

press pack



Amarinth

www.amarinth.com

Contact Information for Press

Amarinth is looking forward to welcoming you to our stand at the ADIPEC 2008 Exhibition & Conference. The company is located on Stand H6/32 which it shares with Nama Development Enterprises, the company's agent in the United Arab Emirates.

We welcome having discussions about our company and its products with any member of the press. Feel free to come along the stand and introduce yourself, or if you would like to reserve a specific time to talk to one of our company's directors then please call:

Oliver Brigginschaw, Managing Director, on:

+971 557514937 (Abu Dhabi number) during the ADIPEC Exhibition (and during setup starting from 3rd November)

+44 (0)1394 462122 before the 3rd November

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Amarinth can also be reached on its website: www.amarinth.com.

Go to our [downloads/press-releases](http://www.amarinth.com) page at www.amarinth.com to see all our press releases and find out more about us.

Amarinth delivers world-leading expertise in the design, application and manufacture of end suction centrifugal pumps in a variety of standard and exotic alloys to API, ISO & ANSI standards for use in the Petrochemical, Oil & Gas industries.

The company is the supplier of choice for high specification, short lead time projects. RADAR, its fully integrated design, manufacturing and support system, enables Amarith to deliver bespoke API exotic alloy pumps in just 26 weeks, halving the traditional lead time.

In addition, Amarith designs and manufactures the “Protect System” range of seal support systems for use with both Amarith and other manufacturers’ pumps or mixers.

API 610 PROCESS PUMPS:

OH2 & OHI - API 610 centrifugal process pumps – Amarith A & B Series

Amarinth A Series OH2 pumps are designed to API 610 10th edition specifications for the Petrochemical, Chemical and Oil & Gas markets. The OHI B Series pumps are foot mounted for less demanding applications and offer a lower cost alternative to the fully complaint A Series.

VS4 – API 610 vertical sump pumps – Amarith V Series

Amarinth V Series pumps are designed to API 610 10th edition specifications for the Petrochemical, Chemical and Oil & Gas markets. This range of vertical sump pumps is manufactured in a variety of alloys. Designed to suit customer requirements with lengths available up to 6m sump depth as standard and on short delivery times – longer bespoke lengths also available.

SEAL SUPPORT SYSTEMS:

API Plan 52, 53A sealant systems – Protect System 2000

A range of pressurised and unpressurised seal support systems for use in ATEX environments. Available with a variety of instrumentation. Bespoke designs are also available.

API Plan 53B sealant systems – Protect System 3000

A range of pressurised and unpressurised seal support systems for use in ATEX environments. Available with a variety of instrumentation. Bespoke designs are also available.

RADAR – Fully integrated design, manufacturing and support

RADAR is an integrated state-of-the-art design, 3D parametric modelling, manufacturing and customer support system developed by Amarinth that enables the company to deliver bespoke API pumps in super duplex and other exotic alloys in just 26 weeks, halving the traditional lead time.

Amarinth has applied its many years of experience in the industry and developed a radical modular approach to the design of its API pumps that allows it to anticipate the needs of customers and deliver a bespoke design in standard product lead times.

This unique approach to pump design and manufacture is supported by the tight integration of all the company's processes which ensures that from initial query to post-commissioning, Amarinth offers an unmatched agility and responsiveness in meeting customer needs.

Enquiry

On receiving an enquiry for a bespoke API pump, whether that is in standard or exotic alloy, in just a matter of minutes Amarinth can deliver the general assembly (GA) and isometric drawing, including full details such as nozzle loads, weights and other data essential to the customer. Registered customers can even create their own GA drawings via Amarinth's website.

3D Parametric Modelling

All API pumps are parametrically modelled in three dimensions allowing for rapid changes of design to meet specific needs, changes in legalisation or local requirements. 3D modelling allows complete assemblies to be viewed, tolerances checked and detailed analysis such as clash detection to be undertaken from the same model. This significantly reduces problems during the build. The designs are organised into "modules" which are then assembled when an order is placed. Instead of compiling a bespoke vertical pump from as many as 150 components, the RADAR approach allows a full product assembly to be consolidated around just 7 modules – a huge time saving.

