

# In-situ spectrophotometer

# ac-s

Based on the highly successful ac-9, the ac-spectra (ac-s) offers almost an order of magnitude increase in spectral resolution of in-situ absorption and beam attenuation coefficients. The ac-s features a proven flow-through system, compact size, and excellent stability. With 80+ wavelength outputs from 400–730 nm, the 4 nm resolution allows for spectral “fingerprinting” and deconvolution analysis. The ac-s employs a 25-cm pathlength for effective measurement of the cleanest natural waters.



## Specifications

### Mechanical

<i>Diameter</i>	10.4 cm
<i>Length</i>	79 cm
<i>Weight in air</i>	5.9 kg
<i>Weight in water</i>	0.80 kg
<i>Pressure housing</i>	Acetal copolymer

### Electrical

<i>Input</i>	10–35 VDC
<i>Current draw</i>	0.83 A @ 12 V nominal
<i>Serial output</i>	RS-232, -422, or -485
<i>Connector</i>	MCBH6M
<i>Sample rate</i>	4 scans/sec., nominal

### Environmental

<i>Temperature range</i>	0–30 deg C
<i>Depth rating</i>	500 m

### Optical

<i>Spectral range</i>	400–730 nm
<i>Bandpass</i>	15 nm/channel
<i>Pathlength</i>	10 or 25 cm
<i>Beam cross-section</i>	8 mm dia. (nominal)
<i>Linearity</i>	$\geq 99\% R^2$
<i>Output wavelengths</i>	80–90
<i>Resolution</i>	4 nm
<i>Precision</i>	
(450–730 nm)	$\pm 0.001 \text{ m}^{-1}$ typ., $0.003 \text{ m}^{-1}$ max @ 4 Hz
	$\pm 0.0005 \text{ m}^{-1}$ typ., $0.0015 \text{ m}^{-1}$ max @ 1 Hz
(400–449 nm)	$\pm 0.005 \text{ m}^{-1}$ typ., $0.012 \text{ m}^{-1}$ max @ 4 Hz
	$\pm 0.003 \text{ m}^{-1}$ typ., $0.006 \text{ m}^{-1}$ max @ 1 Hz
<i>Accuracy</i>	$\pm 0.01 \text{ m}^{-1}$
<i>Dynamic range</i>	0.001– $10 \text{ m}^{-1}$

*Specifications are subject to change without notice.*