

HM-500 Series

Inline Oil in Water UV Fluorometric Sensors

HM-500 Series Description

The Pyxis HM-500 series inline fluorometer sensors measure the concentration of multiple oils in water utilizing and LED sourced UV-fluorescence methodology at 365nm wavelength and 410nm excitation. Pyxis HM-500 series sensors are uniquely designed with extra photo-electric components that also monitor the color and turbidity of the sample water. This proprietary feature enables the HM-500 series to automatically compensate for color and turbidity in the water sample eliminating interferences commonly associated with real-world waters. The Pyxis HM-500 series inline sensors have a short fluidic channel and can be easily cleaned. The fluidic and optical arrangement of the HM-500 series are designed to overcome shortcomings associated with other fluorometers that have a distal sensor surface or a long, narrow fluidic cell. Traditional inline fluorometers are susceptible to color/turbidity interference and fouling and can also be very difficult to clean. These unique features provide HM-500 series with a level of accuracy far greater than conventional inline oil in water sensors and enable users to conduct wireless inline sensor cleanliness diagnostics as a predictive measure via the **uPyxis** APP for mobile and desktop devices.



HM-500 Series Oil In Water

Key Features

- HM-500 provided with ST-001 inline tee assembly $\frac{3}{4}$ " FNPT/CPVC
- Submersion Adapter Kit (MA-102) Available for submersed applications
- Unique design with extra photo-electric components
- Automatically compensates for color and turbidity contamination
- Flexible/Advanced Communication 4-20mA Output and RS-485 Output
- Connectible to any conventional microprocessor controller, PLC or DCS
- Bluetooth Enabled when used with MA-WB or PowerPack Series Adapters
- Bluetooth Wireless Interface via **uPyxis** APP on all Mobile & Desktop devices
- uPyxis APP allows for sensor cleanliness diagnosis & wireless calibration
- Minimal wireless maintenance and no reagents required
- Lower cost and higher accuracy vs conventional UV fluorometers for oil in water



ST-001 Inline Tee

Typical Applications

- Heat exchanger leakage detection
- Oil tank leakage detection
- Intake water monitoring (UF & RO Feedwater)
- ReInjection water monitoring
- Industrial wastewater monitoring
- Marine discharge monitoring
- Plant runoff / storm water monitoring

Specifications

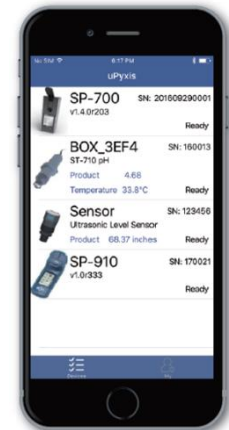
Item	Specification		
Product Range	HM-500	HM-510	HM-520
Part Number	52101	52102	52106
Range	10 ppm	1000 ppm	100 ppm
LOD	0.1 ppm	0.5 ppm	0.5 ppm
Reproducibility	0.1 ppm or $\leq 3\%$		
Operational Principal	UV-Fluorescence		
Fluorescence Excitation	365 nm LED		
Fluorescence Emission	410 nm		
Power Supply	24 (± 2) VDC, 65 mA		
Signal Output	4-20 mA and RS-485 Modbus RTU		
Storage Temperature	-7 °C – 60 °C (20 – 140 °F)		
Operational Temperature	4 °C – 40 °C (40 – 104 °F)		
Sample Pressure	100 PSI (7 Bar)		
Protection Grade	IP67, Fully Dustproof & Waterproof		
Regulation	CE		
Dimension (L x W x H)	Length 6.8 inch (172.7 mm), Diameter 1.44 Inch (36.6 mm)		
Weight	170 g (0.37 lbs)		
Cable Length	5 feet, terminated with IP67 adapter 24" flying lead with IP67 adapter		

