CENTRUM Integrity

Integrated Integrity Services

Assured integrity

As a leader in technical assurance for asset integrity and reliability, Baker Hughes has developed CENTRUM Integrity™, a comprehensive cloud-based integrity management system. It includes an entire ecosystem of digital tools, apps, and world-leading engineering services to support all your integrity needs from construction and pre-commissioning to maintenance and operations through to decommissioning.

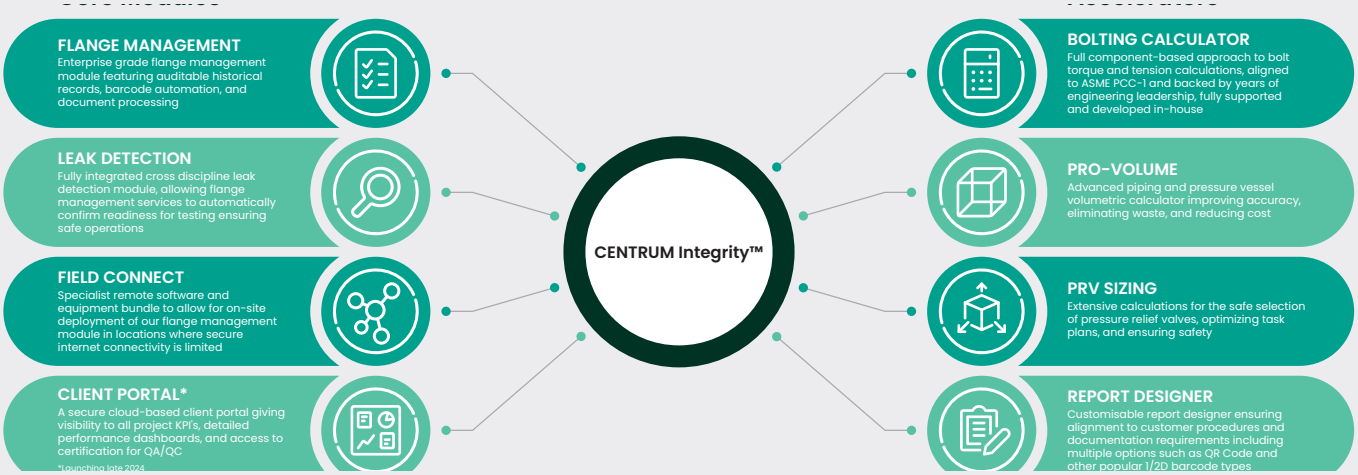
Our cutting-edge software and engineering services are designed to enhance safety, efficiency, and productivity across your assets' lifecycles.

With a centralized and integrated approach to all integrity and inspection activities, CENTRUM Integrity can improve visibility and safety while helping to reduce risk and minimize costs for your business.

Cross discipline

The CENTRUM Integrity core workflow platform allows multiple mechanical services to be executed and integrated ensuring communication between disciplines is effective.

We currently offer two modules within CENTRUM Integrity: Flange Management (cloud and mobile) and Leak Detection, but the modular design of CENTRUM Integrity allows for other modules to be added to support your needs.



Unlocked knowledge

Behind the CENTRUM Integrity platform is a solid, secure data repository where all your critical information is collected. This centralized approach unlocks trends, identifies bad actors, and optimizes your operations using a data-led approach.

Identify, predict, and mitigate failures before they occur and uncover contractor performance issues by centrally managing your asset and intervention records. The opportunities for improving your assets' integrity and reliability are limitless.

Client aligned

Your operational policies and procedures are very important and the CENTRUM Integrity platform can include and integrate your procedures ensuring they are enforced across operations.

You may have your own documented figures for bolt stress, gasket stress, or torque values, and/or specific documentation for flange management or leak testing. This can all be uploaded into the platform so you can be assured that your personnel and contractors are all working to your figures and your documentation, but with the added benefit and security of validation from CENTRUM Integrity and Baker Hughes.

Safe and secure

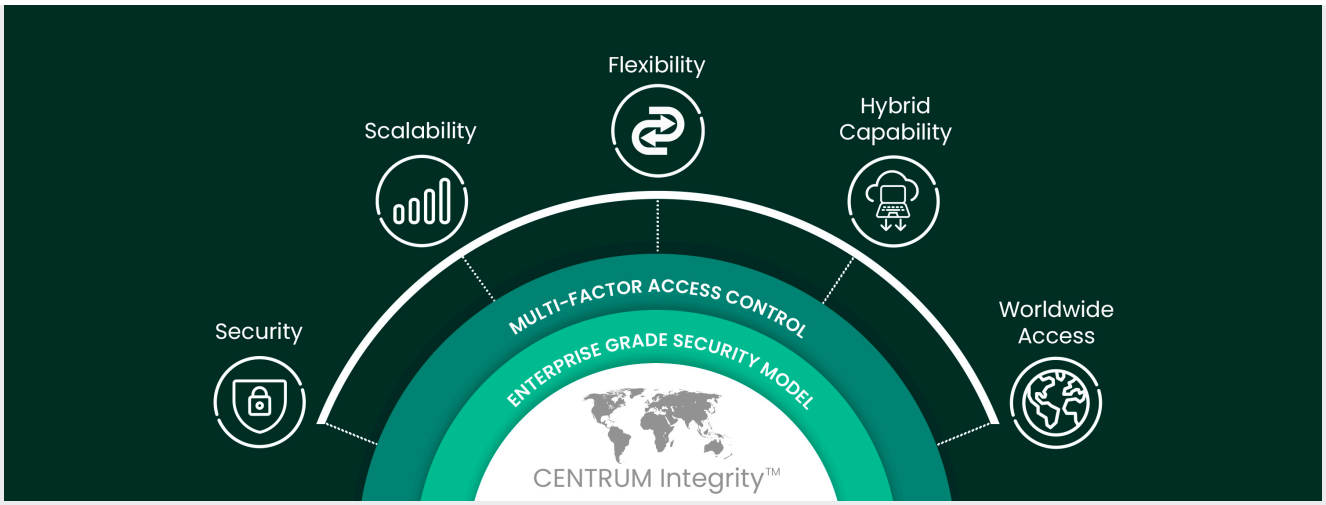
As a business operating in a highly regulated environment, your data is as critical as your people and plant. To be truly safe, attention to the security of our informational assets are paramount.

