

# S-One-DS / S-One-DP

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



Ultrasounds



Deep UV Fluorescence

The Advanced Sensors S-One is an advanced analyser for measuring oil in water that builds on the success of its predecessor models. The S-One-DS and S-One-DP are oil in water analysers that use Deep UV Fluorescence technology to provide continuous and precise measurements of total oil, PAH, and other hydrocarbon parameters in water. The analyser can detect a broad 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 accurate, real-time data provided by the S-One to record precise discharge measurements, quickly respond to process changes, and improve process efficiency, thereby reducing costs. The analyser includes a central controller and up to two measurement modules, which are available in both side stream and inline configurations. The S-One-DS is suitable for placement in a process bypass loop, while the S-One-DP can be placed directly in a process pipe. Additionally, the S-One allows for the integration of third-party sensors with the controller through Modbus and 4-20mA inputs.

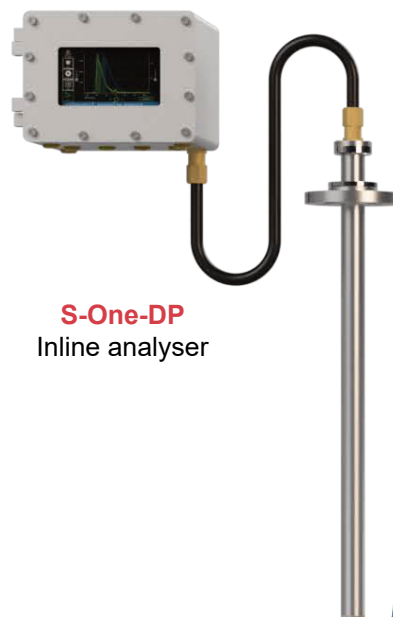
## Application Examples

The S-One with Deep UV Fluorescence technology is ideal for oil in water monitoring in a variety of applications, such as unconventional oil production, refineries, marine, industrial processes, and wastewater treatment. It can be used to measure oil concentration in water discharge and reuse, heat exchangers, steam condensate, cooling water, and boiler feed, among other systems. The reliable, real-time data provided by the S-One enables operators to record accurate discharge measurements, react to process changes, and improve process efficiency, resulting in significant cost savings.

The Analyser is available in 2 model configurations



**S-One-DS**  
Side-Stream analyser



**S-One-DP**  
Inline analyser

# S-One-DS / S-One-DP

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Side-Stream or Inline, for Safe Areas



Ultrasonics



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 3<sup>rd</sup> 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 3<sup>rd</sup> 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



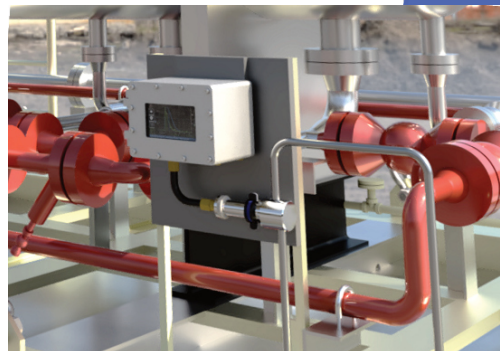
### Additional to Probe/Inline


- Hot insertion/extraction

For pressures in the range 3-5 bar<sub>g</sub> a low pressure extraction tool is recommended. For pressures above 5 bar<sub>g</sub> a high pressure extraction tool is required

### Additional to Cell/Side-Stream

- Optional flexibility of measurement cell location



Measurement Performance	
Measurement principle	Deep UV Fluorescence
Cleaning principle	Enhanced Ultrasonics (automatic)
Range Oil	0-100,000 ppm <sup>Ⓐ</sup>
Range PAH	0-3,000ppb
Repeatability	±1% of measurement range <sup>Ⓢ</sup>
Accuracy	±1% of measurement range <sup>Ⓢ</sup>
Measurement frequency	1 Second intervals, continuous results <sup>Ⓢ</sup>
Operating Conditions	
Process temperature	Up to 100°C
Operating pressure	Up to 15 bar <sub>g</sub>
Process velocity with Probe	Nominal 10 m/s <sup>Ⓒ</sup>
Process flow on Cell	Up to 25 l/m <sup>Ⓒ</sup>
Ambient Conditions	
Safe usage	-20°C to +60°C
Utilities	
Power supply	100 to 240 VAC
Power frequency	50Hz or 60 Hz
Power consumption	25W normal, 150W peak
Certification	
Ingress protection	IP rated for both IP66 and IP68
Enclosure classification	NEMA 4X
CE compliant	
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 <sup>✳</sup>
Extended ethernet	2 wire connection, capable of up to 1.3km distance

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)
Additional Information Cell (DS Models)	
Process connection	½" NPT Connection (additional optional connections available e.g. flanged connections)
Analyser Stand	Optional
Additional Information Probe (DP Models)	
Hot insertion/extraction	Up to 15 bar <sub>g</sub>
Flange fitting	2" ASME RF (various 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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