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www.cochran.co.uk

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Introduction

For almost one hundred and fifty years, Cochran has been at the forefront of innovation in industrial boiler, steam and hot water generating plant, equipment and services. That unrivalled experience means that when you choose us, you are selecting a lifelong solution for your energy needs.

Around the globe the Cochran brand is synonymous with quality, dependability and durability. Products are supported by over fifty engineers in the UK and a network of carefully selected, highly trained Agents around the world.

We can service and maintain your boiler plant, deliver training to help your operators and supply spare parts as required. However, we can also recommend and carry out upgrades to your existing boiler plant to improve efficiency, reduce operating costs and reduce emissions.

Cochran products are normally constructed to UK/EU standards, but the Company also maintains ASME S and U standards, Chinese and Russian accreditation. We hold ISO 9001:2015 and are an active member of all relevant trade bodies.

Every boiler is carefully inspected by a third party insurance inspector, ensuring that it meets stringent quality standards before it leaves the factory.

Cochran boilers are designed to last, but during the lifetime of a boiler, there will be changes to legislation, advances in technology and changes to operational requirements. We're here to help you to make the most of your boiler plant throughout the whole product life cycle.

With experienced engineers and an extensive stock of spare parts, our Product Life Cycle Support service is available for all major boiler brands and model types of any age.

Cochran will help you save money, improve reliability and comply with the law.



























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Technical Risk Assessment



The demands of legislation, industry guidance and the technology of industrial steam and hot water generation are constantly evolving so Cochran will work with you to ensure that your boiler always meets the latest requirements. We undertake a review of your boilerhouse system, which identifies valuable opportunities to improve safety, efficiency, reliability and ultimately the productivity of your boiler plant.

Cochran's extensive expertise and experience, in meeting legislation and industry approved codes of practice, enables us to provide authoritative support and guidance to customers as part of our competitively priced 'Boilerhouse Technical Risk Assessment' service.

The Cochran approach is to provide mentoring and support. We use in-depth knowledge to provide site-specific advice, coaching customers through the process, maximising the 'buyin' and understanding of boiler operators.

In developing the plan, a logical approach is taken to assessing all the key components of the boilerhouse system. Combining the latest legislative requirements and industry guidance with practical experience, Cochran will identify potential risks and areas of improvement appropriate to each

Technical Risk Assessments cover six key areas:

- Safety: What areas are of concern? How could site safety be improved?
- Legislation and Best Practice: Is the plant compliant with the latest legal requirements? What advances in boilerhouse best practice are applicable to the site?
- Automation and Controls: Are the controls in the boilerhouse delivering the best results? Can the installation of the latest controls or use of automation improve efficiency and even reduce labour costs?
- Efficiency: How can plant efficiency be improved? Is the potential solution cost effective?
- Reliability and Resilience: What plans are in place to extend the operational life of the plant, reduce incidence of equipment failure and mitigate the impact of plant breakdowns?
- Training and Operation: Can competency of supervisors and operators be demonstrated? Adequate Training will assist in demonstrating competency. Properly trained operators and managers often achieve significant improvements in operational safety and fuel efficiency and can prolong the working life of the plant.

Solution Delivery

Once Cochran has completed and delivered its assessment, the Company has the expertise, equipment and personnel to deliver a bespoke solution that will effectively match the recommendations of the assessment.

Boilerhouse Log Book

One area which a Risk Assessment will regularly identify as a shortcoming, is the lack of adequate record keeping of events and routine boilerhouse tasks, checks and tests.

Long experience in conducting technical risk assessments, as well as in testing and maintaining boilerhouse equipment, has enabled Cochran to develop a Boilerhouse Log Book for owners, managers and operators of industrial boilers and associated plant.

Maintaining a consistent, accurate daily operational log of your boilers and burners is a statutory requirement in many countries. It also makes good maintenance and servicing sense and is absolutely essential for insurance purposes.

Drawing on unrivalled boiler know-how, Cochran's superb hardbound Boilerhouse Log Book sets a new benchmark in compliance, information and usability.

Boilerhouse Training

The Boiler Training Pathway

Introduction to Steam Boilers

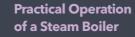
Entry level boiler training especially formulated for people who are new to steam boilers and systems.

and Steam Systems

and Safety Awareness

For people who work under a BOAS accredited colleague, or for those who need to develop their knowledge and experience in preparation for undertaking BOAS training.





Training to gain greater understanding of practical boilerhouse operation, or as a refresher on current best practice.

