X-One-DS / X-One-DP

Deep UV Fluorescence Oil in Water Analyser
Side-Stream or Inline, for Hazardous Areas

Ultrasonics

Deep UV Fluorescence

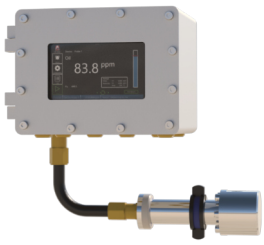
The Advanced Sensors by PAC X-One represents the next generation of our highly successful EX range of analysers for measuring oil in water. The X-One-DS and X-One-DP are advanced Oil in Water analysers that use Deep UV Fluorescence to provide continuous, precise measurements of total oil, PAH, and other hydrocarbon parameters in water. With the ability to detect a wide range including BTEX, PAH, light/refined oils, condensates and crude oils; the X-One ensures reliable and accurate data for various applications.

Operators can rely on the X-One's real-time data to record precise discharge measurements, quickly respond to process changes, and improve process efficiency, which helps reduce costs. The analysers consist of a central controller connected to a measurement module. The measurement module is available in both side stream and inline configurations, with the X-One-DS designed for placement in a process bypass loop and the X-One-DP intended for direct installation in a process pipe. The X-One also offers easy integration of third-party sensors with the controller through Modbus and 4-20mA inputs.

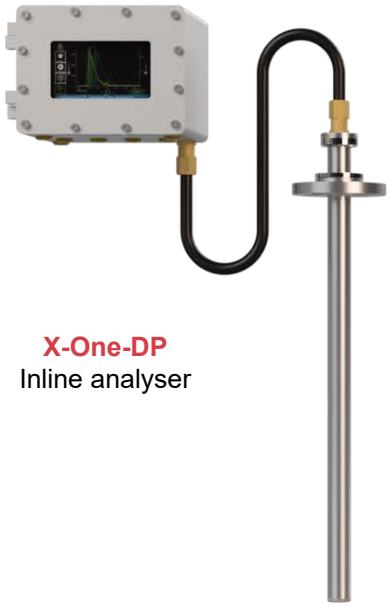
Application Examples

The X-One is an ideal solution for a wide range of applications, including discharge management, process improvement, cooling water, wastewater treatment, and oil leak detection. To determine the optimum configuration for your specific application, please get in touch with ASL.

The analyser is available in 2 model configurations.



X-One-DS
Side-Stream analyser
I



X-One-DP
Inline analyser

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X-One-DS / X-One-DP

Deep UV Fluorescence Oil in Water Analyser
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Deep UV Fluorescence

BENEFITS

- Low cost of ownership
- Measure and report PAH and other hydrocarbon parameters as well as total Oil
- Deep UV fluorescence measures a large range of hydrocarbons including BTEX, PAH, light/refined oils, condensates and crude oils
- Independent controller acts as a hub for 3rd party and for future Advanced Sensors measurement devices
- No user required maintenance, Enhanced Ultrasonic Cleaning removes fouling build up
- Consistent accurate performance
- No sample conditioning system required
- Long-life UV LED
- Same sample used for analyser and lab measurement for better accuracy
- Remote control of the analyser
- Analyser outputs accessible remotely via HART, Modbus, Ethernet and 4-20mA

FEATURES

- Enhanced Ultrasonic Cleaning
- Deep UV Fluorescence
- Remote management and diagnostics
- Easy to install
- Ability to connect 3rd party devices to the controller via Modbus and 4-20mA
- Database storage of all data
- Export historical data via .PDFs and .CSV files
- Optional integrated laboratory sample point

Additional for Probe/Inline

- Hot insertion/extraction

For pressures in the range 3-5 bar_g a low pressure extraction tool is recommended. For pressures above 5 bar_g a high pressure extraction tool is required

Additional for Cell/Side-Stream

- Optional control valve and sampling point
- Optional flexibility of measurement cell location

