCFM (probe purge cycle)
Analog Outputs	Loop power 4-20 mA
Response Time	Varies dependent on umbilical length
Alarms	Common Alarm, InCal (Dry Relay Contacts)

Analyzer Specifications

	<u>NOx Analyzer</u>	<u>Oxygen Analyzer</u>
Detector	Chemiluminescence (CLD) Photodiode	Paramagnetic
Sample Contact Material	Teflon, Stainless Steel	Platinum, Glass, Stainless Steel, Viton and Tygon™
Analyzer Ranges	0-1 to 3,000 PPM NO _x	0-25% O ₂
Response time	T90 < 3 to 60 seconds adjustable	T90 of full-scale in 2 seconds
Resolution	0.01 PPM NO/NO _x	
Repeatability	Better than 0.5% of full-scale	Better than 1% full-scale
Linearity	Better than 0.5% of full-scale	Better than 1% full-scale
Noise	< 1% of full-scale on the 0-2PPM range	< 1% full-scale
Zero & Span Drift	< 1% of full-scale per 24 hours	< 1% of full-scale in 24 hours
Zero & Span Adjustment	Via keyboard	Via keyboard
Flow Control	Electronic Proportional Pressure Controller	Orifice
Sample Flow Rate	1.5 to 3.0 liters per minute <i>(consult factory for other flow rates)</i>	1 liter per minute
Converter	Vitreous Carbon Material @ 205°C	
Ozonator	Ultraviolet Lamp	
Digital Diagnostics	Control Voltages, Temperatures, Pressures, Flow Parameters	Control Voltages, Temperatures, Pressures, Flow Parameters
Sample Temperature	Up to 50 °C noncondensing	0 to 50 °C
Sample Condition	Clean, noncondensing gas	Clean, noncondensing gas
Ambient Temperature	5 to 40 °C	-5 to 45 °C
Ambient Humidity	< 90% RH noncondensing	< 90% RH noncondensing
Power Requirements	115/230 (± 10%)VAC; 50/60Hz; 200Watts (350 watts with pump)	115/220/240 VAC, 50/60 Hz, 70 watts/channel

