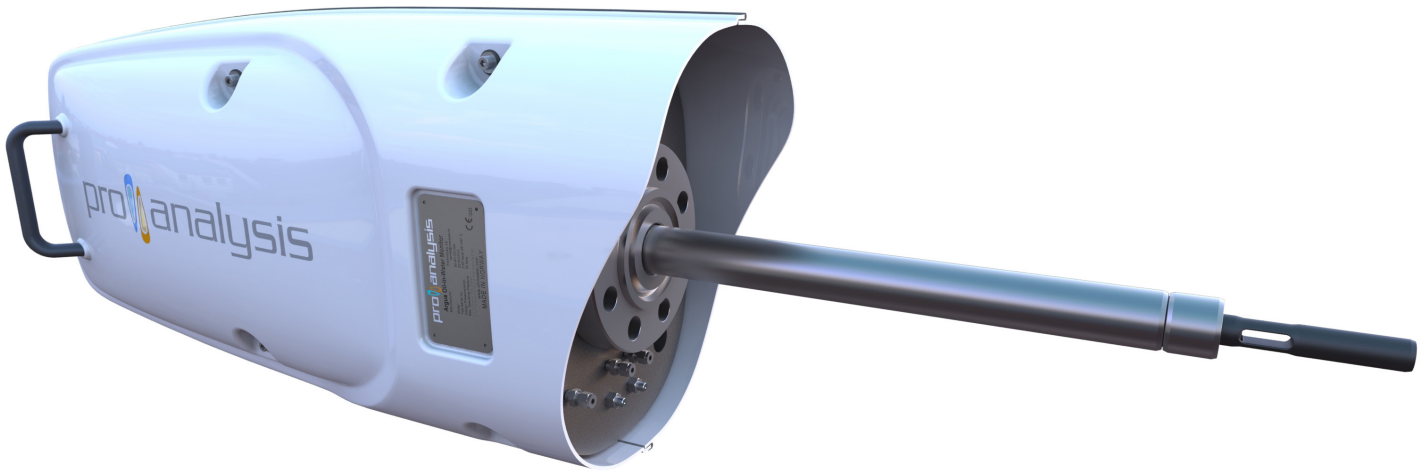
pro analysis

ARGUS®

UNIQUE OIL IN WATER MONITORING

Welcome to the next level



ARGUS EXTREME

Introducing the next level of Oil in Water Monitor for extreme conditions

- *Enabling Oil in Water (OiW) monitoring for the most demanding process conditions*
- *Fully automatic self-cleaning*
- *Groundbreaking patented Retract and Clean technology – a landmark in OiW monitoring*
- *For use in all stages of the water treatment*

KEY FEATURES

- Unique in-line probe design
- Patented retract and clean technology with extreme cleaning capabilities
- Unaffected by fluctuating process pressure, temperature and flowrate
- The only reliable ultrasonic cleaning system at high pressure
- Self-diagnostic features
- Remote monitoring of OiW (offshore or onshore), fully integrated with industry standard control systems
- Appropriate with Argus® Multipoint
- Approved for authority reporting

KEY BENEFITS

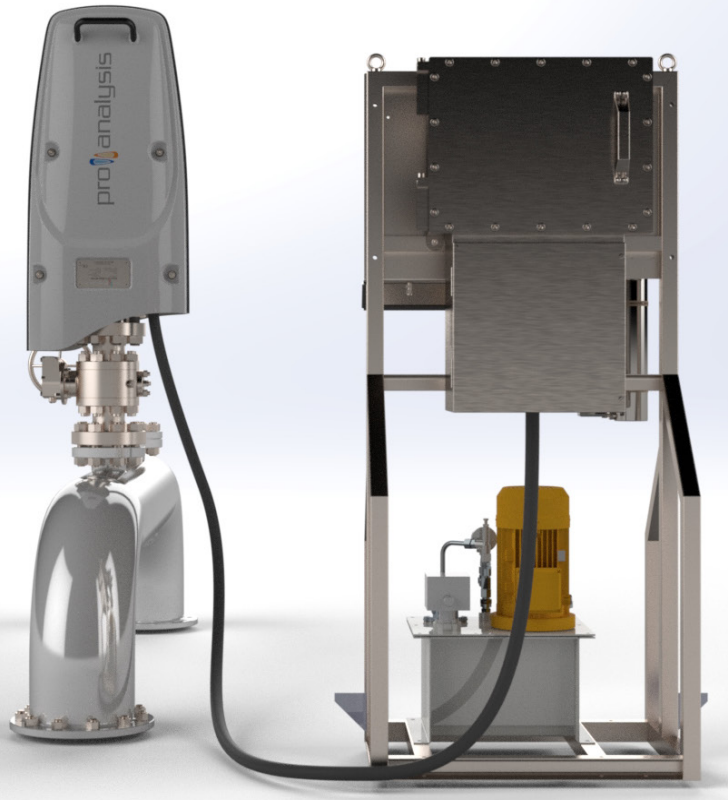
- Continuous in-line OiW monitoring at all stages of water treatment process
- Low maintenance due to robust technology
- Improves performance of produced water treatment systems
- Replaces manual sampling and laboratory analysis
- Reduces the use of chemicals
- Minimizes OiW discharge (to sea/re-injection)
- Fully removable without shutdown of process