Product Application

The pumps are designed in engineering modules that allow rapid re-configuration of the product to meet customer specific requirements. Parts can also be moved within the design, automatically updating all of the product data and supporting documentation such as SAs and parts lists. As the contract progresses any necessary design changes can be quickly analysed and incorporated into the model ready for manufacturing.

Fully Integrated Manufacturing

The design is fully integrated into the downstream manufacturing processes and systems. As the product passes through the various manufacturing and test stages, customers have 24 hour access through the Internet to see exactly what stage has been reached and to respond to any requests or queries in real-time.

Post Shipment

Technical support is available 24 hours a day and a comprehensive knowledge base allows customers to troubleshoot problems on-line. Spares and replacements can be ordered and tracked on-line and each customer has a specific on-line area in which to maintain their pump data including configurations, documentation spares requirements and history.



Are you on the **Amarinth** **radar**

radar™ enables us to provide unmatched service and support whilst delivering bespoke pumps in the shortest lead times in the industry - meaning you get to production sooner.

radar™ allows us to predict your needs thereby keeping us one step ahead of your contract requirements - meaning we deliver on time, every time.

Enquiry

Every quote, even complex bespoke products such as our VS4 vertical sump pump, comes with a detailed GA drawing showing you vital information such as:

- Sump opening tolerances
- Estimated weights
- Nozzle loads
- Full dimensions
- An isometric drawing.

Visit www.amarinth.com/e-toolbox to create your own bespoke detailed GA drawings on-line.

Design and Application

All our products have been designed using an innovative modular approach and 3D 'intelligent' parts. The result is that we can produce a new pump design extremely rapidly by picking and assembling the various 'modules'. The 'intelligent' parts then enable us to create detailed documents such as SA drawings in record time and accommodate changes to your contract easily.

Contract Tracking

Whatever part of the world you are in, the status of your order is available for review at any time via our secure website. This allows you keep track of manufacturing and documentation

progress 24 hours a day, 7 days a week.

Post Sales Support

Our unrivalled support continues after despatch and commissioning. Our website provides you with the ability to:

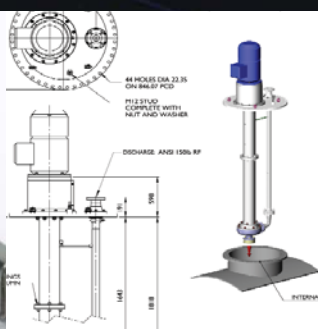
- Check spare part availability
- Order spare parts
- Track manufacture and delivery
- Request copies of documentation
- Access our technical knowledge database.

Contact us on...

+44 (0)1394 462 120 or e-mail us at enquiries@amarinth.com to find out more about how Amarith and **radar™** can meet your pumping needs.



Order Status information	Comp.	Date*
Order received	<input checked="" type="checkbox"/>	04/02/08
Order acknowledged	<input checked="" type="checkbox"/>	04/02/08
Contract released	<input checked="" type="checkbox"/>	04/02/08
BOM released	<input checked="" type="checkbox"/>	04/02/08
Components ordered	<input checked="" type="checkbox"/>	07/02/08
Components received	<input checked="" type="checkbox"/>	27/02/08
Assembly started	<input checked="" type="checkbox"/>	27/02/08
Ex Works available	<input type="checkbox"/>	28/02/08
Despatched	<input type="checkbox"/>	28/02/08
Invoiced	<input type="checkbox"/>	



API 610 OH1 PROCESS PUMPS

key features

- OH1 single stage foot mounted centrifugal pumps.
- 20 bar pumps to API 610 (10th edition) & ATEX compliant.
- -40°C to 250°C temperature applications.
- Shrouded or Semi-Open Impellers.
- A range of alloys available on request including NACE compliant materials.
- Tested to API610 / ISO13709 procedures – Head, Flow, NPSH, Noise & Vibration.
- A range of API 682 Seals & systems (PED compliant).
- Grouted and Non-Grouted Baseplates.



