Model W-800 UV Oil in Water Analyzer

On-line UV Fluorescence Oil in Water Analyzer for the continuous measurement of oils in water process streams

- Operating range 0-100 ppm (mg/L)
- Excellent repeatability to 0.5ppm (mg/L) or less
- Rapid analysis cycle of 15 seconds or less
- Full color display with continuous running chart
- Separate enclosures for electronics and analytics
- Minimal conditioning necessary
- No supporting reagents/chemicals needed
- Clean option

The Model W-800 Oil in Water Analyzer is a result of combining the latest, state of the art technology with over 45 years of experience servicing and building on-line analyzers. This unit utilizes a measurement chamber with a UV light source, which reacts with aromatics in water to determine the concentration of soluble oils without the use or consumption of supporting chemicals.

This cost-efficient design provides very simple, yet rugged construction. The W-800 demonstrates the perfection of on-line water measurements by having rapid measurement cycle without limiting accuracy, repeatability or reliability.

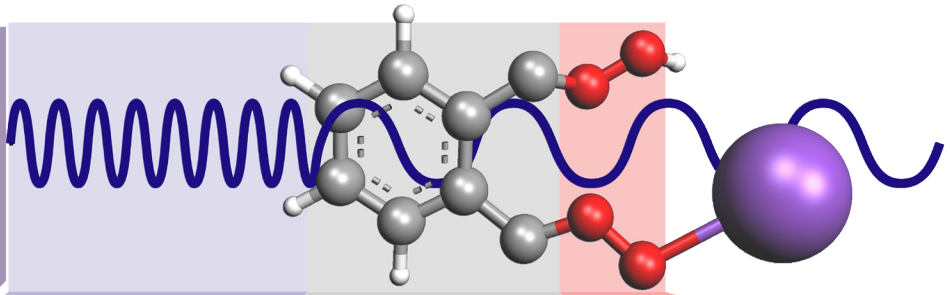
Model W-800 UV Oil in Water Analyzer

APPLICATION

With growing public awareness and concern for controlling water pollution and enactment of the Clean Water Act in 1972 (amended in 1977) it has become increasingly important to continuously monitor the quantity of effluents in waste water prior to discharge. Finding a method of accurately obtaining results in a cost effective manner has plagued industrial companies for years due to the nature of the chemistry involved.

The development of photometric and spectroscopic techniques has proved an invaluable tool in the application of on-line effluents monitoring. The removal of hazardous solutions and high temperature applications coupled with fast response and high accuracy has brought the use of photometric correlation techniques to the forefront of waste and process water monitoring.

COMPARISON OF ORGANIC MEASUREMENT METHODS



Parameters	254 nm UV Flourescence	Extraction with IR Absorption	Stripping with FID
Response Time	< 15 sec.	> 5 min.	> 5 min.
Detection of Total Hydrocarbons	No (only aromatics)	Yes	Yes
Filtering	None	Required for Waste Water	Required for Waste Water
Installation Time	Minutes	Hours	Hours
Maintenance & Operation	Easy	Hard	Hard
Analyzer Cost	Low	High	High
Chemical Usage	None	Yes	None
Gas Usage	None	None	Yes

OPERATING PRINCIPLE

The W-800's measurement cycle is based a UV light source reacting with the aromatics to cause fluorescence which is then detected and measured.

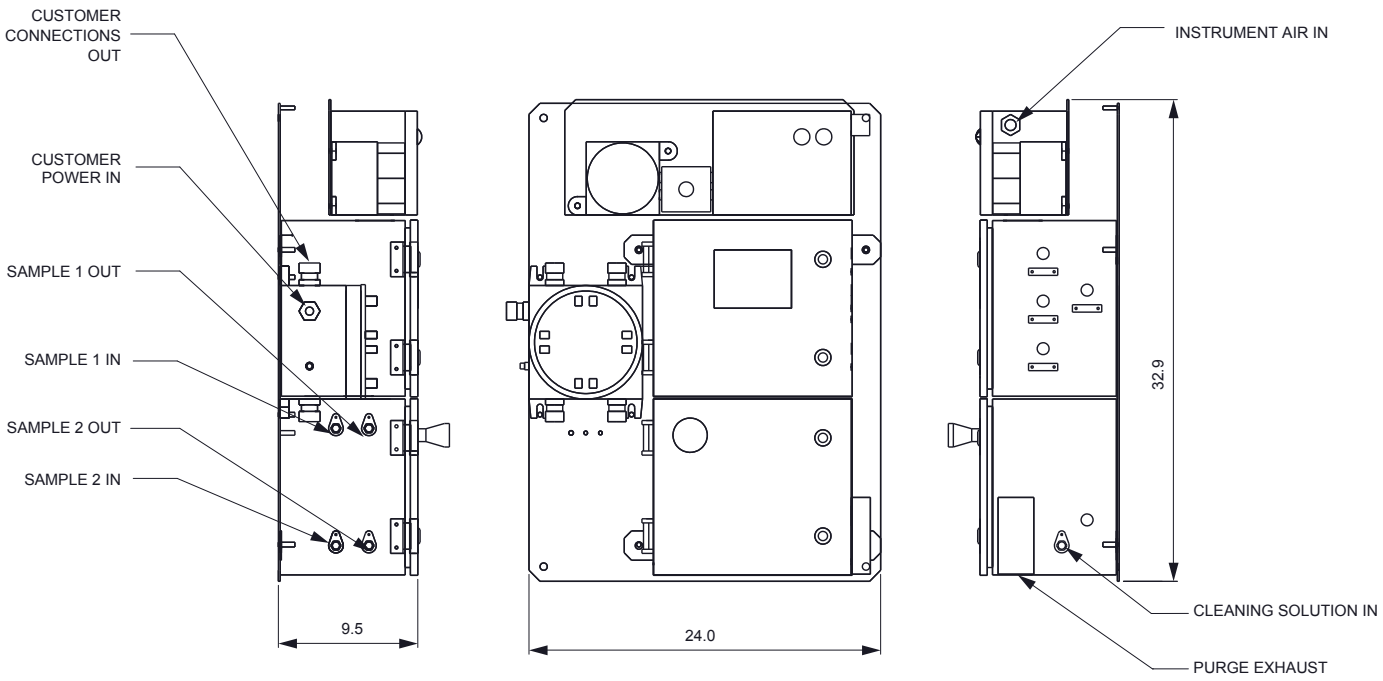
The sample is constantly flowing through a quartz cell (a peristaltic pump option is available for non-pressurized sample to provide flow).

