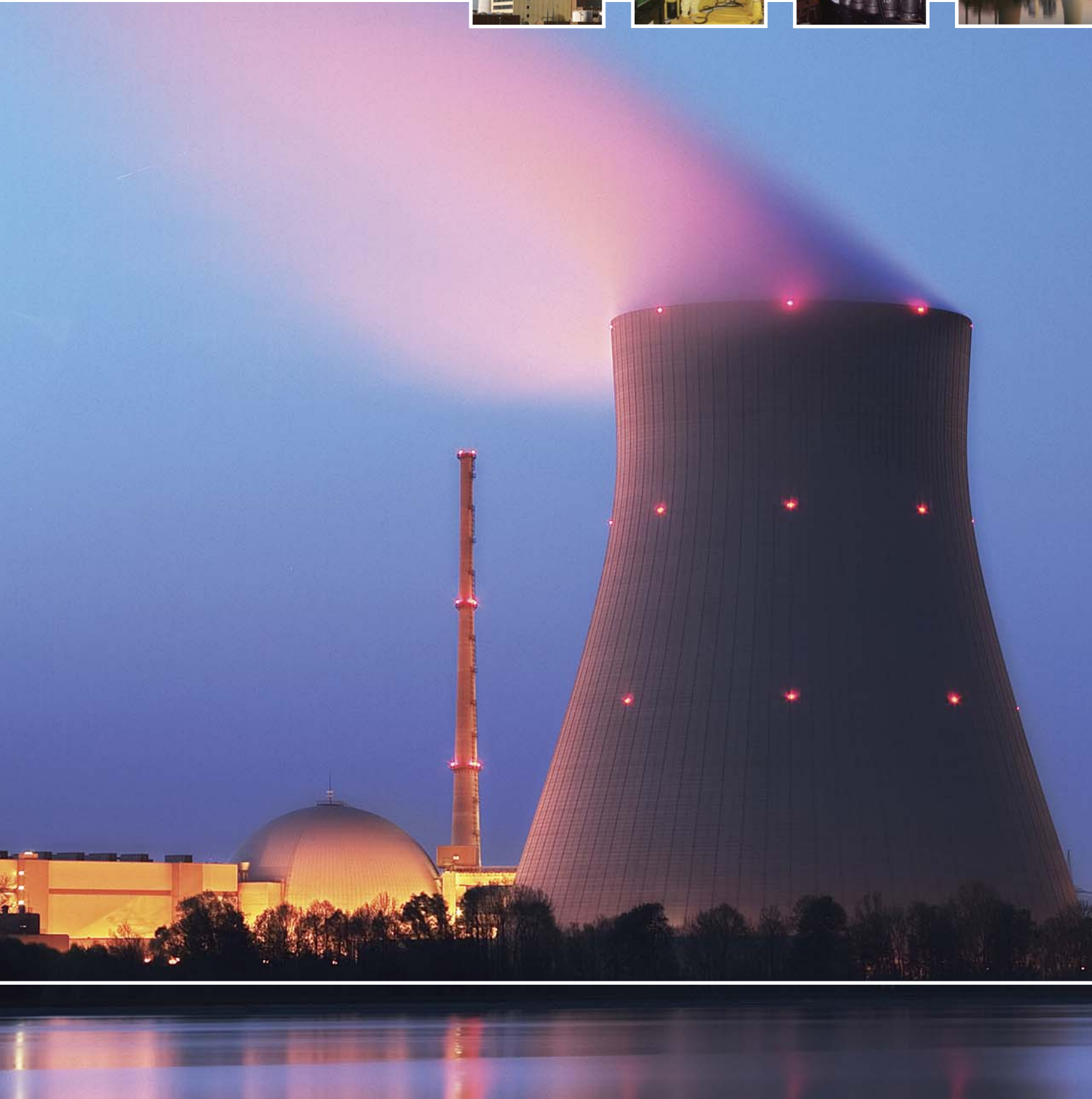


# **hydratight<sup>®</sup>**

**NUCLEAR POWER GENERATION**



# Who we are

## One Company, Total Support, Complete Solutions

Hydratight provides world-class bolted joint solutions and continues to set international standards in joint integrity for its customers on a global scale.

### One Company

For over 30 years, Hydratight has provided high quality bolted joint solutions and machining services to the power generation, oil and gas, industrial and aero industries.

Today, the breadth and depth of our product and service offering is unrivaled in our specialist field. Through our ability to innovate technology that makes connections safe, efficient and environmentally friendly, Hydratight sets international standards in joint integrity, providing trusted solutions to customers on a global scale.

Hydratight works in partnership with the world's leading OEMs using the latest computer technology and market leading development facilities. We continue to push back the boundaries of technology to provide fast, accurate and reliable solutions to critical assembly problems.

Our people are the key to our success: qualified, competent and innovative people, working closely with our customers to ensure a total understanding of their requirements.

