



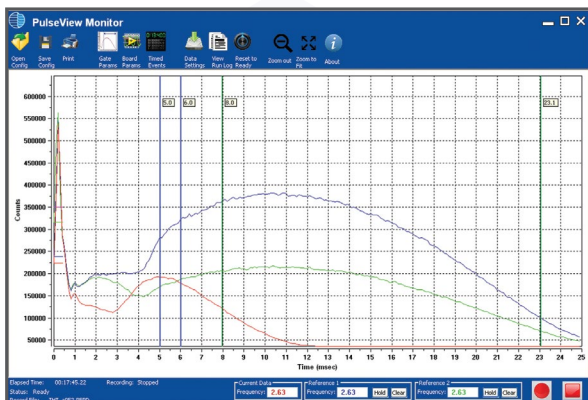
# 5383 PFPD

PULSED FLAME PHOTOMETRIC GC DETECTOR



With a significant improvement in signal processing and a 10-fold increase in sensitivity over most traditional FPDs, the **5383 Pulsed Flame Photometric Detector** makes accurate analysis of sulfur, phosphorus, and other elements easier than ever before. The intuitive, easy-to-use software suite with integrated monitoring and analysis capabilities provides a powerful tool for parameter optimization, data analysis, and more. Reliable and cost-effective, the 5383 PFPD uses significantly less gas than SCDs or FPDs and requires considerably less maintenance.

- Superior sensitivity and increased selectivity for S and P compared to conventional FPDs
- Linear, equimolar response for quick, easy calibrations
- Simultaneous mutually selective chromatograms (e.g., S+C, or S+P) Self-cleaning design eliminates soot formation, or “coking,” seen in other sulfur-selective detectors
- Modular design with separate electronics and flow modules
- Better long-term stability and less maintenance than other S-selective detectors, such as SCD/XRF



# 5383 PFPD PULSED FLAME PHOTOMETRIC DETECTOR SPECIFICATIONS

## Detectivity

<b>Sulfur</b>	<1 pg S/sec
<b>Phosphorus</b>	<100 fg P/sec

## Sensitivity

<b>Sulfur Signal-to-Noise</b>	>300 (at 10 pg S/sec elution rate peak-to-peak noise)
<b>Drift (S or P)</b>	<10x peak-to-peak noise in 20 min

## Selectivity (at Optimum Detectivity Levels)

<b>Sulfur</b>	>10 <sup>6</sup> S/C
<b>Phosphorus</b>	> 10 <sup>5</sup> P/C (selectivity is adjustable with a trade-off in detectivity)

## Detector Linearity

<b>Sulfur</b>	Quadratic in response. Linear to approximately 2.4 orders of magnitude. Detector (nonlinear) dynamic range ~3 orders of magnitude.
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<b>Phosphorus</b>	First order linear over approximately 5 orders of magnitude.
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<b>Response Uniformity</b>	Equimolar ±8% (S, P)
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<b>Chromatographic Peak Tailing</b>	<0.2 sec in S and P
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## Gas Requirements

<b>Carrier</b>	He or H <sub>2</sub> at 40 psig; 99.8% purity or better
<b>Air</b>	40 psig; zero air (CGA grade E)
<b>Hydrogen</b>	40 psig; 99.995% purity or better (electrolytic grade)

<b>Power Requirements</b>	115/230 VAC
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## Computer Requirements

<b>Operating System</b>	Windows® 7, 8 and 10
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<b>Communication Ports</b>	USB (1)
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<b>Minimum Temperature</b>	180 °C
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<b>Maximum Temperature</b>	420 °C
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<b>Carrier Gas</b>	5 mL/min maximum flow rate helium; up to 10 mL/min using H <sub>2</sub> carrier gas
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## Typical Gas Consumption

<b>H<sub>2</sub></b>	10-15 mL/min
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<b>Air</b>	20-30 mL/min
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<b>Humidity</b>	5-80% relative humidity
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<b>Altitude</b>	2,000m maximum
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## Safety/EMI Certifications



## Controller Board Inputs and Outputs

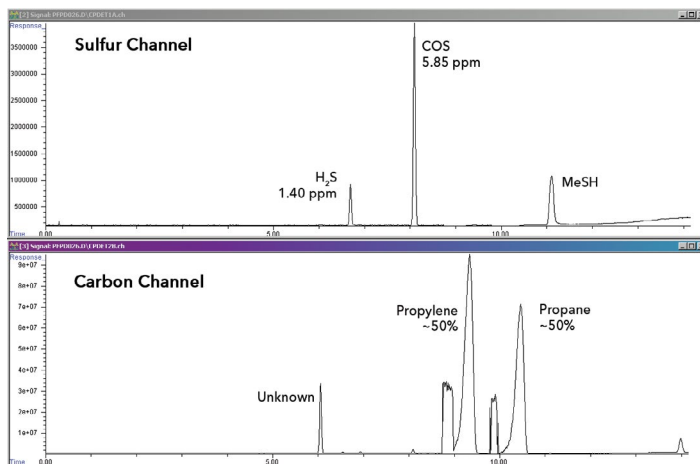
<b>Two Channels (to GC)</b>	0-1 V
<b>One Serial</b>	RS-485
<b>One Signal In</b>	Electrometer; PFPD
<b>High Voltage Out</b>	PMT 0-1,000 V
<b>Ignitor Current</b>	0-3.4 A
<b>S/W HV Protection</b>	PMT Protection
<b>Timed Events (from GC Remote Start)</b>	Autozero, range, attenuation, ignitor, mode or channel (e.g. S, P, C), and record

<b>Controller Dimensions</b>	17.5 cm H x 6 cm W x 25 cm D (6.9" H x 2.4" W x 9.9" D)
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<b>Pneumatics Module Dimensions</b>	17.5 cm H x 6 cm W x 27.5 cm D (6.9" H x 2.4" W x 10.3" H)
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<b>Pneumatic Control</b>	EPC-Ready Control utilizes GC electronic flow control of detector gases or manual flow control of detector gases with mass flow controllers and metering valve
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## Sulfur in Propylene/Propane



OI Analytical, a Xylem brand  
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