In-situ spectrophotometer

WET Labs®

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 ±5 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.

ac-s

ac-s 5000

Specifications

Mechanical

Diameter (cm)	10.5 9.9 (5000)
Length (cm)	77.0 75.8 (5000)
Weight in air, kg	5.9 10.3 (5000)
Weight in water, kg	0.8 5.3 (5000)
Pressure housing	Acetal copolymer Titanium (5000)

Electrical

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

Environmental

Temperature range	0–30 deg C
Depth rating, m	500 5000 (5000)

Optical

Spectral range	400–730 nm
Bandpass	15 nm/channel
Pathlength	10 (ac-s) or 25 cm
Beam cross-section	8 mm dia. (nominal)
Linearity	≥ 99% R^2
Output wavelengths	80 ±5 (nominal)
Resolution	4 nm
Precision	
(450–730 nm)	+/-0.001 m^{-1} typ., 0.003 m^{-1} max @ 4 Hz +/-0.0005 m^{-1} typ., 0.0015 m^{-1} max @ 1 Hz
(400–449 nm)	+/-0.005 m^{-1} typ., 0.012 m^{-1} max @ 4 Hz +/-0.003 m^{-1} typ., 0.006 m^{-1} max @ 1 Hz
Accuracy	+/-0.01 m^{-1}
Dynamic range	0.001–10 m^{-1}

Specifications are subject to change without notice.

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ac-s

Specifications Sheet

Revision History

Revision	Date	Revision Description	Originator
A	2/10/04	New specifications sheet (DCR 364)	I. Walsh
A1	6/10/04	Update specifications	I. Walsh
B	6/29/04	Approve updates, move template (DCR 401)	H. Van Zee, I. Walsh
C	2/9/06	Correct output precision values (DCR 486)	B. Rhoades, H. Van Zee
D	7/31/08	Correct weight spec, update (DCR 607)	A. Derr, I. Walsh
--	2/12/09	Change format	H. Van Zee
E	11/5/13	Add “deep” sensor (DCN 836)	J. Koegler
F	1/6/15	Update spec for output wavelengths (DCN 896)	J. Koegler
G	3/18/15	Remove reference to “std” and “deep.” Change “deep” to “5000”	J. Koegler