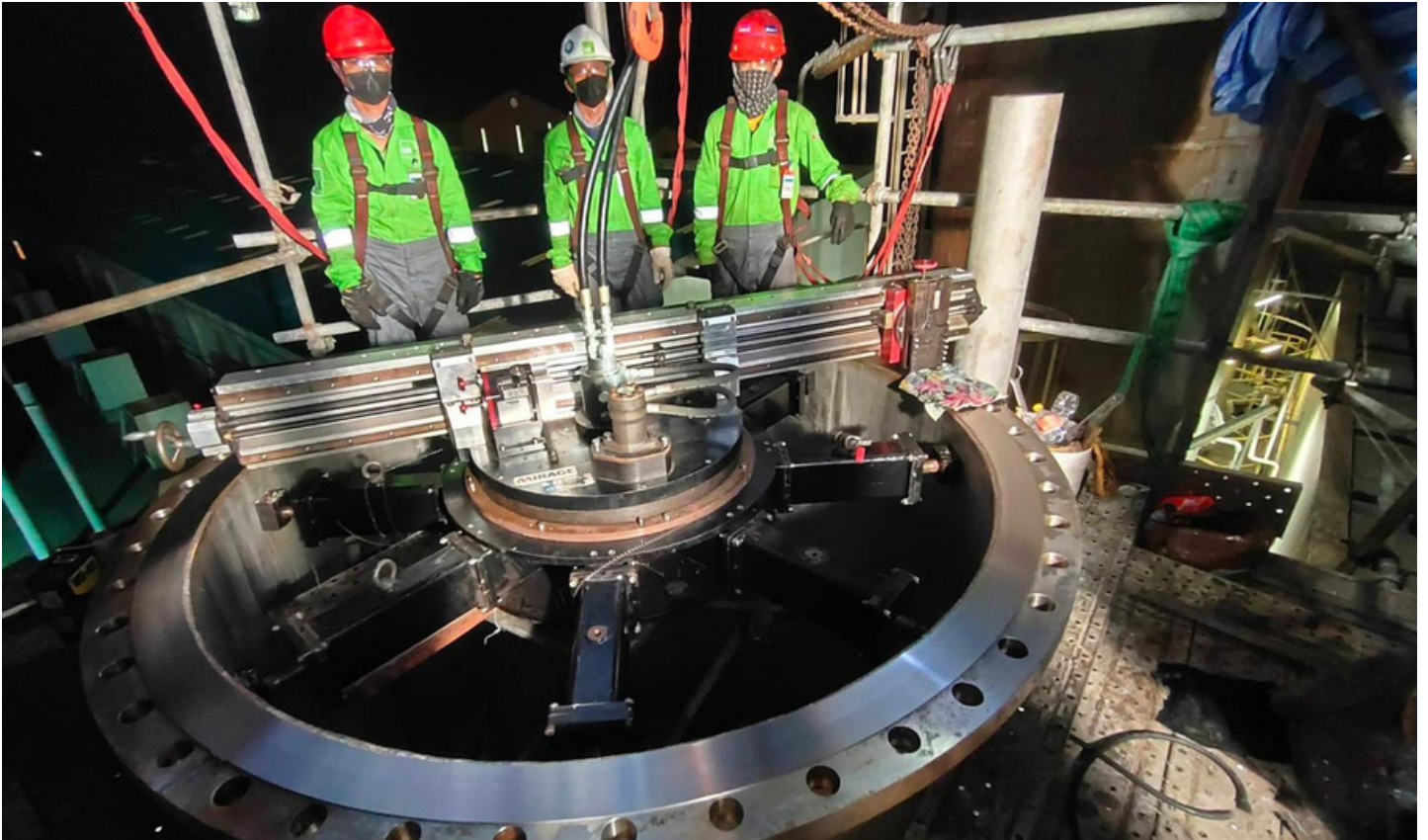




Mechanical Services



YOUR CHALLENGES

Faced with increasing competitive pressure, plant owners and operators across a wide range of industries are exploring new ways to reduce the cost of maintaining process equipment while upholding safety, reliability and productivity levels. The latest equipment and technology needs to be introduced to fulfil rising environmental, availability and efficiency requirements. This task demands competent, well-trained personnel who can meet or exceed your Quality, Health, Safety and Environmental (QHSE) expectations in a timely, cost-effective manner. Ageing plants, in particular, should adopt innovative mechanical servicing solutions delivered by a trusted partner to achieve optimum run times between shutdowns while minimising unscheduled maintenance.

