Instrumentation in produced water applications
For oil & gas environmental management
Water separation and treating is essential to oil and gas recovery

Every drop costs you money  The estimated cost associated with treating produced water in the United States is approximately $18 billion. The cost of cleaning produced water is 300 times greater than municipal waste water and 3,000 times greater than irrigation water.

Difficulty finding the right people resources for your process  You are faced with an experienced workforce retiring in the coming years and a lack of new skilled workers entering into the automation field.

Environmental regulation compliance  Endress+Hauser instruments are an important part of the processes you have in place to maintain your compliance. Our products are made to the highest quality and accuracy standards.

How can Endress+Hauser help?
- Competence and “know-how” in the field
- Training from online to hands-on experience
- Start-up and maintenance services
- Automation of your process
- Engineering services
- Project management services
- 24-hour technical support
- Tools and software
- Calibration services

Complete basket supplier  Endress+Hauser is the only company to offer a complete portfolio for your oil and gas environmental management needs, consisting of:
- level
- flow
- analytical
- pressure
- temperature
- services
- solutions

Our reliable instruments are designed to meet rigorous oil field production standards and are able to withstand harsh operating environments. We can help you reduce your risk, transactional costs and environmental impact.

Find out more about Endress+Hauser
www.us.endress.com

Endress+Hauser competence in oil & gas
www.us.endress.com/oil-gas

Endress+Hauser competence in produced water
www.us.endress.com/produced-water
Understanding your process and offering the solutions you need

Your complete 2-wire technology provider  
Endress+Hauser’s complete basket of 2-wire instruments, including flow, level, temperature, pressure and analytical, provides you the opportunity to replace existing technologies - that may have been the best or only solution at the time for a particular application - with modern technologies. Bringing your process control into the 21st century, our 2-wire instruments provide cost effective updates without sacrificing performance.

The world’s first 2-wire Coriolis flowmeter and magnetic flow technology  
Endress+Hauser’s complete basket of flowmeters provide you with true industry-compliant 2-wire technology - including Coriolis, magnetic, ultrasonic and vortex. This reduces your cost for installation and promotes safety in hazardous areas.

Memosens® water analysis makes sense – the only true digital, hot plug and play platform  
Innovative Memosens systems provide the ideal solution for safety and operating comfort in analytical measuring technology. Customers of Endress+Hauser have saved up to 50% on their maintenance costs since the launch of Memosens – let us show you how. Memosens technology can monitor multiple parameters in your final processed water analysis, such as: pH, free chlorine, turbidity, ORP and conductivity.

Maximize separator efficiency with dual technology  
The Levelflex FMP55 dual technology provides measurement even in the presence of emulsion (rag layer). This device utilizes guided wave radar and capacitance technologies on the same probe. Combining these two technologies guarantees an accurate interface and overall level measurement even while emulsions/rag layers are present.

Uniquely meeting your pressure and temperature needs  
Endress+Hauser’s ceramic sensors can handle your most abrasive and corrosive applications. These flush mounted units mean no issues with build-up, plus it has no drift and no zero point adjustment is needed. Our temperature line is convenient for you. Save time and money by using one order code to order your transmitters and thermowells.
Oil/Water separation and produced water disposal

**Accurately account for amount of produced and used water**  Government regulations are increasingly more strict, and we know accurate measurements on the amount of water which is consumed or disposed, is crucial. Account for total amount of produced water using our Promag flowmeters. Endress+Hauser’s Promag flowmeters will consistently give you proven, and repeatable measurements, and is the only certified solution satisfying regulatory requirements in produced water flow measurement.

**Accurately measure overall and interface level in your oil and water storage tanks**  As oil in a storage tank further separates by gravity, an oil tank will always contain water and a water tank will always contain oil. Knowing how much oil and water is in each vessel will allow you to better plan your water and oil truck routes.

**Prevent spills**  It is good engineering practice to have a backup, high-level device to prevent spills. Endress+Hauser’s Liquiphant® family of tuning forks are a work horse for high-point level detection. This unit continuously self-checks itself, notifying you in the event that your overfill prevention device quits working. This allows you to take corrective action immediately, in turn reducing your risk of overfilling the vessel and polluting the environment. By adding a Nivotester to the Liquiphant tuning fork, this will allow in-situ testing, when initiated by the operator, without removing the device for service. This solution increases personnel safety by eliminating the need to climb tanks in order to test the overfill prevention devices.

**Reducing backwash and contamination**  Record delta pressure (dP) through your filters using the Deltabar S. The Deltabar S reduces backwash time and expense and possible contamination by monitoring the pressure across your filters.
Oxidation reaction/biocide injection and processed product water

Correct results and less downtime  Before your biocide injection, ORP sensors often become coated from the process fluid and require maintenance. With Memosens technology, your sensor can be swapped in seconds with a pre-calibrated sensor, assuring correct results and less downtime.

Control bleach addition  Control biocide addition with Endress+Hauser’s Memosens ORP, Free Chlorine/Chlorine Dioxide, and pH sensors all in one panel solution. Memosens sensor technology helps you to better your process control with low maintenance sensor technology that gives you increased accuracy of the measured parameter. This helps you to apply correct biocide dosage, which leads to reduced plugging from bacteria – ultimately saving you money.
Final processed water analysis

A true digital, hot plug and play platform - reducing maintenance and downtime  Endress+Hauser’s Memosens technology can monitor multiple parameters in your final processed water analysis one-panel solution:

- pH
- Free chlorine
- Turbidity
- ORP
- Conductivity

With Memosens, actual run hours can be observed from the sensor, leading to planned maintenance periods, less exposure of your personnel to the process, and thus more reliable results for you. This means tremendous cost savings for you with assurance that the water is fit for its next use and you meet your regulatory requirements.

Accurate iron measurement  Endress+Hauser’s Iron Analyzer is one of the few on-line colorimetric analyzers on the market and offers auto calibration and cleaning.

Monitor temperature  Shifts with changes in temperature result in reactions. To prevent this, we offer transmitters that can monitor the temperature in your process.
Reduce truck traffic  With the cost of trucking water to and from a site directly affecting your pocket, we know a continuous and reliable operation – where you can maintain and increase oil and gas production – is crucial. With solutions provided to you through Endress+Hauser, the benefits are: fewer accidents, less maintenance to roads, less emissions, reduced transportation costs and improved process efficiencies.

SupplyCare - the flexibility you need  Endress+Hauser’s Inventory Control Solution ensures seamless integration and gives you long-term protection on your investment. This also applies to our SupplyCare software. If you start with a system hosted by Endress+Hauser or run it in your IT environment, you always have the flexibility to change from one to another or both.

SupplyCare - online inventory monitoring and management  With SupplyCare you can:
- View the current product levels in your tanks at your desk
- Assign warning and alarm limits to all monitored inventory data
- Send or receive e-mail notification, if/when replenishment is necessary
- Export inventory data in universal or standardized format
- View trends, historical data and events
- Manage tanks, groups of tanks, customers and products
- Assign specific viewing rights to suppliers, vendors and internal users
- Transactional integration into ERP or SCM business systems
The answer  Endress+Hauser is the answer to all your water treatment needs. Working with an experienced, complete basket supplier allows you to focus on your core competence in oil and gas production. Contact us today to learn how we can help you improve your competitive position while reducing your costs and environmental impact.

Endress+Hauser competence in produced water
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