### One Company - Total Support

Totally committed to safety and quality, all Hydratight products and services are designed, manufactured and carried out within a management system in accordance with:

- ISO 9001: 2008 (Quality Management)
- ISO 14001: 2004 (Environmental Management)
- OHSAS 18001:2007 (Occupational Health and Safety)

### One Company - Total Support - Complete Solutions

Hydratight's extensive bolting and machining services include:

- Torque and tension bolting equipment
- Portable machining equipment
- Product sales, rental and technical support
- Product service and training
- Custom design and production of tools



INVESTOR IN PEOPLE

## What makes us different

### One Company - A Multitude of Solutions

Hydratight has acquired several brands that have earned leadership status in service to the nuclear industry. The most recent to join is nuclear tensioning specialist Biach Industries with its credentials of having been in use in over 90% of US nuclear facilities. Our DL Ricci brand of machining and heat treating tools and our MST systems have also gained wide nuclear industry credibility as leaders. Below are examples of how Hydratight has led the way in meeting the needs of nuclear plant facilities.



#### **Biach reactor pressure vessel tensioning systems**

Reactor Pressure Vessels (RPV) are rarely opened but when they are speed, accuracy and safety are critical requirements. The Biach third generation RPV stud tensioning system delivers on all accounts with its self contained tensioner (SCT) system. Both the single and two stage design SCT delivers fast results with pressurization times of less than 45 seconds. The accuracy of the SCT is tremendous at +/- 15 psi at 10,000 psi maximum pressure. In addition, safety is enhanced using the SCT with minimized RAD exposure and a variety of safety features built in.

#### **DL Ricci MM180**

As a result of a request from a nuclear facility and in less than five months, our machining brand DL Ricci built, tested and delivered the world's largest OD mounted clamshell for use on cutting and prepping a giant steam generator. The MM180 is massive with a 180" diameter, but also flexible for quick adjustments between cutting, beveling, counter boring, align boring and flange facing. 72 of the patented DL Ricci precision ground bearings support the machine with 28 locator pads offering concentricity adjustments.

#### **Multi-Stud Tensioning (MST) systems**

Hydratight's MST systems are capable of simultaneously tensioning every single stud in a joint. By designing the MST in segments, the operator is able to quickly and easily connect each segment to the joint and link them together to provide same time loading. The MST provides a very accurate and fast closure system with applications on pumps, valves and steam generators.

## ***Biach - Nuclear Engineering Excellence***

Hydratight's latest acquisition Biach Industries has been an innovator in custom designed tensioning solutions for the past six decades, including delivering one of the world's first tensioning systems. Biach became part of Hydratight in 2010, bringing together the expertise of these two industry leaders.

### **RPV Performance Improvement**

Biach has helped many nuclear reactor facilities improve their RPV stud tensioning times; providing new systems with new technology, upgrading older designs and providing technical support during outages.

Often organizations consult Biach to help them 'shorten programs by another 15 minutes'. Biach helped many sites achieve dramatic improvements in tensioning times under two hours and has helped sites reduce their maintenance costs by incorporating 10 year seals in its new equipment. In particular, the Browns Ferry site contacted Biach with a view to shortening its tensioning time, which typically required a two shift operation. By using the new QD-H tensioner, Biach helped Browns Ferry reduce their tensioning time to just two hours.

### **Biach Owners Group Workshop**

For over 12 years, Biach has held an owners group workshop focusing on RPV head closure issues. Utilities from around the world participate and benefit from shared experiences, discussions with industry colleagues and Biach's best practice expertise. As an active participant in over 30 outages per year Biach facilitates program outages and works with each site to develop the plan that's best for them and within their budgetary guidelines.

The Biach nuclear line-up includes a variety of tools capable of being customized for virtually any nuclear facility. For critical nuclear applications the Biach brand is a trusted name in stud tensioning technology.



#### **Reactor pressure vessel tensioning systems**

The Biach Self-Contained Tensioner (SCT) for Reactor Pressure Vessels (RPV) is used to tighten the large and important nuts that hold the reactor pressure vessel closure heads. The SCT Tensioner incorporates all of the innovations and safety features found in the QD and QDH designs and uses the latest technology to gain further critical path time savings and reductions in man-rem exposure.



#### **Electric Stud Drive Tool (ESDT)**

The ESDT safely threads studs in and out of nuclear reactor pressure vessels. This versatile stud drive tool reduces operating time with average cycle time to safely thread studs in and out of nuclear RPV pressure vessels to under four minutes. Smooth, quiet and weightless this unique stud drive tool is easy to handle, easy to position and safe to operate by a single technician in under four minutes per stud. It is the only tool of its kind on the market equipped with both load and torque compensation.



#### **Stud Elongation Measuring System (SEMS III)**

SEMS III records and downloads accurate measurements of stud movement. It utilizes the mechanical elements of the SEMS HC, along with this new data acquisition and management element. Actual measurements are attained through the SEMS HC's dedicated pod design to mate with a site's RPV stud and measuring rod and the digital depth micrometer which provides the readings. The data acquisition element simply plugs into the dial indicator component for downloading readings.



