

CAPS PM_{SSA} Monitor

Accurate and Precise Continuous Monitoring of Particle Extinction, Scattering, Single Scattering Albedo (SSA) and Absorption (by difference)



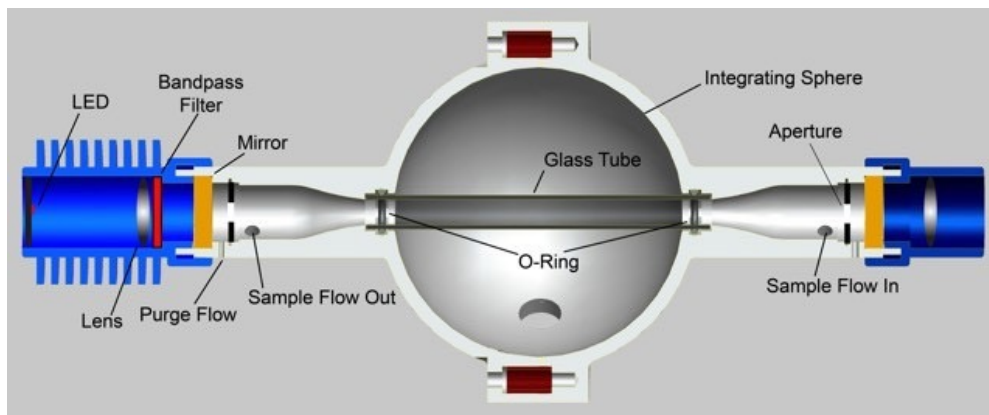
Attributes

- Particle extinction and SSA measured using the Cavity Attenuated Phase Shift (CAPS) technique
- Scattering derived from extinction and SSA measurement
- SSA and scattering channels require truncation correction as function of particle size (software provided)
- Absorption derived as difference of extinction and scattering channel

Advantages

- Simultaneous measurement of extinction and scattering on same sample volume
- Measurement of optical extinction and scattering at the $< 1 \text{ Mm}^{-1}$ level with 1 s response time
- Automated and autonomous operation:
 - No zero air
 - Automated background subtraction
- Choice of 6 wavelengths:

Ultra Violet	(365 nm)
Far Blue	(405 nm)
Blue	(450 nm)
Green	(530 nm)
Red	(630 nm)
Far Red	(660 nm)
- Linear response (1%)
- Minimal maintenance (periodic change of filter)



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Specifications

MEASUREMENT SPECIFICATIONS	Extinction	Scattering	SSA
Range	0-3,000 Mm ⁻¹		0-1
Resolution	0.01 Mm ⁻¹		0.01
Precision (2σ, 1 s) (2σ, 60 s)	1.5 Mm ⁻¹ 0.3 Mm ⁻¹		- 0.03
Time Response (10-90%)	1-2 s		
Baseline Drift	Baselines Taken as Often as Required		
Linearity	<± 10 Mm ⁻¹ at 1000 Mm ⁻¹		
Flow Rate (lpm)	0.85		

1 Year Manufacturer's Warranty

Physical Specifications

Cell Pressure:	ambient
Cell Temperature:	~5 °C above ambient
Power Usage:	< 40 W
Weight:	14 kg
Size:	~65 cm x 43 cm x 23 cm (L x W x H) [19" rack mount, 5U, 24" deep]

Data Output

Display	Front Panel, 1 second time constant (± 1 digit)
RS-232	Rear Panel, DB-9 Female Connector (Null Modem cable provided)
USB	Rear Panel, Female B Connector (Male A to Male B cable provided)
Ethernet	Rear Panel, RJ-45 port
On-Board	Storage Capacity > 10 years continuous operation

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