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EPCON Logic

Real-time produced water optimization system

APPLICATIONS

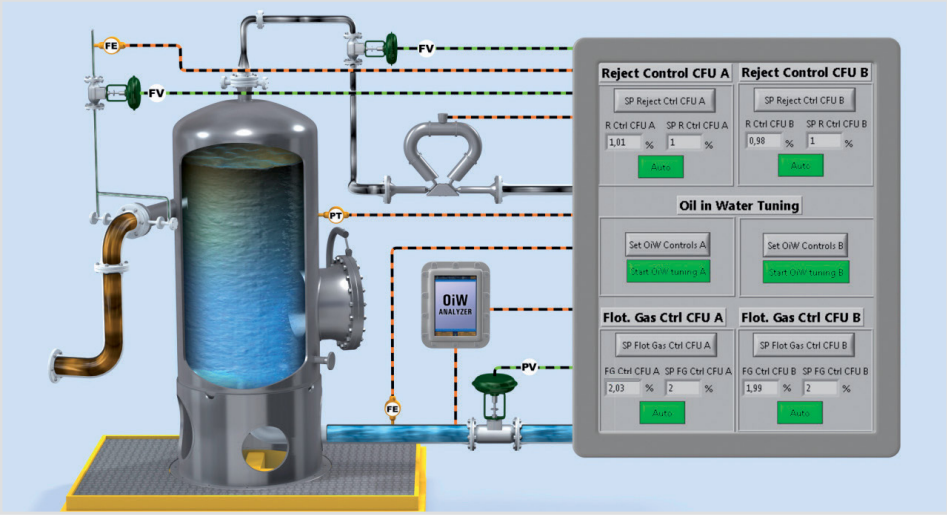
- Water polishing
- Integrated operations
- Remote and satellite production
- Unstaffed platforms
- Produced water treatment

BENEFITS

- Continuously optimizes cleaning efficiency
- Ensures lowest possible OIW discharge
- Optimizes efficiency of EPCON CFU* compact flotation unit technology
- Decreases reject waste stream generation
- Reduces flotation gas consumption
- Reduces personnel requirements and HSE risk
- Minimizes tuning errors

FEATURES

- Fully automatic tuning
- Programmable logic controller (PLC) with advanced control algorithms
- Continuous oil-in-water (OIW) monitoring capabilities
- Automatic adjustment for peak discharge
- Detailed diagnostic picture



The automatic control system of the EPCON Logic real-time produced water optimization system removes offshore operating personnel from the tuning process, optimizing efficiency and mitigating HSE risks.*

The EPCON Logic real-time produced water optimization system, used with EPCON CFU technology, removes human misinterpretations from produced water treatment to automatically assure the lowest possible oil in water (OIW) discharges to the sea. The EPCON Logic system continuously monitors OIW discharge and adjusts to optimize cleaning efficiency and minimize the impact of discharge peaks—advantages that are not possible with typical manual technologies.

The system is based on extensive real-time monitoring of the EPCON CFU technology, a reliable and cost-efficient alternative to traditional produced water treatment systems. The EPCON Logic system constantly monitors all input and output, flotation gas, produced water, and reject flow rates in addition to OIW content.

Removing human error

Discharge peaks often govern the overall average OIW discharge, particularly in challenging offshore fields. The need to precisely tune produced water equipment to meet real-time conditions led Schlumberger to develop the automated EPCON Logic system for its highly efficient EPCON CFU technology. Typically, equipment used to treat produced water were manually tuned and relied on laboratory OIW analysis, visual inspection of various sample points, and manual settings of the different valves. This approach required the best judgment of the equipment operator, which can lead to misjudgments and mistakes.

By eliminating the inherent drawbacks of manual tuning and operation, the EPCON Logic system enhances the already high efficiency of EPCON CFU technology on a number of fronts. It eliminates the errors that are common to manual tuning and continually optimizes compact flotation unit processes. This allows the lowest-possible OIW discharge to the sea at any time during the operation, which is impossible with a manually tuned system. During the frequent process upsets that occur at production facilities, the automated system overall oily discharges.

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Additionally, the automatic control system removes operating personnel from the tuning process, which optimizes efficiency and eliminates HSE risks. Because the EPCON Logic system makes laboratory samples unnecessary, personnel are removed from the sample points and the associated exposure to gas fumes. The EPCON Logic system also optimizes flotation gas consumption and reduces the reject recirculated waste stream volume.

Providing real-time precision

Owing to its extensive and continual monitoring of EPCON CFU technology, the EPCON Logic system delivers a more detailed diagnostic picture of the process than that is afforded by manual observations and laboratory samples. A separate PLC placed on the skid contains the advanced control algorithms that automate and optimize the operation of EPCON CFU technology. The operator interfaces with the system through the installation process control system or through local touch screens provided on the skid.

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