Turbidity and Color Compensation & Wireless Sensor Cleanliness Diagnostics

Traditional inline oil in water fluorometers are susceptible to color and turbidity interference from the sample water, leading to significant inaccuracy when used in challenging applications. Pyxis HM-500's proprietary optical design and sophisticated compensation algorithms deliver precise compensation for waters containing up to 150 NTU turbidity and 10ppm iron. This breakthrough technology ensures on demand cleaning & maintenance, precise calibration and superior accuracy versus traditional inline fluorometers.

uPyxis Mobile & Desktop APPS for Wireless Setup, Diagnostics & Calibration

The uPyxis APP manages all Pyxis portable meter and inline sensors on mobile and desktop devices, including Apple iPhones and Samsung Android smartphones. When connected to the Pyxis HM-500 series inline oil in water sensor, the uPyxis APP enables users to conduct a wireless probe cleanliness diagnostics check. This unique feature conducts an internal assessment of the sensor cleanliness condition within 5-seconds allowing the user to determine if the probe is need of cleaning prior to calibration. Once cleaned, the user can proceed to conducting a wireless 2 -point calibration of the HM-500 series sensor via the uPyxis APP all from the touch of their smart device. The uPyxis direct diagnosis and calibration of the sensor itself eliminates unnecessary time wasted with calibrating the probe through the receiving controller and ensures the highest degree of accuracy. When connected in RS-485 Modbus format, Pyxis Lab can provide the user with Cleanliness Diagnostics register data enabling users to utilize this unique sensor function within their own controller.



Note The uPyxis Mobile APP is evolving rapidly and users can find the latest version at no cost on Apple iStore or Google Play. The uPyxis Desktop APP may be downloaded at <https://pyxis-lab.com/support-2/> For wireless access to all Pyxis devices via uPyxis, users will require the inline Bluetooth Adapter (P/N: MA-WB) or PowerPack Series Auxiliary Box. Details can be found in the Order Information section of this Data Sheet.

Pyxis Oil-In-Water Secondary Standard for Easy Calibration

Pyxis Lab has developed **OIW-500**, a synthetic Oil-In-Water Secondary Standard Solution, as a more stable and easier method of recurring HM-500 series sensor calibration. This low cost and highly stable standard may be used as an alternative to prepare an actual oil in water standard for sensor calibration.

Item	Oil-In-Water Secondary Standard Solution
Product	OIW-500
Part Number	21036
Range*	500ppm as Oil in Water
Shelf Life	6 months
Container	16 oz/500mL Nalgene Amber Narrow Mouth Sample Bottle
Volume (net)	510 +/- 10mL
Weight (net)	510 +/- 10g



Pyxis OIW-500 Secondary Standard Solution

Order Information

HM-500 Oil In Water Sensor (0-10 ppm / 4-20mA & RS-485)	P/N: 52101
HM-510 Oil In Water Sensor (0-1,000 ppm / 4-20mA & RS-485)	P/N: 52102
HM-520 Oil In Water Sensor (0-100 ppm / 4-20mA & RS-485)	P/N: 52106

Optional Accessories Information

HM-900 Handheld Oil In Water Analyzer	P/N: 52201
MA-WB Bluetooth/Wi-Fi Adapter (Enables Wireless Calibration w/uPyxis APP)	P/N: MA-WB
PowerPACK-1 (Single Chanel Auxiliary Power Supply w/Bluetooth For ST/LT Series Sensors)	P/N: MA-BLE-1
PowerPACK-4 (Four Chanel Auxiliary Power Supply w/Bluetooth For ST/LT Series Sensors)	P/N: MA-BLE-4
Pyxis OIW-500 (Oil In Water Secondary Standard Solution – 500ppm / 500mL)	P/N: 21036
MA-C10 (10' Extension Cable for ST/LT Series Sensors)	P/N: 50738
MA-C25 (25' Extension Cable for ST/LT Series Sensors)	P/N: 50740
MA-C50 (50' Extension Cable for ST/LT Series Sensors)	P/N: 50705
MA-C100 (100' Extension Cable for ST/LT Series Sensors)	P/N: 50706