API 610 OH2 PROCESS PUMPS

key features

- OH2 single centre line mounted centrifugal pumps.
- 51 bar pumps to API 610 (10th edition) & ATEX compliant.
- -40°C to 370°C temperature applications.
- Shrouded or Semi-Open Impellers.
- A range of alloys available on request including NACE compliant materials.
- Tested to API610 / ISO13709 procedures – Head, Flow, NPSH, Noise & Vibration.
- A range of API 682 Seals & systems (PED compliant).
- Grouted and Non-Grouted Baseplates to API 610 dimensions.

API 610 VS4 PROCESS PUMPS

key features

- VS4 vertical long shaft stage end suction centrifugal pumps.
- Pressure containing parts rated to 20 bar.
- Full ATEX compliance.
- Shrouded or Semi open impellers.
- Lubrication options using product or external flush.
- Tested to API610 / ISO13709 procedures – Head, Flow, NPSH, Noise & Vibration.
- A range of alloys available on request including NACE compliant materials.
- -40°C to 100°C temperature applications
- Up to 6m sump depth.





FOR IMMEDIATE RELEASE – 17 October 2008

Amarinth halves the lead time on bespoke API 610 pumps

Amarinth, a leading company specialising in the design, application and manufacture of pumps and associated equipment for the oil and gas industry, has underlined its credentials as the supplier of choice for high specification, short lead time projects by today announcing that its two year long investment in RADAR, a fully integrated design, manufacturing and support system, enables it to deliver bespoke API 610 exotic alloy pumps in just 26 weeks, halving the traditional lead time.

The oil and gas industry is under increasing pressure to bring wells and refineries on stream in ever tighter timeframes. The typical lead time on bespoke API pumps for these demanding applications is in the region of 50 weeks, which has started causing contractors to miss deadlines. Two years ago Amarith saw the rising demand to reduce this lead time and set about its ambitious RADAR project - to half the lead-time on bespoke API pumps to an unheard of 26 weeks.

Amarinth commissioned and integrated state-of-the-art design, 3D parametric modelling, manufacturing and customer support systems. Throwing away perceived wisdom, the company applied its many years of experience in the industry and developed a radical modular approach to the design of its API pumps that allows it to anticipate the needs of customers and deliver a bespoke designed pump in the same time as that needed for a standard pre-designed one.

– MORE –

This unique approach to pump design and manufacture is supported by the tight integration of all the company's processes which ensures that from initial enquiry to post-commissioning, Amarith offers an unmatched agility and responsiveness in meeting customer needs.

Oliver Briggshaw, Managing Director of Amarith explains the benefits: "When we receive an enquiry for a bespoke vertical sump pump for example, be that in standard or exotic alloy, in just a matter of minutes we can deliver the full general arrangement and isometric drawings, including nozzle loads, weights and other data essential to the customer. Traditionally this is not available until weeks into the contract. Incorporating design changes as the contract progresses is more straight forward and the customer is kept up to date at all times through design, manufacture, test and delivery using our 24 hour interactive support systems. The compounding benefits resulting from being able to deliver such a detailed design at enquiry allied with the tight integration of all our systems and the transparency of the process through all of the stages, have enabled us to meet our goal of delivering the highest quality API pumps in the shortest lead time in the industry."

– END –

OPTIONAL PANEL or BOX ITEMS



Bespoke design API 610 Vertical Sump Pump



Parametric 3D Modelling of pumps

NOTES TO EDITORS:

Founded in 2002, Amarith has harnessed the skills, creativity and passion of people who have worked in the pump industry for many years. Amarith 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 I.
- **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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FOR IMMEDIATE RELEASE – 22 October 2008

Amarinth appoints new agent in Oman

Amarinth, a leading company specialising in the design, application and manufacture of pumps and associated equipment for the oil and gas industry, has further strengthened its operations in the Middle East with the appointment of Al Ansari Trading Enterprise LLC as its agent in the Sultanate of Oman.

