Analyzers that work.

# OIL / HYDROCARBONS IN WATER ANALYZER

## Model 204 | **Continuous Process Analyzer for Clean/Dirty Water**

## Product Features

- Proven reliability with 99% typical uptime
- No consumables required for analysis
- Completely solid state detector, no moving parts
- No field calibrations required--holds accuracy long-term
- Measures aliphatic and aromatic hydrocarbons
- Accurate and continuous analysis
- Quantitative measurement in ultra low ppb and ppm
- Fast response time
- True Liquid Validation System by Permtube
- Remote & Web based monitoring/control of analyzer
- Awarded TCEQ's "Best Available Control Technology"
- Preferred vendor by Saudi Aramco, Chevron & more

## Applications

- Cooling tower / heat exchanger water • Produced water • Waste water • Storm runoff water • Boiler condensate
- Monitoring at desalination plants • Effluent water • Bilge water discharge • Municipal water treatment plants

## Product Description

The ability to analytically quantify oil/hydrocarbons in water is greatly enhanced with the Sample Transfer Stripper (exclusive ASI Membrane Technologies) and the solid state sensor offered by Analytical Systems Keco. The analyzer is simple to maintain and does not require routine calibrations in the field. It is field-proven to maintain a typical 99% up-time.

The Model 204 accurately measures total hydrocarbons including aliphatic and aromatic hydrocarbons. Alternative Oil in Water Monitors utilizing the UV Fluorescence methods do not have the ability to measure aliphatic compounds. Furthermore, the UV Fluorescence method suffers from cross-sensitivity with components in the water not intended to be measured, such as debris and contamination. This gives false high readings and false high alarms. The on-line analysis offered by the Model 204 is economically superior to inaccurate laboratory analyzers where unstable grab samples result in oil deterioration that produce analytical errors.

The liquid sample continuously flows into the analyzer and into the heated Sample Transfer Stripper unit which effectively strips the hydrocarbons from the oil in the water based in part on Henry's Law. The carrier air then sweeps the hydrocarbons to the metal-oxide sensor for quantitative analysis in ppb or ppm levels. The advanced transmitter electronics quantifies and displays the values on the back-lit LCD display, 4-20mA output loop and can communicates via RS-485 Modbus. Remote and Web based monitoring and control of the analyzer is available. The optional 'True' Liquid Validation System by PermTube is utilized to verify proper operation of the entire analyzer system–not just the sensor–with just a flip of a switch or remote activation. This onboard functional validation option introduces hydrocarbons into the analyzer flow path via Permeation Tube. A "bump" up in analyzer's reading will occur, conveniently verifying proper operation of analyzer.

ANALYTICAL SYSTEMS KECO

# Typical Specifications

DISPLAY
- Alpha Numeric LCD
- Up to four concentration display digits
- Back-lit / color display
- Non-intrusive operation (remains explosion proof)

AMBIENT TEMPERATURE RANGES
- 1°C to 55°C (operating) without ext. cooling/heating
- 0°C to 70°C (storage)
- PPB range may require temp. controlled building

ANALOG
- Isolated 4-20mA

ANALYTICAL PERFORMANCE
- Resolution: <1 to 50 ppb (app. dependent)
- Accuracy*: ±3% of full scale

*Accuracy may be improved significantly near points of interest including ppb level concentrations
- Repeatability: ±3%
- Linearity:±1%
- Response time: Initial 60 sec. @ sensor (conc. dep.)
- Sensor life: Avg. >5-10 years

DETECTION RANGES
- 0-1 ppm by wt. (or 0-1,000 ppb by wt.)
- 0-10 ppm by wt.
- 0-50 ppm by wt.
- 0-100 ppm by wt.
- 0-500 ppm by wt.
- Customer specified (contact factory)

SAMPLING SYSTEM
- Sample Pressure Regulator (400 or 1,500 psig max)
- Sample Needle Valve
- Sample Flow Meter
- Carrier Air/Gas Flow Meter
- Secondary filter or optional AutoClean primary filter

WEIGHT
- ~250 lbs (Model 204)
- ~100 lbs (Model 204P)

DIMENSIONS
- 3 ft X 4 ft X 1 ft (Model 204)
- 2 ft X 2 ft X 1 ft (Model 204P)

UTILITIES/SETTINGS
- 110VAC or 220VAC
- 100 Watts normal, 700 Watts max
- Carrier Air/Gas: 200 ml/min (15 psig max)
- Sample flow: 60 ml/min
- Sample pressure: 30 psig (400 or 1,000 psi max)

AREA CLASSIFICATIONS OPTIONS
- Class 1 Division 1
- Class 1 Division 2
- Zone 1 or Zone 2

AVAILABLE OPTIONS
- Concentration relay alarms
- Diagnostic/fault alarms
- Low carrier, sample flow relay alarms
- RS-485 Modbus
- Remote monitoring/control with PC
- AutoClean Sample Filter
- True Liquid Validation System by Permtube

TECHNOLOGIES
- Sample Transfer Stripper™ (ASI Membrane Technology)
- 'True' Liquid Validation System by Permtube (optional)
- Other detection options available upon request

## Advantages

**Consumable Free** There are no costly consumables needed for analysis

**Dependable operation** ASI Membrane Technology creates ultra-clean sample for sensor

**Ultra low maintenance** The analyzer is completely solid state with no moving parts

CMC TECHNOLOGIES
PTY LIMITED ACN: 085 991 224, ABN: 47 085 991 224
Engineering & Industrial Instrumentation
Phone: +61 2 9669 4000
Fax: +61 2 9669 4111
Email: sales@cmctechnologies.com.au
Web Site: http://www.cmctechnologies.net.au
Unit 19, 77 Bourke Road,
Alexandria, NSW, 2015
AUSTRALIA