

# Safety and Service Solutions

TARGET ZERO INITIATIVE — Each and Every Day

*Proper maintenance is essential for achieving the full potential, performance and safe operation of your plant. Babcock & Wilcox Renewable (B&W) offers a wide range of technology and service solutions that can improve safety and simplify maintenance while helping to reduce downtime and save money.*



## Target Zero Safety Program

At B&W we value the health and safety of each employee and will never be satisfied until the workplace is free of accidents and injuries.

Target Zero is a program that reflects B&W's commitment to the overall safety of each employee. We are dedicated to preventing accidents and their associated costs by averting, eliminating or mitigating unsafe acts and conditions.

Rather than just reacting to incidents and correcting contributing factors, our objective is to be proactive and prevent accidents from occurring. One way we do that is by designing, developing and utilizing innovative tools and resources to improve safety for all plant personnel—whether on the job site during construction or maintenance operations or during normal plant operation.

## Continuous Improvement



B&W pursues health and safety improvements leading to high-quality performance demonstrated through objective metrics and process reviews. Managers, supervisors, employees, subcontractors, suppliers and customers work together to practice and promote proper work habits, utilize the proper safety tools and resources, develop positive attitudes, use good judgment and comply with applicable health and safety requirements.

## Tools and Resources for Improved Safety

Innovations that have been developed by B&W Renewable which focus on improvement in safety and performance include our service and rescue hatch and flexible service deck. In addition, we always seek to utilize tools and resources which provide effective and safe execution of operational and maintenance activities. Read more in the pages that follow.

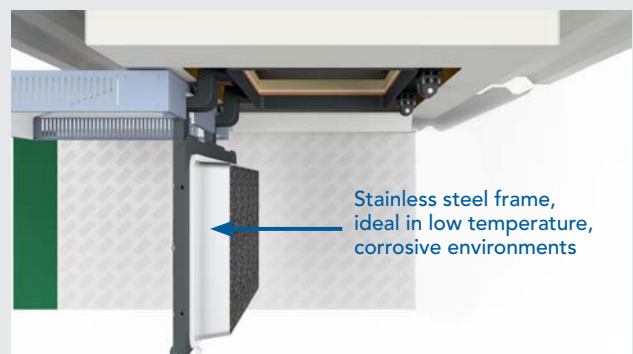
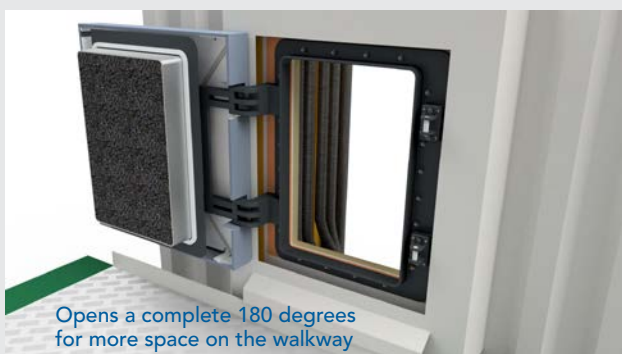
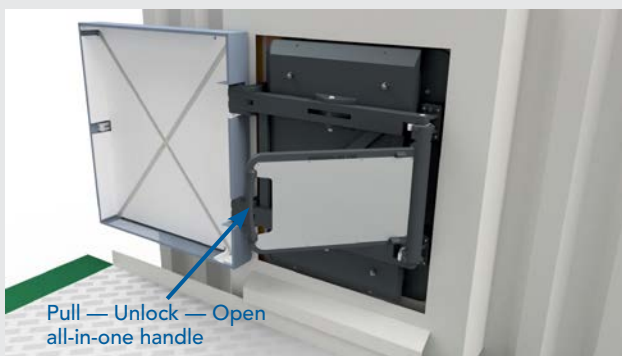
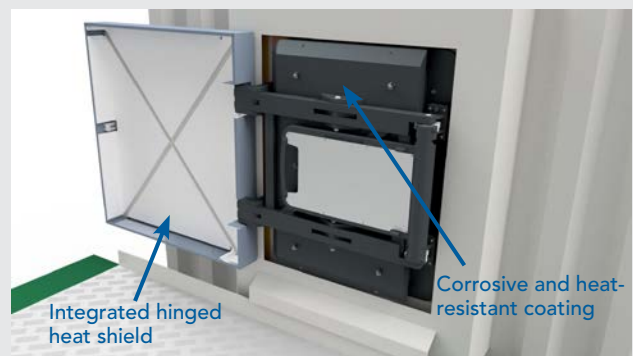
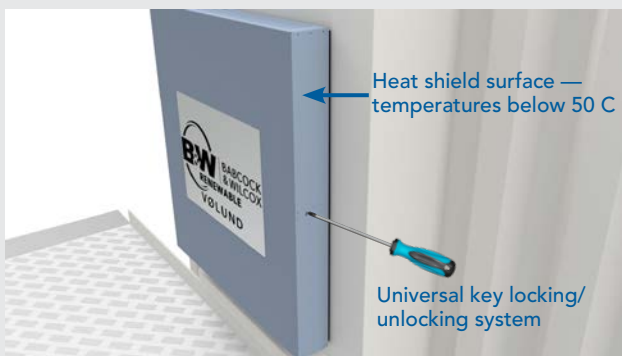
## Service and Rescue Hatch

