

matrixFlu VIS

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Our high-end matrixFlu VIS fluorometer combines multiple excitation and detection wavelengths for fluorescence measurements in a single device with a highly compact design. The special optical arrangement of excitation and detection channels enables not only single values to be determined, but also a 4x4 matrix of wavelength combinations. This allows quasi synchronous in-situ detection of EEMs (Excitation Emission Matrices).

MatrixFlu VIS is primarily designed for the on-line detection of algae (cyanobacteria, green algae, etc.) and is expanded by the detection of CDOM.

State-of-the-art, specially selected LEDs are used for fluores-

cence excitation. The stability of measured values is increased by an internal temperature correction.

Equipped with our innovative G2 interface with web browser configuration, internal data logger, flexible protocols and data outputs, matrixFlu offers extensive features that go significantly beyond what's available on the market today.

The unified platform of all TriOS photometers also facilitates a standardized spare parts and consumables system, which allows the use of a wide range of accessories for our devices. Furthermore the cutting-edge G2 interface enables quick integration into third-party systems.

Benefits

- Without sampling and preparation of test samples
- Real-time sensor
- Without reagents
- Optical window with nano coating

Applications

- Surface water
- Bathing lakes
- Drinking water production and treatment
- Raw water treatment
- Environmental monitoring



Detail of design for 4x4 wavelengths



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	Em			
Ex	460	682	655	850
375	CDOM 1	CDOM 3	CDOM 2	XX3
470	scat 460	chl-a	XX2	XX4
590	XX1	blue2	blue1	XX5

Technical Specifications

Measurement technology	light source	3 LEDs (375 nm/470 nm/590 nm)	
	detector	4 photo diodes with filter	
Measurement principle		Fluorescence	
Parameter		Chlorophyll a [$\mu\text{g/L}$]	
		Phyocyanin [$\mu\text{g/L}$]	
		CDOM [$\mu\text{g/L}$]	
Measuring range		0...200 $\mu\text{g/L}$	0...200 ppb
Measurement accuracy		5 %	
Turbidity compensation		No	
Data logger		~ 10 MB	
T100 response time		min. 12 s	
Measurement interval		min. 6 s	
Housing material		Stainless steel (1.4571/1.4404) or titanium (3.7035)	
Dimensions (L x Ø)		155 mm x 36 mm	~ 6.1" x 1.4"
Weight	stainless steel	~ 0.6 kg	~ 1.3 lbs
	titanium	~ 0.5 kg	~ 1.1 lbs
Interface	digital	Ethernet (TCP/IP)	
		RS-232 oder RS-485 (Modbus RTU, OGC PUCK)	
Power consumption		$\leq 1.8 \text{ W}$	
Power supply		12...24 VDC ($\pm 10 \%$)	
Maintenance effort		$\leq 0.5 \text{ h/month}$ (typical)	
Calibration/maintenance interval		24 months	
System compatibility		Modbus RTU, OGC PUCK	
Warranty		1 year (EU: 2 years)	US: 2 years
INSTALLATION			
Max. pressure	with Subconn	30 bar	~ 435 psig
	with fixed cable	3 bar	~ 43.5 psig
	in FlowCell	1 bar, 2...4 L/min	~ 14.5 psig, 0.5 to 1 gpm
Protection type		IP68	NEMA 6P
Sample temperature		+2...+40 °C	~ +36 °F to +104 °F
Ambient temperature		+2...+40 °C	~ +36 °F to +104 °F
Storage temperature		-20...+80 °C	~ -4 °F to +176 °F
Inflow velocity		0.1...5 m/s	~ 0.33 fps to 16.4 fps