Al Ansari Trading Enterprise was established in 1975 and has over the years grown into a dynamic and leading Group of Companies. One of its most recent ventures has been its diversification into the Oil & Gas industry, which was established in 2007. This division focuses on the supply of equipment and services primarily to the Petrochemical Industries.

As a company synonymous with quality, cordiality and products and services well known amongst many major companies in the region, Al Ansari is totally aligned with the ideals of Amarith's to deliver industry leading products with unmatched customer support. The success of Al Ansari lies in its ability to offer quality products with customized solutions and prompt after sales service, an excellent fit for the innovative thinking that has underlined the rapid growth of Amarith in the region.

– MORE –

Al Ansari is the latest of a number of new agents Amarith has recently secured around the world following the appointment last year of Chris Ryan as Export Manager. Chris explained: "Appointing Al Ansari as our agent for Oman will greatly increase our share of the considerable API 610 Oil and Gas pump market in the Sultanate. It also adds to our growing presence and reputation in the Middle East as our agency network across the region continues to expand. Next year we are looking to secure agents in Saudi Arabia and Kuwait and are already in discussions with potential partners for these strategically important countries."

Nadeem Waheed of Al Ansari Trading Enterprise commented: "Having established relationships with leading manufacturers in USA, UK and Asia, we aim to be recognised as leading suppliers of mechanical, instrumentation and process equipment. We are therefore proud to be associated with Amarith, a renowned manufacturer of API 610 Centrifugal Pumps and have signed an exclusive sales agreement with them."

Oliver Briginshaw, Managing Director of Amarith, added: "We are delighted to have Al Ansari as our agent for Oman. An early indication of the potential for our partnership is demonstrated by the fact that we have already won an order for our T Series Vertical Sump pump from one of the most respected contractors in the region. We are looking forward to working closely with Al Ansari on many more orders in the future."

– END –

OPTIONAL PANEL or BOX ITEMS



API 610 Vertical Sump Pump

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Amarinth delivers high alloy API 610 VS4 vertical sump pumps for prestigious gas processing project in the UAE

case study



Technically challenging

Nama represents Amarith as its agent for the emirate of Abu Dhabi and had identified an opportunity for Amarith's expertise in pump supply on the Habshan Gas Complex Expansion project which will see the gas processing and re-injection capability doubled.

Part of this project called for API 610 VS4 vertical sump pumps to be installed in an additional process train to existing gas fields. The pumps had to operate in a harsh environment to a specific and demanding hydraulic performance and so had to be manufactured from special exotic alloys which are rare, difficult to procure and challenging to machine. Despite this, the client needed these pumps delivering on a very tight deadline - just 40 weeks from order.

Bespoke versions of designs

A standard pump was not an option and although a number of manufacturers looked at the requirements none could meet both the technical requirements and the exact duty demanded by the specifications provided by the client within the specified lead time.

Nama were quick to realise that the requirements ideally suited the capabilities of Amarith. The resulting solution complied fully with both the specifications and the lead time by innovatively creating a bespoke version of its proven API 610 VS4 vertical sump pump. This included installing stillage tubes in the pump rather than creating separate connection points in the sump, saving the client considerable expense.

Following a comprehensive review of Amarith by the client, it was awarded this prestigious contract.

Design requirements

The client's design requirements

minimised the support plate diameter and the addition of stillage tubes removed material from the support plate and so it was analysed for stress and strength using Amarith's in-house FEA software. These changes were all incorporated without impacting the lead time.

3D modelling was used to ensure the correct allowances for bolting to the connecting pipework and to make certain those bolts could be tightened within the restricted access on top of the support plate.

All the units were subject to NDE and NDT including radiography, dye-penetrant of castings and welds, PMI and type 3.1 and 3.2 material certification of critical components. After assembly, extended API 610 tests



were conducted in-house, witnessed by the client's inspection agency.

