

Model 43C SO₂ Analyzer

Pulsed Fluorescence gas analyzer for ambient air monitoring and source emissions monitoring

The Model 43C integrates the proven pulsed fluorescence design of Thermo Electron's Model 43 series with an enhanced electronics package and user interface. The outcome is a sensitive, ultra stable SO₂ analyzer offering network operators and research scientists unlimited troubleshooting diagnostics and data communications capability. User software facilities include field programmable measurement ranges and SO₂ concentration value storage by date and time.

Extended troubleshooting diagnostics now provide instantaneous indication of instrument operation parameter status including pressure flow, DC supply voltage, internal temperature, reaction chamber temperature, PMT operating voltage, lamp intensity, lamp voltage and optical span test.

Key Features

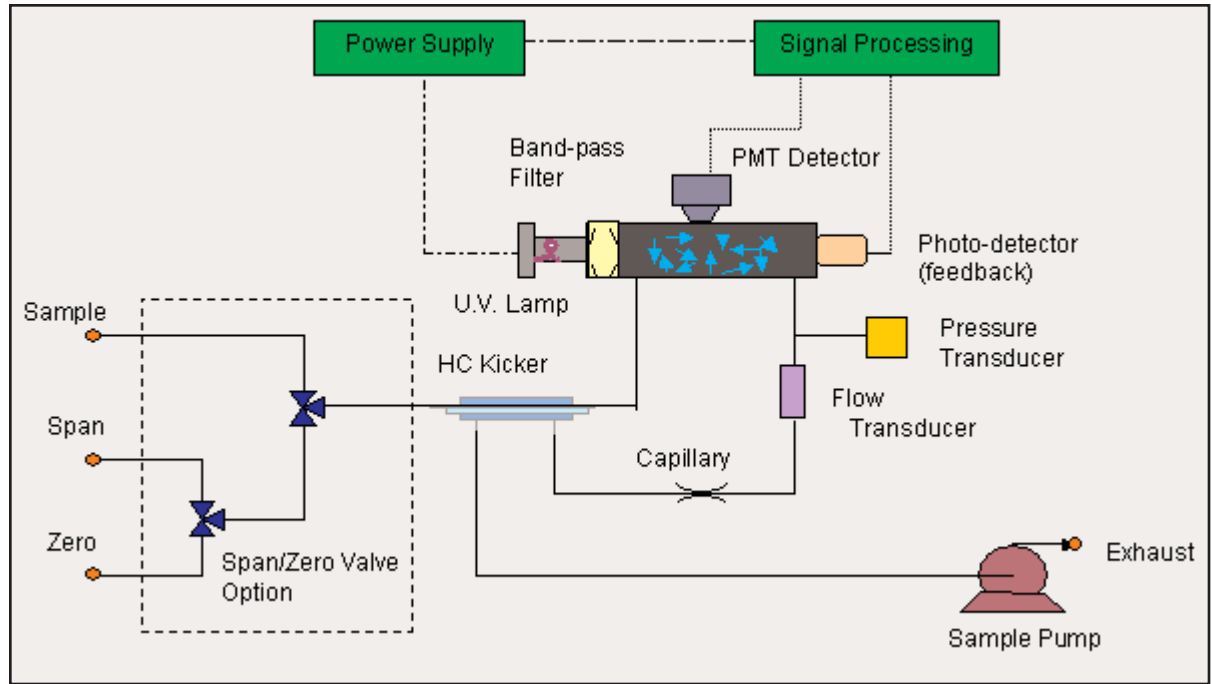
- ◆ Patented Pulsed Fluorescence
- ◆ Electronic Diagnostic Transducers
- ◆ Multi-line alpha numeric display
- ◆ Dedicated communications processor
- ◆ Remote performance diagnostics
- ◆ U.S. EPA Designated Method (EQSA-0486-060)



Preset Ranges	0-0.05, 0.1, 0.2, 0.5, 1, 2, 5, and 10 ppm 0-0.2, 0.5, 1, 2, 5, 10, 20 and 25mg/m ³
Extended Ranges	0-0.5, 1, 2, 5, 10, 20, 50 and 100 ppm 0-2, 5, 10, 20, 50, 100, 200 and 250mg/m ³
Custom Ranges	0-0.05 to 10 ppm 0-0.2 to 250 mg/m ³
Zero Noise	1.0 ppb RMS (10 second averaging time), 0.5 ppb RMS (60 sec avg. time), 0.25 ppb RMS (300 sec avg. time)
Lower Detectable Limit	2.0 ppb (10 second averaging time), 1.0 ppb (60 sec avg. time), 0.5 ppb (300 sec avg. time)
Zero Drift (24 hour)	Less than 1 ppb
Span Drift (24 hour)	+/-1%
Response Time	80 seconds (10 second average time), 110 seconds (60 second average time), 320 seconds (300 second average time)
Precision	1% of reading or 1 ppb (whichever is greater)
Linearity	+/-1% of full scale ≤ 100 ppm
Sample Flow Rate	0.5 liters/min. (standard) 1 liter/min. (optional)
Interferences (EPA levels)	< lower detectable limit except for the following NO < 3ppb, M-Xylene < 2ppb, H ₂ O < 2% of reading
Operating Temperature	20°C - 30°C
Power Requirements	90-110 VAC @ 50/60Hz , 105-125 VAC @ 50/60Hz , 210-250 VAC @ 50/60Hz, 100 Watts
Size and Weight	16.75" (W) x 8.62" (H) x 23" (D), 54 lbs.
Outputs	Selectable voltages and RS-232 (standard) 4-20 mA isolated current RS-485 (optional)

To maintain optimal product performance, you need immediate access to experts worldwide, as well as priority status when your air quality equipment needs repair or replacement. Thermo Electron offers comprehensive, flexible support solutions for all phases of the product lifecycle. Through predictable, fixed-cost pricing, Thermo services help protect the return on investment (ROI) and total cost of ownership of your Thermo Electron air quality products.

Model 43C Optical System



Superior Optical System

The Model 43C is an instrument of unsurpassed sensitivity, stability and selectivity. This is accomplished via implementation of a pulsed UV light source, reflective wavelength filtering, circular baffling of stray light and lamp excitation energy feedback control.

The pulsing of the U.V. source lamp serves to increase the optical intensity whereby a greater UV energy throughput and lower detectable SO₂ concentration are realized. As an added benefit, the lamp operation life is extended.

Reflective bandpass filters, as compared to commonly used transmission filters, are less subject to photochemical degradation and more selective in wavelength isolation. This results in both increased detection specificity and long term stability.

The minimization of stray light entering the photomultiplier tube is achieved through implementation of a circular baffle prior to the instrument reaction chamber.



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