



NOAA Integrating Polar Nephelometer

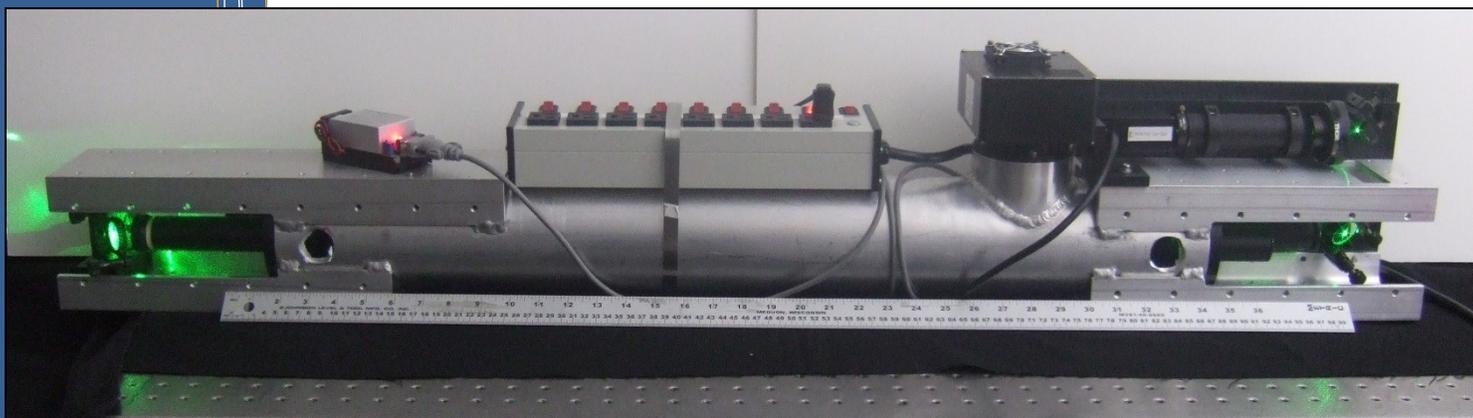
PRODUCT SPECIFICATIONS

Function:

NOAA's patented Integrating Polar Nephelometer (N-IPN) uses a laser, fisheye lens, and camera to image both forward and backward scattered light from both molecules and particles. The N-IPN measures the aerosol phase function through a range of nearly 180 degrees. The N-IPN is sensitive enough to measure the molecular phase function which provides an absolute calibration of scattered light and scattering angle.

Unlike other nephelometers on the market, the N-IPN has no moving parts and can measure multiple beams with different wavelengths and/or polarizations simultaneously. There is no need for a backscatter shutter, and the entire phase function is measured at the same time. The device provides a usable resolution of 0.2 degrees throughout the phase function range.

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Device Specification Estimates:

Detection Range:	0.0 to >2,000 Mm-1
Lower Detection Limit:	0.3 Mm-1
Intensity function:	4° to 176°
Temperature range:	-5°C to 35°C
Sample flow rate:	5 L/min
Weight:	20 kg
Dimensions:	1520 x 150 x 200 mm
Power:	100-240 VAC, 50/60 Hz

Optical Source Specifications:

Laser Wavelength	Multiple
Camera sensitivity:	350 to 900 nm.
Laser Optical Power:	30 to 80 MilliWatts

Estimated Production Cost: \$8,000

NOAA Technology Partnerships Office
Promoting Partnership & Commercialization of NOAA Innovations

<http://www.techpartnerships.noaa.gov>

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