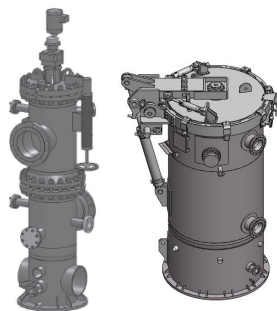


Deep Water Oil Production in the Gulf of Mexico



AutoFilt® RF3

Process inline filter PLF1

The Application

The water injection process is used in both onshore and offshore oil production. Water is deliberately injected into the oil reservoir to prevent a fall in oil pumping pressure, thus increasing oil production efficiency.

Identifying the Problem

While the demand for oil and gas is increasing steadily worldwide, oil and gas companies are faced with the problem of falling pumping pressure in existing oilfields. In order to confront this problem, the process of water injection is used. In principle, the water required for this can come from different sources (aquifers, produced water, make-up water, seawater or river water). This raises the question of water treatment. The quality of the water is of crucial significance for process safety and efficiency. Inadequate water quality can have serious consequences, such as the failure of components, blocking of pipes or, in the worst case, even complete shutdown of the oil pumping process.

The Project at a glance:

- Location: Gulf of Mexico
- World's most productive deepwater field (300,000 barrels per day)
- Sets new standards worldwide for offshore technologies

The Challenge

In the case of this offshore project, seawater is used as the injection medium. Although seawater is the most convenient and the nearest medium, given its obvious availability, its treatment presents special challenges.

For even if the water abstraction point is deep enough to limit the intake of algae, for example, a thorough treatment process is still required.

The HYDAC Solution

One of the first steps in the treatment of water is pre-filtration, followed by fine filtration. This is precisely where the HYDAC solution comes in.

Three AutoFilt® RF3 filters with a filtration rating of 50 µm are used as coarse filters, and then three process inline filters PLF1 are installed further downstream to provide the fine filtration to 5 µm absolute. In essence, the HYDAC filter solutions used in this application serve to protect the high pressure pumps and the membrane system.

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As of February 2014

The HYDAC Complete Solution

Reliable coarse and fine filtration at the highest technical level

Advantages at a glance

Coarse filtration with AutoFilt® RF3:

- ✓ Efficiency is increased through the use of conical filter element technology
- ✓ Ready-to-install unit
- ✓ Fully automatic operation
- ✓ Compact filter design, small footprint

Fine filtration with Process inline filter PLF1:

- ✓ Extremely easy to service due to hydraulic cover closing system
- ✓ Optimal adaptation to the customer requirements by completely redeveloping the cover closing system in conjunction with HYDAC Systems
- ✓ Long service life
- ✓ Extremely large filter area due to optimised pleat depth
- ✓ Removable element baskets ensure optimal handling
- ✓ Specially tailored to customer requirements

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