We keep all of our development in house. Our team of software and engineering experts ensure we can deliver effective digital services alongside our mechanical, process, and pipeline services, creating confidence and demonstrating trust.

Baker Hughes constantly ensures that we meet or exceed industry information security best practices. Our digital controls and governance constantly evolve to stay ahead of the threat landscape.

- Connectivity secured by HTTPS and security certificates
- DDoS protection on all external endpoints
- Security best practices for web applications as standard
- Regular updates and testing are included to ensure protection against the latest vulnerabilities
- Data integrity, extensive backup and recovery processes
- Backed by highly available cloud infrastructure

We know you take security seriously, and you can be assured that Baker Hughes does too, making us your ideal digital partner.



What features does CENTRUM Integrity have?

Modules

- **Flange Management**—advanced integrity analysis
- **Leak Testing**—optimal test pack management

Calculators

- **Bolting calculator**—integrity analysis to ASME PCC-1
- **ProVolume**—piping and pressure vessel volumetric calculator
- **PRV sizing**—code compliant calculations for sizing and selection of pressure relief valves

Accelerators

- **Report designer**—customisable Report Generator
- **Report manager**—barcode processing of certification and documents

Certification and standards

- Compliance with technical standards
- Bolting calculations with evidenced torque figures to ASME PCC-1
- Fully auditable activity history
- Certification control/governance from breakout to mechanical completion; from tags and documents to inspection photographs

Client alignment

- Configurable reports and dashboards
- Client specific documentation
- Client specified figures

Integrated services and optimization

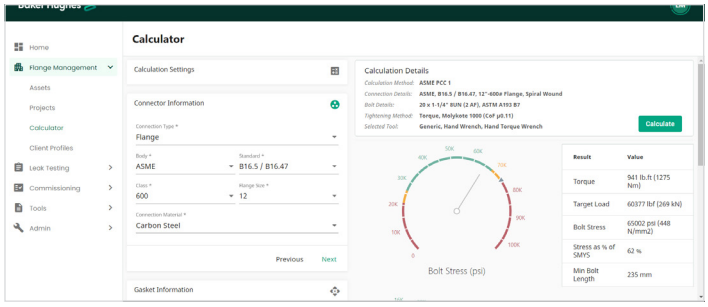
- Flange management and leak testing functions of the software can be integrated
- Direct visibility of flange status from within leak test module
- Consistent documentation and flow of information between disciplines
- Integrated mechanical completions ensuring construction, hookup and TAR management are optimized, improving the engagement between flange management nitrogen/helium leak testing and other services

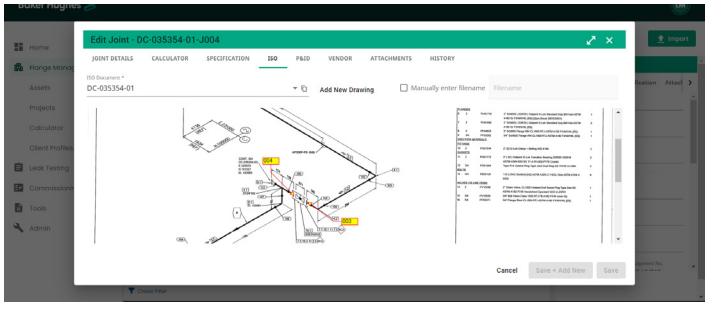
Tagging and completions

- Automatic barcode processing of completion documentation and flange tags to aid in compliance and accuracy, improving performance

Integrated services

- Integrated flange management and testing services with automatic notification and flow of documentation





The CENTRUM Integrity advantage

The CENTRUM Integrity platform integrates an entire suite of deeply researched calculators created by our internal subject matter experts and technical authorities to ensure an effective and highly optimized method of executing flange management and leak testing processes.

CENTRUM Integrity can manage all aspects of pre-engineering such as tightening work packs, inspection, and witness registers, as well as all testing interfaces, including hydro/pressure testing and N_2 leak testing. In addition, it can be extended to support specialist services such as draining, flushing, purging, and venting. Using either client specified procedures and figures or published industry standards such as ASME PCC-1, it can calculate torque and tension values to pre-determined and traceable engineering principles.

The CENTRUM Integrity advantage enhances your ability to make better informed engineering decisions.

Baker Hughes

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