

Maintaining plant operability through intervention with minimum loss to production



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Unique Group's On-Site Engineering division provides specialist engineering products and services defined by knowledge, experience and innovation.

A trusted partner in onshore terminal and offshore facility operations. A proven provider to clients in utilities, aluminum, manufacturing and cement industries. Our systems and procedures are proven over many years of practical application on-site.

ISO 9001:2008, ISO 14001:2004 and OHSAS 18001 certified.





Hot Tapping & Line Stopping

Our range of specialist hot tapping equipment enables a connection to be made to a piping system or vessel – either surface or subsea – without shutdown or interruption to production.

Isolation of your piping system is achieved by inserting a plugging head into the parent pipe bore through the hot tap created. All our hardware used is designed and manufactured in accordance with the applicable design codes, and the welding procedures conform with ASME standards.

We also:

- + Conduct live interventions on pipeline systems and can support tasks of every scale, from the smallest bore emergency operation to the largest planned intervention
- Provide products which are designed and tested to withstand high operating pressures and temperatures – these are tested to ambient temperatures rated up to 102 barg or 350°C @ 700psi
- + Provide equipment which can perform hot taps into hydrocarbons, natural gas, water, steam and heavy oil pipelines.

On-Line Welding Services

We offer on-line welding services, in line with industry standards (API1104), during all our hot tapping operations.

On-Line Valve Sealing

The service is typically performed on main isolation ball valves within a plant, such as block valves at let-down stations, pig trap launcher/ receivers and emergency shutdown valves.

With the valve in the closed position, sealant is injected into the ball/seat interface to enable an isolation. After injecting both the upstream and downstream seal sets, the effectiveness of the seal can be gauged by opening the vent points on the downstream side or by venting pressure through the valve body bleed vent.

We also provide on-line valve lubrication for stuck, frozen or difficult to operate valves.





On-Line Valve Maintenance

We have applied our knowledge and experience to develop a robust and proven method of flushing, lubricating and sealing valves on-line – without having to close the valve.

This unique maintenance service, delivered by expert teams of qualified supervisors and technicians, features:

- + On-line flushing of valves to remove old lubricant/sealant and hydrocarbon deposits
- Subsequent injection of specially formulated lubricants to enhance and protect your expensive valves, and give you many more years of extended, trouble-free service.

We are able to perform the work where required – offshore, onshore, on pipelines, at refineries and crude oil terminals, as well as at LNG and desalination plants.

In the unlikely event line contents are flowing when the valves are closed, we are able to seal them using special sealants in conjunction with our conventional leak sealing methods.





On-Site Machining

We offer a diverse range of portable on-site machines with machine shop tolerances.

Work can be carried out on flanges, heat exchangers, cover joints, boiler man-ways, industrial pipelines or vessel joints. Lightweight, strong and flexible, our externally and internally mounted machines are capable of facing, turning, grooving and weld prepping – taking the machine shop to work site.

Most machines are pneumatically driven, so can be safely and efficiently deployed in hazardous areas.

Applications include:

- + Flange facing
- + Pipe cold cutting and beveling
- + Surface milling
- + Drilling.



Under Pressure Leak Sealing Our comprehensive service repairs leaks on most pressurised systems.

The service covers line contents ranging from water, steam and hydrocarbons to numerous chemicals, with minimum interruption to production. Leaks can be successfully sealed while your plant continues at normal operating pressure and temperature, ranging from vacuum to 400 bars and from -60°C to 600°C+.

The sealant material used is customised to take account of all key factors, including line contents and the temperature/pressure of the system.

Unique Group On-Site Engineering

Clamp Design Philosophy

Our direct injection ring clamps are installed in the gap between flanges to create a seal where the flanges are leaking.

Uni-Seal[®] Split Sleeve Repair Clamps (SSRC)

Our SSRC product is an economical, bolt-together fitting designed to allow both temporary and permanent repairs to damaged pipelines.

The ring clamp and bolting are designed to withstand both the line pressure and the full injection pressure at the point of application during the leak sealing operation.

The injection ring clamps are usually used where the gap between the flange faces exceeds 6mm, and are made of materials in accordance with the recommendations in ASME B31 series or ASME Pressure Vessel Code Section II (ring and lugs; Plate ASTM A516, bolts; ASTM A193, nuts; ASTM A194, tube; API 5L/ASTM A106).

The maximum design stresses assumed are in accordance with ASME 31.3 or, where appropriate, the ASME Pressure Vessel Code. For temperatures in excess of 450°C, the clamps are manufactured in a higher-grade carbon steel or stainless-steel material.





The SSRC consists of two halves which are joined by means of nearly tangential bolting, to produce a high integrity pressure vessel around the affected area of the damaged pipeline. Primary sealing is provided by the highest quality moulded elastomer seals, selected for their compatibility with the pipeline's product, environment and operating temperature range.

The elastomeric sealing is achieved via the compression of two circumferential and two intersecting longitudinal packing seals to form a continuous pressure barrier.





Uni-Test On-Line Safety & Relief Valve Testing

This unique system performs testing and certifying tasks on safety and relief valves – while your plant continues to operate as normal.

The system can also be used during a plant shutdown and eliminates the need to remove the valves for unnecessary overhaul or repairs. Our system is based upon many years of design and development work on valve testing technology and carries statutory authority approvals.

The procedure:

 Force is applied to the valve spindle to overcome the spring tension of the valve. This is done by using a hydraulic power pack in conjunction with an electronic force transducer linked to a digital recorder that controls and records the force applied Recorded data, together with knowledge of the valve seat area and the line pressure of the valve, enables the set pressure to be calculated.

Benefits:

- No interruption to plant production, so you realise considerable cost savings and operational advantages
- Subject valve is free to function normally throughout the testing process.

Pipe Freezing

Pipe freezing is a fast, low-cost and lowrisk method for the isolation of a pipeline to enable maintenance operations or modifications to be carried out, it involves the controlled formation of a solid ice plug inside the pipeline.

It is applied using specialist equipment, techniques, inert liquids and gases – so intervention work can be undertaken in the most hazardous areas with the necessary safety measures in place.



The completed plug can withstand high levels of differential pressure and isolations can be performed at several locations simultaneously.

The process is most commonly used on water duties such as fire main systems and sea water injection lines but can also be applied in operations such as oil and product lines.

We offer a complete package to meet all your maintenance requirements from initial survey, provision of all necessary equipment and personnel to completion of the project, including system recommissioning.







Decommissioning Services

Founded on the principles of safety, integrity and reliability, our decommissioning services reflect the priorities and objectives of modern-day industry.

Our products are designed and manufactured to cut a wide range of materials and structures and are ideally suited for underwater deployment by either ROV or diver operations.

Decommissioning best practice demands the use of the best technology, equipment and resources, and requires a strategy defined by safety, effectiveness, agility and efficiency.

Our decommissioning package reflects all of those qualities – we believe the equipment supplied for abandonment operations must provide economical efficiencies and advantages while focusing on personnel and environmental safety.

Global Operations

We provide a 24/7 global support service to manage our customer requirements, both onshore and offshore, with full service facilities across the Middle East, India, South Africa, Singapore, Europe, the UK and the USA.



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