OUR MECHANICAL SERVICING SOLUTIONS

As the region's leading provider of specialised industrial services, CR3 offers unrivalled expertise in the mechanical servicing sector. With our in-house team of multidisciplinary

specialists across all related work streams, we excel in rising to the challenges set by our clients. The volume of repeat business we enjoy is a testament to our dedication, effort and competence.

HOW WE SUPPORT YOUR BUSINESS

Our team is ready to support your mechanical servicing needs with fast responses and short lead-times that are the envy of the industry. We can safely deliver your projects on time and on budget by ensuring single-source control enabled by our multi-disciplinary approach and project management capability.

In addition to our comprehensive portfolio of mechanical servicing solutions, we complement our in-house expertise through strategic alliances with other market-leading organisations. CR3 currently partners with Hydratight (bolting solutions), Conbit (structural design and specialist offshore lifting / installation), Colt (online leak sealing / clamping enclosures) and Hilti (specialist cutting services), among others.

THE CR3 DIFFERENCE

CR3's large in-house team of highly trained technicians is subject to regular audits and a stringent safety passport scheme. We invest heavily in the latest equipment and SMART systems to maintain our reputation as the region's leading one-stop provider of specialised maintenance services.

Innovative equipment and processes

CR3 continually invests to secure the latest technologies and equipment. This enables us to support our clients with the most appropriate solutions to address the challenges of operating complex facilities. What's more, we maintain a continuous improvement cycle to satisfy ever-evolving requirements for delivering safer, faster and more efficient results. With each operational success, the experience and knowledge gained is channelled into the next generation of solutions.

Outstanding QHSE performance

Training and experience go hand in hand wherever CR3 operates. With bespoke programmes aimed at keeping our technicians ahead of the field, we pride ourselves on delivering a best-in-class performance that continually exceeds our clients' expectations for safety and quality. This commitment to constant improvement is embedded in our management systems, which are certified to international standards including ISO 9001, ISO 14001 and ISO 18001. In addition, our internal project management and KPI systems allow us to deliver projects with an unwavering focus on safety, timeliness and cost.

Unrivalled experience

CR3 is one of the only companies who can deliver simultaneous shutdowns in multiple countries. With decades

of front-line service delivery experience in projects of widely varying scope and complexity, we have evolved into a complete one-stop provider of mechanical servicing solutions. The experience gained from supporting clients across a broad range of industries allows us to respond to all issues as and when they appear. As specialists in their respective disciplines, our teams interface seamlessly to make even the most complex project seem relatively straightforward.

Exceptional service

Our track record of successfully delivering on our commitments reflects both the 'can do' attitude of our management, as well as our rigorous planning, preparation and execution. When you work with CR3, you can be confident that you have selected the best partner for your project, regardless of size or value.



OUR SOLUTIONS

- Static equipment maintenance – vessels & drums, columns & replacement of trays/ internals, heat exchangers incorporating full 'blind to blind' service
- Reactor repairs and maintenance
- In-situ flange facing and machining, bed milling, valve lapping services, etc
- Online leak sealing and pipe wrapping
- Hydraulic bolt tensioning and bolt torquing, joint integrity programmes
- Cold cutting and weld preparation
- Plant change and piping modifications
- Plant maintenance
- Support services such as pipe cold cutting, hydro & pneumatic testing
- Structural steel, piping fabrication and installation, stainless steel welding (inert and normal atmosphere)
- Diamond wire and diamond saw cutting, as well as Ultra-High Pressure Water Jet (UHPWJ) cutting

YOUR BUSINESS BENEFITS

Increase productivity – by engaging us as your single point of accountability for all critical path elements. This means you are never more than a call away from key resources that can support your business and add value to your bottom line.

Save time and cost – through our deep understanding of the issues and our ability to provide high quality international solutions via local resources quickly and cost effectively.

Access one-stop support – with a solutions provider that can deliver the full spectrum of services required within the scope of work.

CR3 IN ACTION

The challenge

A refiner in Southeast Asia needed to revamp an RFCC unit by installing new internals to increase capacity, improve process efficiency and optimise yields.

