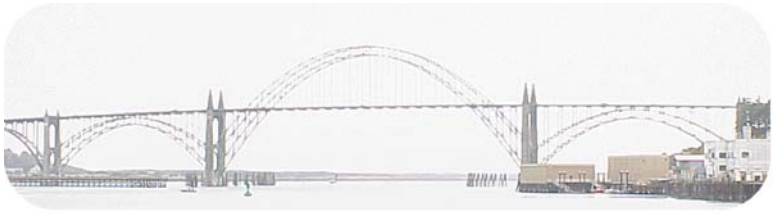

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VSF3

Volume Scattering Function

WET Labs offers the *Environmental Characterization Optics* (***ECO***) series, a modular suite of meters that incorporate a common set of options with a single basic design to make the sensors ideal for a wide variety of deployments.

The angular distribution of scattered radiation in the backward hemisphere is important in the interpretation of remote sensing measurements, investigations of particle shape, and models of visibility in seawater. The ***ECO* VSF 3** measures the optical scattering at three distinct angles: 100, 125, and 150 degrees, and at wavelengths of 470, 530, and 660 nm, thus providing the shape of the Volume Scattering Function (**VSF**) throughout the backscattering region. Motivated by the need to better understand the relationship of water leaving radiance with the backscattering into the same direction, the three-angle measurement allows determination of specific angles of backscattering through interpolation and extrapolation.
Conversely, it also can provide the total backscattering coefficient by integration and extrapolation from 90 to 180 degrees. The sensor employs three transmitters coupled to a single receiver to obtain its measurements.

Specifications

Mechanical

Diameter	14.6 cm
Length	30.5 cm
Weight in air	3.1 kg
Weight in water	1.8 kg buoyant
Pressure housing	Acetal copolymer

Electrical

Input	7–15 VDC
Current draw	300 mA @12 volts
Serial output	RS-232 or 485
Connector	MCBH6M
Sample rate	1 Hz

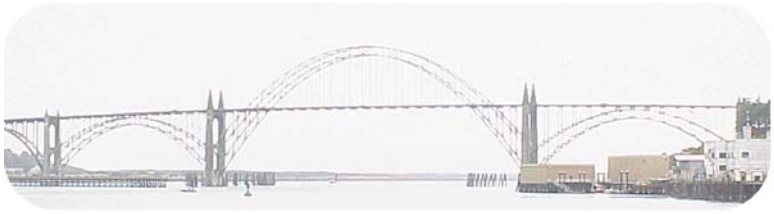
Optical

Wavelengths	470, 532, 660
Sensitivity	1.24×10^{-5}
Range, typical	~ 0.0024–5 m^{-1}
Linearity	≥ 99% R^2

Environmental

Temperature range	0–30 deg C
Depth rating	600 m

Specifications are subject to change without notice.



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VSF3

Specifications Sheet

Revision History

Revision	Date	Revision Description	Originator
A	02/14/00	Begin revision control	H. Van Zee
B	2/19/01	Update text (DCR 87)	H. Van Zee
C	1/23/02	Remove reference to “new” (DCR 190)	H. Van Zee
D	5/6/04	Remove spec for memory (DCR 388)	H. Van Zee
E	9/26/06	Update specifications (DCR 507)	M. Johnson