Learn about operational activities, checks, tests and record keeping that need to be carried out to maintain a safe and efficient boilerhouse.





BOAS training has been developed to provide a comprehensive fully CEA-accredited course for experienced boilerhouse operators and managers. The in-depth five day training, which must be renewed every five years, results in candidates attaining the internationally recognised accreditations, Cert IBO or Dip.BOM.

Correct operation and regular routine maintenance ensures that your boiler plant remains at peak efficiency, with minimal downtime, keeping your running costs as low as possible, while ensuring that you meet your health and safety obligations. This can be achieved by developing the skills and awareness of your boilerhouse and plant operation and maintenance staff. Cochran has a long record of accomplishment and a global reputation for the delivery of premium boiler operation courses, regardless of the make of boiler and associated equipment.

The Boiler Training Pathway

The Health and Safety Executive recognises personnel with a BOAS qualification as having achieved competence as boiler operators and/or managers, so we encourage all companies to train their staff to that level where possible. Depending on a person's previous training and experience, we may recommend some or all of the courses in the training pathway in order to prepare them for the accredited BOAS course.

Other Courses

We also offer a range of related training courses such as Boilerhouse Risk Assessment, Boilerhouse Water Treatment, Design of Steam and Condensate Systems and I-GAS. For full details of all courses, who should attend, available dates, current pricing and a booking form, please visit the training pages on our website www.cochran.co.uk/training.









Cochran's Training Courses are accompanied by comprehensive, high quality, full colour notes that combine extensive notes on operation and maintenance with all the relevant legal requirements. They form an invaluable reference source for years to come.

Benefits of Cochran Training

- Efficiency: A drop of just 0.5% boiler efficiency could cost thousands of pounds in excess fuel usage, but a Cochran trained boiler operator is taught how to keep the boiler running at peak performance.
- Safety: The HSE and Insurance Companies require proof of competence through BOAS qualification, which is the only accreditation officially recognised by these bodies. You must ensure that those responsible for day-to-day boiler operation, or overall management, have been trained to be fully conversant with the risks, safe procedures and best practice in the boilerhouse.
- Environmental: Ensure that you comply with current legislation by training your personnel in the correct procedures to minimise emissions
- Morale & Motivation: Well trained staff not only delivery better results through operational efficiency, but operators who feel valued have higher morale and are better motivated workers.

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Servicing & Maintenance



Service Contracts

A Cochran Service Contract is designed to protect your capital equipment, maintain optimum levels of boiler reliability and maximum efficiency. Well-maintained and welloperated boilers are proven to be more efficient, safer, produce fewer emissions and minimise downtime. The Cochran approach is to provide a tailored service contract package to compliment and support a customer's site

A survey by a Cochran expert will identify the ideal service regime to maintain your plant at optimal levels and to identify any key areas of risk to the commercial operation. They will develop proposals to mitigate the risk of any potential downtime.

The new MCPD legislation calls for all plant emissions to be tested and recorded to satisfy local authority inspections. Under the Medium Combustion Plant Directive, your service records can only be used as proof of compliance if they are completed by a company with ISO 9001 accreditation. We have operated under Lloyds ISO 9001 for over twenty years. All service contracts include full emergency 24/7 breakdown cover, backed up by the UK's largest direct network of fieldbased service engineers and direct technical support.

Statutory Inspections

Annual Insurance and NDT preparation: We carry out boiler preparation to allow insurance company inspection, reassemble the boiler and get it up and running again. All works are carried out to the highest standard,

If the inspection reveals structural problems in the boiler shell, tubes or furnace, we can undertake all necessary repairs.

Chemical Descale

Cochran provides a range of highly effective, minimally invasive, chemical cleaning solutions for the removal of the scale that can seriously impact your boiler's safety and efficiency. We have developed a highly effective chemical

Chemical descaling is a non-invasive cleaning technique, which is the best way to free your boiler from scale; maximising efficiency and prolonging its operational life.

Reactive Support

Our breakdown cover draws on the UK's largest direct network of field-based service engineers, with capability to support all major brands of boiler, combustion equipment and boiler control systems. It is fully supported by comprehensive in-house engineering capability, so we can get your boiler plant back online as quickly as possible.

We stock the largest selection of genuine OEM spare parts, boiler tubes and plates. We also have a fleet of hire boilers, enabling us to minimise any downtime and subsequent production losses

As the leading UK boiler OEM, we can deploy our inhouse design and manufacturing capability to asses and undertake boiler repairs to the highest standards. These range from 'D-Patch' repairs, boiler retubes and welding repairs to the most complex specialist repairs beyond the capabilities of most local providers.

