Vigilant 2000 CEMS

Sampling flexibility provides optimum analyzer selection across a variety of applications. The Vigilant 2000 Continuous Emissions Monitoring System (CEMS) utilizes dilution and/or direct extractive sampling techniques covering a wide variety of compliance and process applications. It is a pre-engineered configuration consisting of one or two sample probes for in-stack or in-duct monitoring.

A typical Vigilant 2000 system consists of probes, a heated line, dryer, system controller, analyzers, and data acquisition system. Probes are available in various lengths and utilized for corrosive gases, saturated conditions, high temperatures, and high particulate loading. The heated line carries the sample from the probe to the refrigeration dryer. The system controller provides manual or automated delivery of calibration gases and blow-back air to the probes and includes alarms and status indicators. NO_x, SO_2, CO, and O_2 analyzers complete the system in a compact, easily accessible, single cabinet design.

The Vigilant 2000 handles the performance and DAS reporting requirements of USEPA 40 CFR Part 60 through Part 75. The system controller can be supported by either PLCs/Data Logger for increased flexibility. An IBM compatible Pentium IV computer, CRT, keyboards, and mouse are conveniently located outside the cabinet.

SAMPLING FLEXIBILITY - System provides diluted "wet", or undiluted "dry", with options for "hot wet" samples for optimum analyzer selection.

EASE OF MAINTENANCE - Sample conditioning system designed with open architecture. The system components are easily excessable through a side door simplifying PM and maintenace activities.

LOW COST DESIGN - Pre-engineered, modular, single-cabinet design with built-in data acquisition system and three-sided accessibility.

PREVENTS CONDENSATION - Gases with high affinity for water (i.e. NH_3 and HCL) are measured in the "hot wet" state to prevent condensation of high boiling hydrocarbons in THC monitoring.

CONVENIENT PROBE MOUNT - Simple filter replacement without disconnecting sample line or removing probe.

LOW ON-STACK MAINTENANCE - Self-cleaning, two-state, probe filter significantly reduces on-stack maintenance.

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Specifications

Sample Inlet Temperature	Up to 232 °C (450 °F) standard High temperature probe to 1200°C (2192 °F)
Sample Inlet Dewpoint	Up to 70°C (160°F) i.e. 30% water, standard Heated probe option for >30% water
Sample Wetted Parts	316 SST and Teflon standard
Sample Particulate Loading	Up to 2-10 g/Nm^3 (0.9 - 4.4 gr/scf), standard 2-10 g/Nm^3 (0.9 - 4.4 gr/scf), and >10 g/Nm^3 (4.4 gr/scf), optional
Conditioned Sample Flow	Up to 5 lpm (10.5 cfh)
Instrument Air Requirement	1cfm (30 lpm); dewpoint of 40°C (-40°F) 80 - 125psig (5-9 bar g)
Probe Filters	Ceramic filter (2 micron) standard
Probe Length	1m (3.2') standard - additional lengths available
Probe Mounting	76 mm (3") NPT flange mounting to pipe nipple on stack
Sample Line	One 9.5 mm (3/8") and one 6.4 mm (1/4")OD PFA Teflon tube, in a heated sheath, for sample and blow-back / calibration. Power required is 120 VAC, or equivalent, at 10 watts/ft. in addition to enclosure requirement.
Enclosure Power	125 VAC, 60 Hz standard
Mechanical	NEMA 1 / NEMA 12 steel enclosure, prime and enamel-coated 2000 mm x 800 mm x 800 mm (79" x 32" x 32") Fully loaded weight 226.8 kg (500lb)
Data Acquisition and Control	IBM compatible with 2.2 GHz Pentium IV, 256 M Ram, 56K modem, 40 GB HD, keyboard, mouse, 17" monitor, HP color inkjet printer. A/D board with 16 digital inputs, 16 digital outputs, RS232/Ethernet communication

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