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Amarinth provides API 610 pumps with acoustic enclosures to meet offshore platform health and safety regulations

Amarinth, a leading company specialising in the design, application and manufacture of centrifugal pumps and associated equipment to the Oil & Gas, petrochemical, chemical, industrial and renewable energy markets, has designed and supplied an innovative compact acoustic enclosure for its API 610 OH2 produced water treatment pumps to meet strict health and safety regulations on an offshore platform in Qatar.

When Maersk issued the design standard for a new produced water treatment plant for one its offshore production platforms in Qatar, in order to meet Health and Safety regulations Maersk stipulated a maximum noise level for the pumps of 80db(A). Although Health and Safety regulations differ slightly around the world, a broadly accepted maximum level for continuous exposure to noise over an eight hour working day is 85db(A).

The contract for the produced water treatment plant was placed with Alderley who in turn turned to Amarinth, with whom it has a long established relationship for oil and gas projects, to supply the necessary API 610 OH2 pumps with Plan 53B seal support systems. This placed the responsibility on Amarinth to meet the 80db(A) noise levels for the pumps, and furthermore supply the pumps on a tight 28 week delivery.

Historically, noise levels for produced water treatment plants on offshore platforms have varied depending on where they are sited and who is working near them. Amarinth determined that for the pumps to meet the design standard their noise would have to be reduced. On measuring the noise levels for the motor and wettedend separately however, Amarinth found that the motor noise was less than 80db(A) but the wetted-end was higher, which took the overall noise levels above the 80db(A) design standard.

The solution from Amarinth was therefore to design a bespoke baseplate placing the pump and motor on the left and the seal support system with its air cooled piping on the right. This enabled Amarinth to design a compact and cost-effective acoustic enclosure for just the wetted end of the pump which would fit within the space constraints of the rig, allow for regular maintenance and reduce the overall noise to the required level.

For ease of maintenance and full 360° access to the pump and motor, the acoustic enclosure was quickly removable without the need to disrupt any pipework. However, it also had to remain in-situ near the pumps when removed as there was nowhere else to move it to on the rig. This required modelling the human elements during the design stage to determine how people could work around the enclosure effectively. A maintenance hatch was also provided in the enclosure for regular access to the oiler.

Oliver Brigginshaw, Managing Director of Amarinth, commented: "For good reasons Health and Safety regulations are becoming ever tighter and reducing noise levels for continuously operating equipment on offshore rigs helps protects workers from exposure to long-term damaging noise levels. All parties are delighted with our acoustic enclosure that both reduces noise to the required level and ensures that regular maintenance can be carried out without any disruption to schedules or additional downtime. I am sure we will see more requirements for innovative designs like this in order to meet tighter regulations in the future and we look forward to working with the oil and gas industry to deliver against these."

OPTIONAL PANEL or BOX ITEMS



Amarinth API 610 pump with acoustic enclosure in place over the wetted end

Page 4 of 5 Phil Harland Tel: +44 (0)118 971 3790



Amarinth API 610 pump with the acoustic enclosure removed

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NOTES TO EDITORS:

Founded in 2002, Amarinth has harnessed the skills, creativity and passion of people who have worked in the pump industry for many years. Amarinth delivers world-leading expertise in the design, application and manufacture of centrifugal pumps and associated equipment to ISO, ANSI & API standards, primarily for the industrial, chemical & petrochemical markets. Their portfolio includes:

- Pumps: Horizontal and vertical API 610 pumps, chemical and industrial pumps, many of which are interchangeable with the Girdlestone pump ranges, eliminating the need for expensive modifications when replacements are required.
- Pressure Vessels: Protect System Plan 52 and 53A and 53B sealant systems with inbuilt condition monitoring for pumps and mixers that are suitable for Safe area up to Zone 1.
- **Spares & Service**: High quality, fast lead-time re-engineered spare parts to improve performance and extend pump life, including many which are directly interchangeable with the Girdlestone pump ranges.
- Packages & Modules: Condensate Recovery Units manufactured for Spirax Sarco incorporating the innovative Ci-Nergy intelligent variable speed control system, plus bespoke packages & skids built to order.
- Business Systems: state-of-the-art e-commerce technologies that deliver 24/7 support enabling customers to select pumps and place orders on-line and then track every stage of manufacture through to delivery, any time, anywhere in the world.

The company operates globally from its base in Rendlesham Suffolk, United Kingdom and has a customer base of world-leading companies, including BP, Shell, ExxonMobil, GlaxoSmithKline, Pfizer, Spirax Sarco, Diageo, AMEC, Fluor and Halliburton.

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