Benefits of Cochran Servicing & Maintenance

All repairs are conducted in accordance with the same strict quality control requirements and original manufacturing techniques to ensure the satisfaction of the Insurance Surveying Body.

- Tailored: Cochran develops a dedicated maintenance plan to match specific plant and operational requirements.
- Efficiency & Reliability: Regular testing and maintenance helps to ensure that your plant runs as efficiently and cost effectively as possible.
- Environmental & Legal Compliance: Our expert service engineers will ensure plant is compliant with the latest emissions requirements, avoiding potentially heavy fines.
- Priority Response: Our Service Contract customers are always at the top of the list when it comes to emergency repairs - reducing downtime and the heavy cost of production losses that can be associated.





















Product Life Cycle Support

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Spare Parts



Cochran supply all the parts, equipment and consumables needed to optimise the efficiency and working life of your steam and hot water plant. Our dedicated spares experts have the experience and knowledge to advise you and can supply all the parts you need rapidly and cost-effectively.

Parts for a long list of OEMs are held in stock, including: Autoflame; Gestra; Hamworthy; Hopkinson; Saacke; Nu-Way; Spirax-Sarco; and Siemens. Cochran holds over 900 items in stock at its Newbie HQ, as well as having stores across the UK and located at its international and regional agents around the world. Items stocked range from pumps and valves to blowdown vessels and burners, as well as small parts such as gaskets. Everything can be dispatched rapidly and worldwide.

In addition to the complete range of current and past Cochran boilers, we also supply components for other makes of industrial boiler, including: Beel; Wellman Robey; Hoval; Byworth; and Bosche.

cochran.co.uk/spares

To minimise downtime, we recommend that you hold a set of emergency spare parts in stock. We will develop a specifically tailored list of essentials that you can hold on site for emergency breakdown situations.

UK Online Spares

The spares area of our website offers UK customers direct online access to our one stop boilerhouse shop, enabling quick, easy ordering 24/7, backed up by Cochran's rapid dispatch service.

Spares Catalogue

In addition to the extensive spares area on our website, we also publish a comprehensive FREE spares catalogue covering a vast range of spares and consumables.

Simply call +44(0) 1461 202 111 for your copy.

Permanently held in stock:

- Autoflame systems and components.
- Blowdown vessels.
- Boiler plates and tubes.
- Combustion Control Systems.
- Complete burner units and all related spare parts.
- Feed pumps and fuel pumps.
- Gas analysis and combustion trim systems.
- Monitoring and communication packages.
- Siemens; Cochran is a Siemens Solution Partner.
- Small parts, such as valves, gauge glasses and seals.
- Variable speed motor packages.
- Water level and TDS control systems.

SIEMENS

Building Technologies

Partner

Benefits of the Cochran Spares Service

We can reduce costly downtime when a breakdown occurs.

- Comprehensive: Cochran provide a complete parts service covering all major boilermakers and ancillary boilerhouse products.
- Knowledgable: Our expert team have the experience and knowledge to advise you on specialist parts and solutions for replacing obsolete items.
- Rapid: Our huge stockholding and 24/7 service means most common parts are delivered within 24 hours, with special items usually in your hands within 48 hours.
- OEM Supplier: Cochran is an official agent for all the key industrial boiler and ancillary equipment parts manufacturers and is a Siemens Solution Partner.
- Service Support: We're not just a spares shop. We can provide engineering staff to fit parts on-site. Extensive in-house fabrication capability also enables us to manufacture and fit replacement parts and patches.

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Boiler Hire



Flexibility

Hiring is a quick, simple and cost-effective solution that combines a wide range of solutions with flexible terms. A short-term weekly or monthly hire is ideally suited to meet the needs of system downtime resulting from statutory inspections, upgrades and repairs. Hiring is also an excellent solution to high load periods, short-term projects requiring additional capacity, or interim boiler cover during the development and installation of new boilers.

Long-Term Leasing

Cochran can provide units on longer lease terms, which is ideal for situations where short-term capital expenditure is an issue. Leasing combines Cochran's industry-leading efficiency and reliability with financial simplicity, making it an excellent choice for temporary sites and emergent businesses.

Quick and simple

Supplied in a quickly installed containerised or trailer-mounted form, or as part of a purpose built temporary boilerhouse for larger units, hired Cochran Boilers include delivery and installation. Each unit comes complete with steam hoses, connectors and pipework, blowdown vessels, water treatment, fuel tanks and chimney/flue sections required for operation. All you need to supply is water, electricity and fuel.

