5383 PFPD

Pulsed Flame Photometric GC Detector

NEW!

Compact and modular, the new, second generation 5383 Pulsed Flame Photometric GC Detector (PFPD) offers greater ease of use, design flexibility, and analytical refinement than its predecessor, while retaining the proven technology features that laboratories around the world rely on for accurate results.

With a significant improvement in the signal processing and a 10-fold increase in sensitivity over most traditional FPDs, the 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.

The 5383 PFPD system consists of a detector assembly, controller, a manual or EPC-ready Pneumatics module, and the PulseView Monitoring and Analysis Software Suite.

PFPD Capabilities

- 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
- New, modular design with separate electronics and flow modules
- Better long-term stability and less maintenance than other S-selective detectors, such as SCD/XRF

Principal Applications

Sulfur in petrochemicals

Organophosphorus pesticides

Flavor and fragrance analyses

Sulfur in beverage-grade CO_2

Simultaneous PFPD and MS detection

Chemical warfare agents

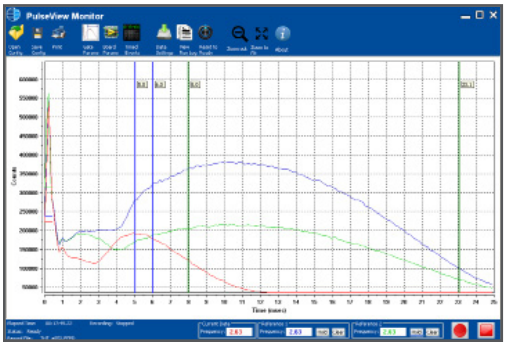
Organotin compounds

Organometallic detection

Explosives analysis

P, S, As, Si detection (semiconductors)

Sulfur in pharmaceuticals



New!

Intuitive, easy-to-use PulseView™ Monitoring & Analysis Software Suite

Included with the detector, PulseView is a powerful tool for set up, training, optimization, data analysis, service and more.

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5383 PFPD Specifications

Detectivity

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

Sensitivity

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

Selectivity (at Optimum Detectivity Levels)

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

Detector Linearity

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

Gas Requirements

Carrier	He or H_2 at 40 psig; 99.8% purity or better
Air	40 psig; zero air (CGA grade E)
Hydrogen	40 psig; 99.995% purity or better (electrolytic grade)
Power Requirements	115/230 VAC

Computer Requirements

Operating System	Windows® 7, 8 and 10
Communication Ports	USB (1)
Minimum Temperature	180 °C
Maximum Temperature	420 °C
Carrier Gas	5 mL/min maximum flow rate helium; up to 10 mL/min using H_2 carrier gas

Typical Gas Consumption

H_2	10–15 mL/min
Air	20–30 mL/min
Humidity	5–80% relative humidity
Altitude	2,000m maximum

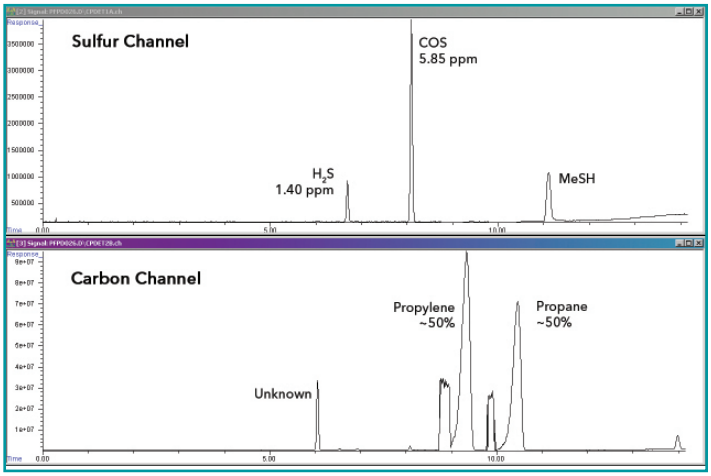
Safety/EMI Certifications

RoHS	Directive 2011/65/EU
EMC	Directive 2004/108/EC EN 61326-1:2013 CISPR 11:2009 and A1:2010
Safety	LVD 2006/95/EC EN 61010-1:2010 3rd

Controller Board Inputs and Outputs

Two Channels (to GC)	0-1 V
One Serial	RS-485
One Signal In	Electrometer; PFPD
High Voltage Out	PMT 0-1,000 V
Ignitor Current	0-3.4 A
S/W HV Protection	PMT Protection
Timed Events (from GC Remote Start)	Autozero, range, attenuation, ignitor, mode or channel (e.g. S, P, C), and record
Controller Dimensions	17.5 cm H x 6 cm W x 25 cm D (6.9" H x 2.4" W x 9.9" D)
Pneumatics Module Dimensions	17.5 cm H x 6 cm W x 27.5 cm D (6.9" H x 2.4" W x 10.3" H)
Pneumatic Control	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

Sulfur in Propylene/Propane



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