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Measurement Performance	
Measurement principle	Deep UV Fluorescence
Cleaning principle	Enhanced Ultrasonics (automatic)
Range Oil	0-100,000 ppm
Range PAH	0-3,000 ppb
Repeatability	±1% of measurement range
Accuracy	±1% of measurement range
Measurement frequency	1 Second intervals, continuous results
Operating Conditions	
Process temperature	Up to 200°C
Operating pressure	Up to 104 bar_g
Design pressure	Up to 312 bar_g
Process velocity with Probe	Nominal 10 m/s
Process flow on Cell	Up to 25 l/m
Ambient Conditions	
Certified for use between	-20°C to +60°C
Utilities	
Power supply	100 to 240 VAC
Power frequency	50Hz or 60 Hz
Power consumption	25W normal, 180W peak
Certification	
Ingress protection	IP rated for both IP66 and IP68
Enclosure classification	NEMA 4X
USA + Canada for Cell Option without extended conduit length(DS model)	Class 1 Div 1 Groups C,D, T4 Ta =-20°C to +60°C Max. Liquid Temperature -135°C Or Class 1 Div 1 Groups C,D, T3 Ta =-20°C to +60°C Max. Liquid Temperature -200°C Class 1 Zone 1, AEx d IIB, T4 Ta =-20°C to +60°C Max. Liquid Temperature -135°C Or Class 1 Zone 1, AEx d IIB, T3 Ta =-20°C to +60°C Max. Liquid Temperature -200°C
USA + Canada for Probe Option (DP model)	Class 1 Div 2 Groups C,D, T4 Ta =-20°C to +60°C Max. Liquid Temperature -135°C Or Class 1 Div 2 Groups C,D, T3 Ta =-20°C to +60°C Max. Liquid Temperature -200°C Class 1 Zone 2, AEx d IIB, T4 Ta =-20°C to +60°C Max. Liquid Temperature -135°C Or Class 1 Zone 2, AEx d IIB, T3 Ta =-20°C to +60°C Max. Liquid Temperature -200°C
ATEX + IECEx	II 2G Ex db IIB T4 Gb Ta = -20°C to +60°C Max. Liquid temperature 135°C or II 2G Ex db IIB T3 Gb Ta = -20°C to +60°C Max. liquid temperature 200°C
Brazil	Inmetro
CE compliant	CE
Weight & Dimensions	
Weight	Controller 24 Kg Measurement Probe 6 Kg Measurement Cell 3.5Kg
Dimensions	Controller L 280 mm x H 200 mm x D 195 mm Measurement Probe Up to 1m Length with 38mm Diameter Longer probe lengths on request Measurement Cell L 225 mm Diameter 76.5mm (Max)

Communications	
2 x 4-20 mA Output	Can be configured as passive or active at the factory Configurable measurement reporting
1 x 4-20 mA Input	Readings from external measurement device displayed at the controller interface
Up to 5 x Digital Inputs (Adding valves to the configuration will reduce the number) Up to 3 x Digital Outputs (Dry contacts)	Start/Stop cycle control Configurable as alarm contacts
Remote access	Windows Remote Desktop
Internal data storage	>10 years
User passwords	3 level password protection
Optional Communications	
HART	Hart version 7
Modbus RTU output	Modbus tables provided on request
Modbus RTU input	Enables connection of an external measurement device ⁂
Extended ethernet	2 wire connection, capable of up to 1.3km
Additional Information	
Cable entries	8 x M20
Options for wetted components include	Stainless Steel 316L, 25 Cr Duplex, 22 Cr Duplex, Hastelloy C-276, Monel 400, Inconel 625, Incoloy 825 and 6Mo
Controller material	Stainless Steel 316L
Conduit length	Up to 10m (for longer lengths please contact Advanced Sensors)
Analyser Stand	Optional
Additional Information Cell (DS Models)	
Process connection	½" NPT Connection (additional optional connections available e.g. flanged connections)
Optional ultrasonic homogenisation	Facilitated via an optional flow valve
Additional Information Probe (DP Models)	
Hot insertion/extraction	Up to 20 bar_g
Flange fitting	2" ASME RF 150#, 300#, 600# (various other flange ratings and sizes available upon request)

◠ Dependent on sample matrix & instrument configuration. User may select any desired measurement from 0-10 ppm, 0-100 ppm [...] up to 100,000 ppm

◎ Under ideal conditions, with a homogenised sample.

Note: Lab calibration with potable water and following ASL standards preparation method can achieve accuracy and repeatability of +/-1% of calibrated range.

◷ Option to extend the interval via software

◌ For Higher flow rates contact Advanced Sensors

⁂ Contact ASL for assistance with device integration

Contact Us

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