Full Support

Where required, we can embed operational staff during the hire period, or can provide dedicated training support to ensure the system is operated at optimal efficiency levels.

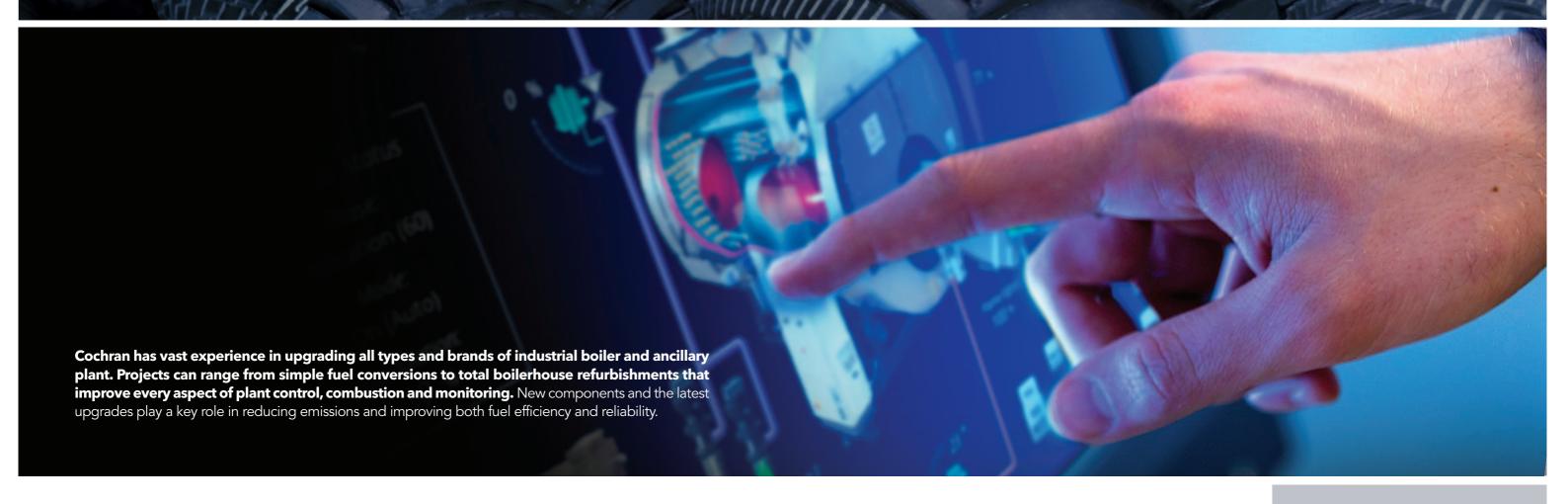
All equipment can be backed up by the full Cochran product support, service and breakdown cover package.

Benefits of Hiring a Boiler from Cochran

- Removes the need for large capital equipment expenditure: Flexible short, temporary or long term hire and lease options to meet tidal requirements, testing, repair and upgrade outages. The latest world-renowned Cochran boilers in a range of capacities, covering a broad spectrum of outputs.
- Rapid: A full site installation and commissioning service is included in the hire costs. Solutions include trailer-mounted and containerised boilers and long-term, high-volume, static options. Temporary boilerhouses can be installed for larger capacity applications.
- Complete Package: All combustion equipment, hoses and ancillary equipment are included in the package. Water softening treatment and chemical dosing packages are available as both stand-alone rentals and as comprehensive heat and power packages. In addition, we provide pressure reducing sets, additional pipework, blowdown vessels, fuel tanks and chimney and/or flue sections where required.
- UK Product Support: Boiler operating personnel are available. Alternatively, on-site operator training can be provided by Cochran's respected Training Team. Full back-up support comes from our national UK service team, including 24/7 support. Our comprehensive spares stockholding ensures rapid problem solving.

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Upgrades, Automation, Safety & Control



Boilerhouse Upgrades

- Boilerhouse Assessment: We undertake an in-depth assessment, providing fully costed recommendations matched to likely, often impressively short, payback periods.
- Combustion Equipment: Modern burners are far more efficient than those of even the recent past. We can supply and fit new burners that cut energy costs and significantly lower emissions.
- Fuel Conversion: Burner and fuel system replacement to utilise a cheaper, cleaner and more efficient fuel, or to deliver the flexibility of dual fuel firing options.
- Heat Recovery: Economisers utilise the boiler's exhaust gases to preheat feedwater. Retrofitting an Economiser to an existing boiler can improve efficiency by 5%, typically paying for itself in just twelve months.