The operating principal quantifies the concentration of oil based on the fluorescence intensity measured by a photo-multiplier tube located perpendicular to the UV light path. An auto-zero feature allows the analyzer to adjust for turbidity, slow fouling or deterioration of light sources by resetting the baseline of the full light intensity. The final concentration calculation is correlated to the florescence intensity of the sample based on a programmable correlation chart, which can be customized by the end-user.

To further enhance the overall performance of the system, multi-gain options are available to give the analyzer a broad measurement range.

The W-800 UV Oil in Water Analyzer can be used to monitor multiple streams via external stream switching. Sample test results may be sent to any one of two (2) locations by switching the output Stream Setting (corresponding with the two (2) signal relays at the back of unit).

DIMENSIONS inch (mm)



PRODUCT GUIDE

Petroleum Analyzers

- **Cloud Point**
- **Cold Properties**
- **Flash Point**
- **Freeze Point**
- **Pour Point**
- **RVP**
- **RVP /VL20**
- **Salt-in-Crude**
- **Viscosity**
- **Viscosity Index**

Other Products

- **UV-Oil in Water**
- **Environmental Cabinets**
- **Sample Conditioning Systems**
- **Sample Recovery Systems**
- **Shelter Systems**
- **Spare Parts**

Analyzer Services

- **Field Service**
- **Start-Up & Commissioning**
- **Training**
- **Technical Support**

SPECIFICATIONS: MODEL P-800 UV OIL IN WATER ANALYZER

ANALYSIS PERFORMANCE	
Measurement Cycle Time	15 seconds or less
Measurement Range	0-100 ppm
Repeatability	± 0.5 ppm)
Accuracy	± 10% of full scale
SAMPLE REQUIREMENTS	
Sample Bypass Flow Rate	0-2 l/min
Sample Pressure	0-50 psi (0-3.5 bar)
Sample Temperature	5-95°C
ENCLOSURE/INSTALLATION REQUIREMENTS	
Dimensions	Width 16 in (406mm)– Height 25 in (635mm) – Depth 10 in (254mm)
Weight	approximately 60 lbs (27 kg)
Operating Temperature	5-40°C (41°F-104°F)
Enclosure Material/Rating	stainless steel - NEMA 4X / IP65
Area Classification	optional CSA/CUS Class 1 Div 1 Group C + D or ATEX Zone 1 Group II
Power	100 to 240 VAC (± 10%), 50/60 Hz, single phase, 2A
Purge Gas Supply, optional	Clean, dry Nitrogen (better than 98% pure) or other inert gas at Min. 80 psi (5.5 bar) – Max. 100 psi (6.8 bar) / expected leakage compensation 1l/min
END USER CONNECTIONS	
Analog Stream Switching Output	end-user programmable analog output from one of two relay signals (12 or 24 VDC ouput)
Analog Output Signal	single isolated 4-20 mA output (optional second output - selectable for sample concentration, analyzer system warning or analysis measurement indication)
Relay Output Contact	two (2) SPDT relays with contacts rated at 3A resistive load at 250VAC , selectable for sample concentration alarm, analyzer system warning or analyzer system shutdown alarm
Serial Input/Output Signal	TCP/IP or Serial/RTU ModBus output available

HOW TO ORDER

ANALYZER SYSTEMS	
Catalog Number W-800-1100	ORB Model W-800 UV Oil in Water Analyzer, Ex Area ready for NEC Class 1 Div 1 Group C + D
Catalog Number W-800-1200	ORB Model W-800 UV Oil in Water Analyzer, Ex Area ready for ATEX Zone 1 Group II
Catalog Number W-800-1300	ORB Model W-800 UV Oil in Water Analyzer, for General Purpose Area
OPTIONS	
Catalog Number 700236	Peristaltic Pump for non-pressurized sample
Catalog Number 700446	Second Analog Output (2-20mA)
Catalog Number 700858	ModBus TCP/IP Protocol
ACCESSORIES	
Catalog Number 700447	1-Year Spare Parts Kit
Catalog Number 700448	2-Year Spare Parts Kit

XPROOF ATEX/CE | PURGED ATEX/CE | PURGED ATEX/CE | PURGED ULCSA/CSA | GENERAL PURPOSE

Lit. No. W-800-EN-US / APR14

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