DEVELOPED FOR THE MOST DEMANDING PROCESS CONDITIONS

Argus® Extreme is developed in cooperation with major O&G operators, to enable OiW-monitoring for the most demanding process conditions.

Argus® Extreme is field proven for OiW monitoring at high pressure with no human assistance for 6 months, with excellent results.

The system is qualified for automatic authority reporting of OiW-discharge, and is ideal for unmanned platforms, subsea-, re-injection- and other demanding applications.



MEASUREMENT & CLEANING

Measurement principle
Laser Induced fluorescence (LIF)
Sensor probe configuration
In-line
Number of measuring points per control unit
1 - 4
Number of measuring points per cabinet
1 – 16
Measurement range oil in water
0 – 3000 mg/l typical *Note 1*
Measurement repeatability
< ± 1 % of Full Scale *Note 2*
Sampling frequency
1 reading per second
Self-cleaning technology (Patented)
Ultrasonic cleaning
Retract and clean (hydraulic)
Cleaning intervals
Configurable

OPERATIONAL CONDITIONS

Process temperature
-29 – 149 °C
Ambient temperature
-20 – 65 °C *Note 3*
Design / operating pressure
0 – 100 barg *Note 4*
Pipe dimension
≥ 4”
Flow velocity
< 10 m/s

MAIN COMPONENTS

1. Control unit (electronics and communication)
2. Hydraulic control panel
3. In-line probe
4. Retraction tool

PROCESS CONNECTION

2” 150/300/600/900/1500# flange (FB)
Connection flange orientation
Vertical installation recommended
Standard material, wetted parts
22Cr Duplex (UNS S31803), titanium gr. 5 *Note 5*
Weight probe and flange connection
Typical 20 kg
Weight retraction tool
Typical 20 kg

POWER SUPPLY

Supply voltage Control unit
230 VAC 50-60 Hz ± 10%, 12A
110 VAC 50-60 Hz (optional)
Power consumption
200-300 W (average)

HYDRAULIC & WATER SUPPLY

Supply Pressure *Note 6*
Max oil pressure: 350 barg
Min oil pressure: 150 barg
Max oil flow: 20 l/min
Typical oil flow: 6 l/min *Note 7*
Max water supply pressure: 20 barg
Min water supply pressure: 1 barg
Max Water consumption: 12 l/hr
Typical water consumption: 5 l/hr *Note 7*

INSTRUMENT INTERFACE

Serial
Modbus RS 485 RTU (optional)
Ethernet
Ethernet 10/100 Mbps hard wire
2.4 GHz Wi-Fi (optional)
3G/4G/5G (optional)
Modbus TCP/IP
Analogue
4 - 20 mA
4 - 20 mA w/HART (optional)

CERTIFICATION

2014/34/EU ATEX Directive,
Ex de [ia] IIB T6 (Zone 1)
2014/35/EU Low Voltage Directive
2014/30/EU EMC Directive

ACCESSORIES RECOMMENDED

2” Full bore isolation ball valve

NOTES

1. Measurement range above 3000 mg/l on request. Possible measurement range depends on oil composition and API
2. Repeatability measured on a stable fluorescent object
3. Ambient temperature over 40°C requires cooling
4. Higher pressure available on request
5. Other materials available on request
6. Hydraulic Power Unit available on request
7. Depends on cleaning interval