



Column and Tower Internals



YOUR CHALLENGES

Operators routinely elect to inspect, clean, replace and even upgrade the mass transfer internals in their columns and towers to satisfy ever-increasing production demands. In addition to deciding which type of internals to purchase, operators need to ensure the internals are properly installed so they receive the full benefit of the technology, as failure to do so can have a considerable impact on process safety, product quality and return on investment.

OUR COLUMN AND TOWER INTERNALS

We provide the full range of services related to column and tower projects, including removal of internals, cleaning, installation of new or refurbished internals, column inspections, column modifications, and complete project management.

Our combination of applying the latest equipment and multiskilled technicians in a 'blind to blind' approach helps to minimise downtime and maximise returns.

Pre-engineering services such as planning, scheduling, coordination and logistics are standard practice in every one of our column projects to optimise resources, ensure safe execution and trouble-free start up. All related requirements, such as column decontamination, scaffolding, welding, cold cutting, (including Diamond wire), on-site machining and lifting are handled too. This all-inclusive approach enables us to take on and execute the total work scope without any interface issues, which improves safety and saves considerable time and cost.

HOW WE SUPPORT YOUR BUSINESS

We support our customers with detailed estimates, plans, and procedures for executing any size of project. Our complete 'blind to blind' solution ensures more streamlined and efficient projects, as we maintain direct, exclusive control of all critical path elements. We complement our in-house expertise through strategic alliances with technology partners, so we can provide end-to-end solutions under a single contract, delivering significant savings in the process.

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.

Advanced equipment and technology

We continue to invest in the best equipment, systems and performance management tools to support our project delivery teams and remain at the leading edge of the industry.

We have a track record of bringing innovation to the market place, which is often obtained through information sharing with our shareholders and long-term technical partners such as Koch-Glitsch.

Outstanding QHSE performance

Our comprehensive approach covering all aspects of the work from inspection to installation ensures we deliver optimal safety, quality and schedule efficiency.

We closely monitor regulations for any changes or new recommended practices and incorporate these improvements into our courses to ensure that our safety training is current and adheres to strict international standards.

Exceptional service

We work collaboratively with our customers to deliver outcomes in an environment of trust and mutual respect. Count on us to provide a multi-skilled, competent and motivated team, supported by high quality systems, procedures and equipment to meet your ever-evolving requirements.

Our commitment to service excellence is underpinned by our integrated approach to safety, quality and the environment as well as our continual investment in developing our people and securing the latest technology available.



Unrivalled experience

To date, we have successfully performed numerous column scopes on refineries and petrochemical facilities across the region and are uniquely positioned as one of the few companies with experience of delivering many simultaneous column jobs on the same complex and across multiple sites and territories at the same time.



OUR SOLUTIONS

- Complete package of internals and installation (with Koch-Glitsch)
- Column and tower inspections
- Removal of all types of column and tower internals
- Cleaning of all types of column and tower internals
- Internal repairs to columns and towers
- Installation of all types of column and tower internals including structured packing, random packing, trays, and grids
- Erection and dismantling of scaffolding inside columns and towers
- Column and tower modifications

YOUR BUSINESS BENEFITS

Benefit from a holistic approach – with more streamlined and efficient projects, as we maintain direct, exclusive control of all critical path elements.

Save time and money – by providing end-to-end solutions under a single contract, eliminating interface issues and delivering significant savings in the process.

Maintain high safety standards – by choosing a partner that continually invests in structured training programs, knowledge sharing and automated equipment to minimise risks.

CR3 IN ACTION

The challenge

A refiner in SE Asia needed to replace the internals in nine columns to boost throughput and enhance separation. The columns needed to be replaced in a 37-day window.

The solution

Internals were removed and replaced with high-performance internals. Existing support rings were modified to accommodate the design requirements.

The outcome

All columns passed leak tests first time and the replacement was completed within the 37-days. The client achieved the desired throughput and efficiency gains.

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



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Contact us today to learn more

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