The solution

To facilitate the installation, CR3 employed several advanced cutting techniques to remove the top reactor head (165 tonnes) and cut a 35-tonne door in the regenerator section.

The outcome

The refractory lining was cut cleanly without damaging the internals. In addition to completing the project safely, quickly and within budget, we saved the client substantial capital expenditure by ensuring the regenerator shell could be re-used.

CR3 is a leading provider of energy engineering solutions. Established in 1991, we provide specialised maintenance, plant upgrade, revamp and engineering services with a sharp focus on **Energy Efficiency**, **Engineering Excellence**, and Sustainable **Solutions**.

To learn more, visit [CR3.Group](#)

Leading one-stop provider of specialised maintenance services

CR3 supports your business with extensive contracting experience in the delivery of catered service packages, 'blind to blind' jobs and turnkey maintenance services during major shutdowns and turnarounds. Our business upholds a culture and track record of integrated management systems that are certified to multiple international standards.

Our Solutions

We offer a comprehensive portfolio of maintenance services that are grouped into six business lines. Our experts deliver these services – onshore and offshore – on time and on budget.

Our complete 'blind to blind' solution ensures more streamlined and efficient projects, as we maintain direct, single-source control of all critical path elements. We cater to projects of widely varying scope and complexity, and can deliver multiple shutdowns concurrently.

Related services:

- Static & Rotating Equipment Maintenance
- Industrial Scaffolding
- Mechanical Services
- Column Modifications & Repairs
- Total Heat Exchanger Maintenance
- Flare Tip Replacements & Repairs
- Cleaning & Decontamination Services
- Mercury Management Services
- Catalyst Handling Services
- Nitrogen Services
- Waste Handling
- Decommissioning Services
- Insulation Services
- Valve Maintenance
- Storage Tank Cleaning & Maintenance

Our experts meet your demands for shorter change-outs, leaner project teams and superior quality standards for all reactor types with end-to-end solutions that reduce downtime and increase profitability.

Related services:

- Catalyst & Adsorbent Handling Services
- Tubular Reactor Services
- Dense Loading
- 'Blind to Blind' Mechanical Services
- Reactor Internals Replacement & Repairs
- Nitrogen Services
- Waste Handling

We clean and inspect virtually all plant vessels, columns, drums and piping systems, both onshore and offshore, with services that can be tailored to requirements.

Related services:

- Pre-Commissioning & Commissioning Services
- Nitrogen Services
- Pipeline Cleaning (Chemical & Mechanical)
- Pipeline Flooding
- Pressure Testing
- Dewatering
- Drying
- Purging

Our investment in training, equipment and SMART systems combined with our focus on safety and rigorous planning, preparation and execution of work underpins our track record as a leading provider of mechanical & plant maintenance services.

Related services:

- Static Equipment Maintenance
- Rotating Equipment Maintenance
- Specialist Cutting Services
- Online Leak Sealing
- Controlled Bolting
- Reactor Repairs & Maintenance
- Plant Change & Piping Modifications
- In-situ Flange Facing & Machining
- Industrial Scaffolding
- Insulation Services
- Valve Maintenance
- Continuous Plant Maintenance
- Storage Tank Cleaning & Maintenance

Our extensive portfolio of cleaning services sets the benchmark in terms of technical, environmental and safety standards.

Related services:

- Chemical Cleaning Services
- Mercury Management Services
- Fin Fan Optimisation
- Hydro Jetting Services
- CR3 Decoking Technology (CDT)
- Decontamination Services
- Waste Handling

We deliver projects safely, on time and on budget by ensuring single-source control through our multi-disciplinary approach and project management capability.

Related services:

- Process Revamps, Rejuvenations & Retrofits
- Construction & Constructability Reviews
- Engineering, Procurement & Commissioning Services
- Operations & Maintenance
- Dismantling, Demolishing & Removal of Equipment
- Fabrication of structural, Carbon Steels & Pipe Systems
- Fabrication of Stainless Steels & Special Alloys
- Installation of Large Equipment & Pipe Systems
- Welding
- Hot & Cold Cutting
- Scaffolding & Insulation



CR3 is a leading provider of energy engineering solutions. Established in 1991, we provide specialised maintenance, plant upgrade, revamp and engineering services with a sharp focus on **Energy** Efficiency, **Engineering** Excellence, and Sustainable **Solutions**.

Contact us today to learn more

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