The high level of NDT meant that a large amount of documentation was required for the pump dossiers. Amarith more than lived up to the client's expectations by ensuring that the management of the contract and of the documentation deliverables were both at the same on-schedule pace at all times.

Local support

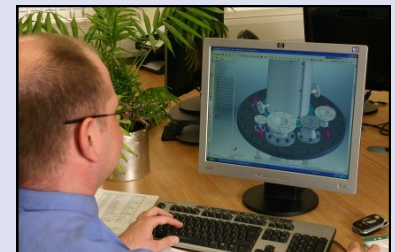
Amarinth, in conjunction with Nama (who will be undertake first level support), will be providing additional post order services to the client including pump commissioning and site assistance - an order for spare parts has already been received.



Nama Development Enterprises

Nama is dedicated to further developing and maintaining its position as one of the leading, local business groups serving the Oil and Gas, Power and Water and Industrial sectors of the United Arab Emirates economy.

Our objective is to professionally satisfy the needs of our local customers while ensuring that we remain one of the first choices for international organisations that are looking for a reputable local business partner to jointly develop their business within the UAE.



"We knew from previous jobs that Amarith would be able to deliver a solution within the client deadline that would comply fully with the specifications. The client was very impressed with the overall execution of the contract and in particular the considerable cost saving that the innovative design of the stillage tubes delivered into the project. Amarith staff worked hard to incorporate client changes and always maintained a can do attitude - something that other suppliers could learn from."

Mr Tarek Helamieh
Sales Manager





Cleaning up produced water

Shell Exploration & Production had to comply with imminent OSPAR regulations which targeted operators with reducing the amount of oil they released into open water in the North Sea or face severe penalties. Shell approached PALL Corporation to install one of its produced water absorber and filter coalescer packages which could remove contaminant hydrocarbons from the water before discharge into the sea.

In order to pump the produced water through the filtration system, PALL sought a pump manufacturer that could provide a pumping solution on the short lead time demanded by the OSPAR regulations as well as pass compliance with Shell's Design and Engineering Practices (DEP) and be ATEX compliant.

High alloy, high performance

The project required four pumps that had to work in a hostile hydrogen sulphide environment and the specific performance requirements for the separator meant that an off-the-shelf solution was not feasible. The operator specified that the chosen manufacturer also had to be ISO 9001 compliant.

Amarinth were chosen to supply the pumps as they ascertained that a technical compliant solution could be delivered within the lead time by utilising its proven 'C' series heavy duty ISO 5199 chemical pump as the core of a solution. Amarith had already manufactured such pumps with super duplex, NACE compliant casing materials and so had proven that they could survive the corrosive environment in which they had to operate.

For the pumps' sealant systems, Amarith were able draw on the expertise of its own Protect System division that had been supplying Shell

for many years. Using the Protect System ATEX compliant System 1000 sealant system meant that the majority of major components were able to be manufactured in-house. This gave not only a price benefit, but importantly more control over the manufacturing program, something that was critical to achieving the lead time.

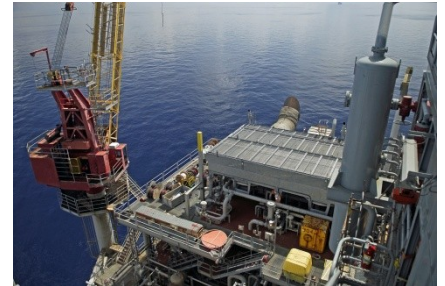
Finally the hydraulic performance of the pumps was modified to ensure that the separator could achieve maximum efficiency.

On-time contaminant reductions

The package was delivered on-time ensuring that Shell were able to meet the strict deadlines set by OSPAR and thereby avoid the hefty penalties of non-compliance.

During the project close out meeting, Shell commented that the package was exceeding expectations and was consistently able to achieve the targets set.