The all-in-one service and rescue hatch features safer, easier and larger access to inside the boiler, providing plant owners and operators with numerous benefits.



## FEATURES AND BENEFITS

- All-in-one inspection and rescue hatch
- Larger opening (610 x 900 mm) makes handling of injured personnel inside the boiler safer and faster
- More comfortable passage in and out
- Easier access for personnel working inside the boiler (scaffolders, cleaners, welders, etc.)
- Allows access for larger components and replacement parts
- Rotatable design allows hinging on either side to take advantage of available space outside the boiler
- Universal key locking system provides added level of safety while being quick and easy to open



## Flexible Service Deck

With our service deck mounted in the first boiler pass, your plant will get a unique solution that serves several purposes with these benefits:

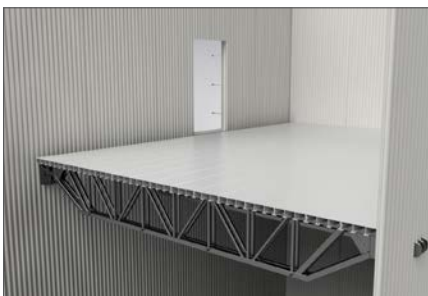
- Provides a lightweight scaffold for inspections and repairs of the first boiler pass, reducing scaffolding costs
- Provides a safety separation between the first boiler pass and the furnace and allows work to be performed on the grate and in the first pass at the same time. This helps save maintenance time.
- Improves access to the boiler
- Helps to reduce construction noise between the boiler and furnace
- Installment of the service deck takes into account the most effective accessibilities as well as the optimal value of use in relation to maintenance during downtime
- Makes it possible to avoid the use of scaffolding on the grate, which allows inspection and maintenance work on the grate without interference
- Improves the working environment during maintenance as the service deck can be made air tight



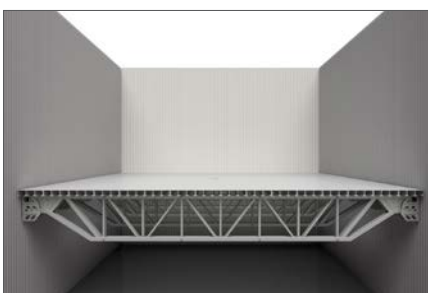
Boiler with service deck and scaffolding.



Service platform supports



*The service deck provides easy access to the boiler via an installed door. The size of the door can be adjusted based on available space.*



*The service deck is mounted in the boiler which means that scaffolding on the grate is no longer necessary. Extruded aluminum profiles support the deck and can be more easily customized to fit the size needed compared to ordinary scaffolds.*

Adheres to DS/EN 12811 Load class 4, and DS/EN 1993-1

# Flexible Hoist Arm

For certain applications, the B&W Renewable Service team utilizes an innovative and flexible hoist arm that allows an operator to carry up to 500 kg and freely move the payload through gaps and openings, around corners and obstacles.

With this portable and mobile lifting tool, manual handling operations can be avoided in applications and situations where no conventional lifting beam or crane can operate due to limitations of space.

Installation is fast and easy, requiring only minimal operator training. If the tool is permanently installed, it can be stored along a wall or coiled up around itself to avoid taking up space when idle.



A recent application of the innovative hoist arm allowed our Renewable Service team to complete a complex grate rebuild in significantly less time than what would have been required with manual lifting. The project was completed ahead of schedule, under budget, and with zero safety incidents.

## For the operator

- Increased safety for operators
- Easy and fast installation and dismantling
- Simplified lifting plans
- Ergonomically improved working environment

## For the supervisor

- Increased safety for supervisors
- Less time spent on lifting operations
- Minimal and simple training of personnel

## For management

- Significantly improved and safer working environment for all staff
- Increased efficiency in lifting operations
- The same lifting equipment can be used in various applications, thus minimizing the need for alternative solutions on site



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RENEWABLE | ENVIRONMENTAL | THERMAL

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