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AIES approaches Amarith to design a pump

Amarinth, a leading company specialising in the design, application and manufacture of centrifugal pumps and associated equipment to the oil and gas, petrochemical, chemical, industrial and renewable energy markets, has designed a bespoke vertically mounted API 610 OH 1 pump with Plan 13 seal support system for AI Energy Solutions to use with its nutshell filters for cleaning produced water.

AI Energy Solutions (AIES) approached Amarith to design a pump for the final cleaning phase of produced water using its nutshell filters on an offshore platform. Amarith has successfully delivered pumping solutions for numerous produced water treatment systems and so already had a good understanding of the requirements. The location of the platform however, posed project specific challenges of high daytime and low night time temperatures, high salinity and a high 30% rated solids concentration.

The pump had to exhibit good low shear properties in order for the AIES nutshell filters to work optimally by ensuring that the oil and water was not emulsified. This could be achieved using an API 610 OH1 pump but in order to fit with the nutshell filter package, Amarith had to design a bespoke solution. This involved taking the proven OH 1 hydraulic design and engineering a vertically mounted close coupled arrangement so that the suction was at the bottom and the discharge at the top.

Manufactured in stainless steel, the pump incorporated an open impeller design to handle the high solids concentration and a vacuum operated backwash facility to allow for ease of cleaning and maintenance. A single seal plan 13 seal support system, normally used on vertical pumps, was integrated with the vertically mounted OH1 pump. In line with project schedule, Amarith was able to supply the bespoke pump on a fast track basis, with delivery in just 23 weeks.

Oliver Brigginsshaw, Managing Director of Amarith, commented: "Amarinth has successfully delivered reliable pumping solutions for nutshell filters in the past and is pleased to be continuing our successful working relationship with AIES established during previous projects."

Edited from source by [Stephanie Roker](#)

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