Amarinth has since been engaged on other demanding OSPAR projects helping North Sea operators such as Maersk, ConocoPhillips and Amereda Hess comply with the OSPAR regulations, thereby improving water quality in the North Sea.



Pall Corporation

Pall Corporation is the largest and most diverse filtration, separations and purifications company in the world.

Founded in 1946 to commercialise a novel metallic filtration material, Dr Pall went on to introduce over 180 patents during his working life and received the National Medal of Technology from George Bush for his contribution to technology.

Today, with annual sales of \$2 Billion and over 12,000 staff worldwide, a fluid is processed by a Pall product over 60 million times each day.

"From our initial meeting with the engineers at Amarith we had a good feeling that they knew what was required, how to achieve it and that they were motivated and able to deliver. We knew we were asking a lot and that the schedule was tight, but they did not let us down. The end result was that the pumps exceeded our expectations and our customer, Shell Exploration & Production, was extremely happy."

Mr Martin Jay
Divisional Manager
PALL Corporation



End of life challenges

The Siri field, located in the North Sea off Denmark, is maturing. This means more produced water in the oil production which was becoming a potential environmental issue.

With the introduction of the OSPAR regulations it was no longer possible to dump this water overboard and so DONG Energy were considering re-injection of the water into the well as a recognised environmentally friendly way of disposing of the contaminated water.

At the same time as considering the environmental issues, DONG Energy were investigating means of controlling the pressure in the well in order to help maintain the life of the field. The company came up with a solution of using inverters to regulate the speed of the injection booster pumps in order to achieve its aims.

For many years DONG Energy had been using two Girdlestone pumps as booster pumps on their production platform. These pumps, manufactured to the API 610 standard, had proven reliable and were well liked but were coming to the end of their useful life.

The initial concept was to up-rate the existing pump assets, but this unfortunately proved impractical as they would not deliver the performance range needed and there were also supply problems.

Environmentally sound solutions

DONG Energy decided to approach a number of pump suppliers to propose a solution. Amarith was included as it had successfully supplied the company previously with spares for its Girdlestone pumps and had a good reputation for providing innovative solutions to the oil and gas industry.

The location of the pumps meant that any pump had to have a low NPSH

capability. Lead time was also important as the existing pumps only had a limited life. Finally, the supplier would have to be willing to customise a product to meet the duty requirement and construction standard, including the application of NORSOK specifications.

Amarinth's proposed solution was to control the booster pumps using variable speed drives which enabled the main injection pumps to provide a greater range of operation. This made it possible to match the water injection to the well extraction rate thereby stabilising the well conditions and extending the potential life of the field.

The process of dealing with produced water through reinjection into the well also had the benefit that the environmental requirements could be met without the need for costly filtration systems



Incorporating changes

DONG Energy placed an order for three API 610 pumps in super duplex material incorporating double mechanical seals with API Plan 52 and variable speed drive controlled motors.

After order placement there were additional changes, such as a change in motor supplier. However, as Amarith worked closely with DONG Energy throughout, the impact of any delays on the project were minimised.

This order is part of a larger revamp of the seawater injection systems and there may be additional pumps that will need replacing in future.



Dong Energy

DONG Energy A/S was founded in 2006 as the result of a merger involving six Danish energy companies. Before the merger, the six companies that make up DONG Energy were active in different links of the energy supply chain – from exploration for and production of oil and natural gas and the generation of electricity at power stations and renewable energy facilities to the distribution of electricity and gas – all the way up to contacts with end-users through marketing, sales and energy consultancy.

Since 1984, DONG Energy has explored for and produced oil and natural gas in the North Sea and has owned and operated the natural-gas distribution grids in Southern Jutland, West Zealand and South Zealand.



"Amarinth has proved to be a resourceful and attentive partner in this project. We are very pleased with the responses we received as the scope of the equipment developed."

Kasper Oestergaard
Project Manager



www.amarinth.com/downloads/Media-information

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API 610 OH2 A Series petrochemical process pump complete with
Protect System plan 53A seal support system


Amarinth