Polar Nephelometer

CuraTerrae

MINI IMAP 100

Inverse Multi-Angle
Polar Nephelometer

The Mini-IMAP is a moderate cost polar nephelometer that offers advanced particulate characterization capabilities.

GRASP Inversion Products

- Full phase function
- Size distribution
- PM 2.5 Mass

Taking orders now

for first run model to be shipped early 2026

Single Wavelength: 515 nm standard

Options for blue 405 nm and red 638 nm

Scattering angles measured: 10°, 36°, 53°, 71.5°, 90°, 108.5°, 126.5°, 144°, 160.5°

Programmable and manually adjustable flow rates

For additional information : sales@airphoton.com

MINI IMAP 100 Specifications

The mini-IMAP measures scattered light from a single visible wavelength laser at 9 discrete angles ranging from 10 to 160 degrees.

We use aerodynamic sizing to collect particulates in 4 size bins between PM1 and PM10.

Users can program the size bin collection for automated switching between sizes in resolution down to 1 minute.

Capabilities

- Complete size distribution measurement every 5 minutes.
- Particle mass
- Full phase function
- The real refractive index of the particles
- Sphericity factor

Suggested use

We suggest mini-IMAP for in-depth understanding of particulate properties. Given its unique combination of aerodynamic and optical sizing it can be used to connect satellite and ground-based measurements for air quality research.

Specifications

- Instrument size: 30 x 25 x 36 cm
- Inlet height with cyclone: 102 cm
- Flow rate: 1.5 to 11 LPM (BGI Inlet)
  2.0 to 15.3 LPM (Alaric Inlet)
- Data: Saved to internal storage. Real-time access via Ethernet / RS232 / RS485 / WiFi (add-on)
- Gas calibration: CO2 and clean air every 3–6 months depending on operating conditions.
- Power: Mains AC power. 120 or 240-Volt systems (50 and 60Hz).
  - Expected Operation: 100W
  - Estimated Peak: 150W
- Time resolution: 1 min averaging (recommended); 15 sec averaging (minimum).
- Angular ranges measured: 10 View angles 10°, 36°, 53°, 71.5°, 90°, 108.5°, 126.5°, 144°, 160.5° (degrees)
- Instantaneous field of view < 7.5°.
- Wavelength: 515 nm standard 405 or 638 nm options
- Size measurements: Independent optical and aerodynamic size measurements.
- Aerodynamic: 4 Size bins selected up to PM10 (possible every 5min)