#### **Electric Pumping System (EPN Pump)**

This new electric/hydraulic pumping system offers greatly increased hydraulic flow rate, along with improved accuracy through a closed loop pressure circuit. The result is faster tensioner operation and more repeatable loading from series to series of studs, leading to "trim pass" reduction. The removable control console offers remote operation and digital pressure input is via a touch screen panel, including closed-loop circuitry for constant monitoring.

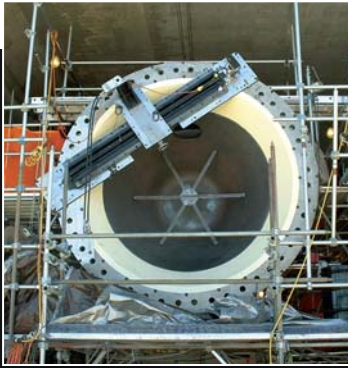


#### **Custom Engineering Systems**

Hydratight's latest acquisition Biach has specialized in addressing difficult projects that demand accurate loads within tight space envelopes, while also seeking ease of operation and performance. Since 1955, Biach engineers have worked with companies from around the world to produce the right tooling for their jobs. Now part of Hydratight Biach's technicians can address your unique application needs with the right equipment, built by engineers experienced in custom designed solutions.

# Expert Machining and Extensive Services

Hydratight's machining brand DL Ricci is a world leader in the design and manufacture of portable on-site machining and heat treating equipment, offering unique and innovative machines and boasting over 24 patents. From sales and rental to technical support and customized solutions, Hydratight's expertise in the nuclear market is unrivaled; our DL Ricci machines have been used in over 200 commercial nuclear asset outages.



## Portable Machining Solutions

Since 1993, Hydratight's DL Ricci brand has offered a comprehensive range of portable machining solutions for sale or rental, including pipe cutting, end prep machines, grinders, milling machines, keyway cutters, chipless cutters, remote controlled machinery, overlay sanders, journal turning, flange facing and boring bars. Hydratight also owns the largest rental inventory of portable machining equipment and tooling in the world.



## MM180 Clamshell

Hydratight's MM180 is the world's largest gear driven clamshell lathe. This exceptional tool is used during RSG projects for cutting and machining as well as weld end prep, flange facing and vessel segmentation for any large vessel.

## Pipe Cutting and End Preparation

Hydratight's range of clamshells features a patented bearing design. Choose from five different models to service piping from 0.5" – 110" thick. With the adaptation of the low profile tool block slide, these machines can now be used on pipe locations previously thought impossible.



## geniSYS 220 Portable CNC Milling Machine

Hydratight is an innovative engineering driven company and this shows in the addition of geniSYS which is a complex 3D milling and threading machine. Able to offer large diameter boring and highly accurate threading in one set-up is a technological breakthrough. geniSYS gives the nuclear industry new solutions to problems faced by tapping and threading of large bores with safe, accurate machining.



## Heat Treating

Hydratight now includes a complete range of resistance and induction heat treating products and our heat treating team are trained to meet the most demanding work scope. During planned or unplanned outages we are ready to deliver in place heat treating services to your job site.

# Innovative products, endless applications

Our range of specialist equipment and technical support will not only save you time and money, but also improve safety, address ALARA concerns and help raise reliability for your plant.



## RSL™ Hydraulic Torque Wrench

Hydratight's RSL™ hydraulic torque wrenches provide a comprehensive range of interchangeable hexagon and square drive heads, ideal when working on a variety of nut sizes on one or more applications.

- Minimum maintenance; only three moving parts
- Safe and durable
- Compact and lightweight
- Fast and versatile



## Manway Handling System

Hydratight's Manway Handling System offers safe, efficient and effective manipulation for the primary and secondary manway covers. Hydratight offers two distinctly different methods for manway manipulation – hydraulic systems or portable cable and winch systems. Each option is designed to suit the specific application and is engineered to comply with ALARA objectives.



## Training

Hydratight was founded on a culture devoted to safety. As a designer and manufacturer of high quality joint-integrity products, the safe and correct use of this equipment remains of prime importance in ensuring our 'right first time' philosophy.

Hydratight's global training division leads the way in offering certified accredited training programs in the safe and correct use of hydraulic torque and bolt tensioning equipment, and is accredited by the Engineering Construction Industry Training Board (ECITB) and City & Guilds to deliver training programs that meet the needs of our clients.



For more information on our training and product familiarization courses email [training@hydratight.com](mailto:training@hydratight.com)

# hydratight®

*Global Standards Local Delivery*

Our global network means you can rely on the right people, products and services wherever you are in the world.

Email us at: [solutions@hydratight.com](mailto:solutions@hydratight.com)

Or find your local representative at:

[hydratight.com/contact](http://hydratight.com/contact)

