



Bolting, Flange Management & Machining



YOUR CHALLENGES

Assuring the integrity of bolted joints is a major concern, particularly when they can involve the release of hazardous and harmful inventories to atmosphere. Avoidance of leaks is a top priority for operators, as they can lead to delayed production, unplanned shutdowns, and process safety incidents. When leaks do occur, they can often be very costly for all stakeholders.

OUR BOLTING SOLUTIONS

CR3 provides safe, effective and efficient bolting, flange management and onsite machining solutions to prevent leaks in flanged assemblies. Our Joint Integrity Management teams inspect, maintain and record all bolted joints to assure you they are appropriately designed, specified, and tightened in accordance with ASME PCC-1 standards to ensure zero leaks. Our multi-skilled and fully certified field service engineers will help you reduce numbers on site, ensuring one contractor is able to support all your project needs from start to finish, saving time and cost.

HOW WE SUPPORT YOUR BUSINESS

CR3's experienced field service engineers and specialist equipment can support all your bolting requirements. We complement our in-house expertise through partnerships with other market-leading organisations including Enerpac (formerly Hydratight) and LAPP for bolting, flange management and onsite machining equipment and training.

We offer a comprehensive range of torquing services, providing the required accuracy and consistency necessary for safe, reliable and leak-free bolted-joint assemblies. Ensure joint integrity and prevent unnecessary leaks with our wide variety of bolt tensioning applications. Our flange management software offers superior traceability and reporting for computing bolt loads and tooling pressures on a wide range of flanged joints and clamped connections. We offer a vast array of portable machines for turning, drilling, milling and grinding at your site, significantly reducing downtime and cost.

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

Our integrity data management software is fully ISO 27001 certified and SSAE16 compliant and provides superior traceability and reporting on materials of construction, assembly, bolt loads, maintenance history, and supplementary documentation to be recorded and retrieved at any time during the project life-cycle.

We provide onsite repairs and refurbishment of flange faces up to 120 inches in diameter and have access to a full array of 2-axis and 3-axis milling machines along with bolt extraction and thread refurbishment machines for removal of snapped or seized studs.



Outstanding QHSE performance

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Unrivalled experience

With experience in providing onsite repair and refurbishment services and with advanced flange management software that allows you to compute, update and track all relevant information quickly and effectively, we are ready to support you on any job, large or small.

We have a wealth of experience with these critical techniques and have suitable equipment to cope with a wide variety of applications. Our highly experienced personnel can ensure joint integrity and prevent unnecessary leaks.

Exceptional service

We complement our in-house expertise through partnerships with other market-leading organisations including Enerpac (formerly Hydratight) and LAPP for bolting, flange management and onsite machining equipment and training.

Our commitment to service excellence is backed by our track record of integrated management systems that are certified to multiple international standards.



OUR SOLUTIONS

- Onsite machining
- Flange facing
- Gasket surface machining
- Grinding and turning
- Pipe cutting and bevelling
- Orbital milling
- Counter boring
- Flange management services
- Joint integrity management
- Controlled bolting
- Hand torqueing
- Hydraulic bolt torqueing
- Hydraulic bolt tensioning

YOUR BUSINESS BENEFITS

Benefit from a holistic approach – that eliminates the need to manage multiple contractors on site over the course of your project.

Save time and money – our multi-skilled and fully certified field service engineers will help you reduce numbers on site, ensuring one contractor is able to support all your project needs from start to finish.

Ensure high safety standards – by working with a partner that is committed to delivering the highest safety standards in the industry.

CR3 IN ACTION

The challenge

Several large flanges and an 88" slide valve were damaged during the construction of a refinery in SE Asia requiring onsite machining.

The solution

CR3 quickly mobilised our large portable 45-120 inch flange facing machine to execute the repairs saving time and significant cost over the other options.

The outcome

The flanges were machined to ASME standards, meeting all integrity testing requirements first time. The client appreciated our efficient and safe execution of the work.

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

SHUTDOWNS & TURNAROUNDS

MECHANICAL & PLANT MAINTENANCE SERVICES

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

INDUSTRIAL CLEANING SERVICES

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

SERVICES FOR ONSHORE AND OFFSHORE FACILITIES

CATALYST HANDLING SERVICES

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

PIPELINE & PROCESS SERVICES

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

REVAMP, CONSTRUCTION & EPCC SERVICES

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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