Automation, Safety and Control

- Enhanced Boiler Control: Cochran's advanced boiler management systems; Eclipse for standard boilers and Synergy for more complex applications; provide touch screen and remote monitoring of all your boilerhouse plant, improving efficiency and reliability and even reducing the need for costly full-time operating staff.
- Legacy Support: Bespoke solutions to support and extend the lifespan of your existing plant, applying the latest developments and equipment.
- Reduced Manning: Self-monitoring, high integrity safety control systems reduce your manning requirements.

 Cochran provide bespoke safety control upgrade packages for existing equipment to satisfy the latest Health & Safety guidance to suit your desired mode of operation, in accordance with BG01.
- Operator Provision: In addition to delivering excellent operator training, we can also provide experienced operators. These fully qualified staff are frequently supplied in support of new installations and boiler hires.

Burner Upgrades

Natural wear and tear, tough operating conditions and irregular maintenance can all take their toll on your plant. Since boiler shells normally outlast the rest of the boiler, it makes sense to take advantage of the latest improvements in technology and efficiency in the middle years of its operational life. These new components can increase fuel efficiency, improve reliability, reduce emissions and even reduce the manning levels required.

Conversion to gas, diesel or dual fuel firing from traditional heavy oil can deliver significant cost and emissions reductions and reduce maintenance requirements. It also simplifies fuel handling and improves boiler control and reliability.

- Suitable for firing oil or gaseous fuels, or for dual oil/gas firing, providing maximum flexibility.
- Ideal for a broad spectrum of furnace applications, including kilns and dryers, as well as a wide variety of industrial steam and hot water boiler brands.
- Unique combustion head which delivers efficient fuel combustion and low NO_x emissions throughout the firing range.
- Fully modulating options available throughout the range on all fuel types and combinations. Digital combustion systems can be incorporated.
- Option to add direct drive to all fuel and air valves via independent servo motors.

Benefits of Upgrades from Cochran:

- Increased Efficiency, Reduced Fuel Costs and Lower Emissions: Modern advances deliver impressive reductions in fuel consumption and marked increases in overall efficiency. This helps deliver substantial savings in operating costs, as well as significantly lower emissions.
- Improved Control: The latest upgrades offer much improved controllability, particularly in association with the latest in boilerhouse management systems.
- Greater Reliability, Reduced Maintenance and Extended Operational Life: Greater reliability has been matched with a reduced need for maintenance, whilst the operational life of equipment is also much improved.
- Simpler Fuel Handling: Use of modern gas firing and better oil systems have contributed to much simplified fuel handling systems.

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Economisers & Heat Recovery



The use of an economiser can greatly reduce fuel consumption by utilising boiler flue gases to heat water for process services or to preheat boiler feedwater. Cochran design and manufacture economiser systems complete with all associated equipment to raise feed or returns water from a heating system.

Heat Recovery boilers utilise exhaust gases or industrial process heat to provide an energy source for generating 'free' hot water or steam. They often feature an additional furnace to provide a backup energy source.

Reduce fuel consumption, reduce emissions, save money

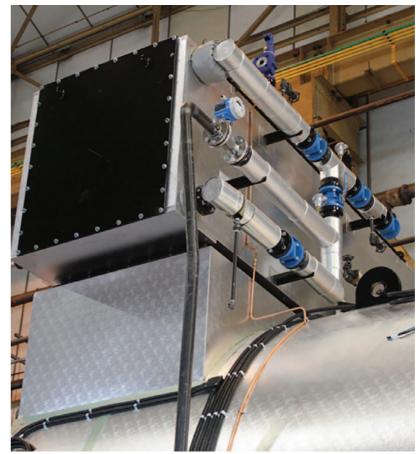
Cochran's compact economiser units transfer the heat held in the boiler's exhaust gases into the feed water before it enters the boiler, thus increasing the boiler's overall thermal efficiency. Improving thermal efficiency reduces fuel use, resulting in significant cost savings and reduced emissions. In fact, the capital cost of fitting a Cochran economiser is usually recovered within twelve months.

Whilst they are normally fitted to natural gas fired boilers, specially designed units may also be fitted to liquid fuelled boilers. Each unit is supplied with all the associated equipment required.

New and Existing Installations

Our economiser units can be supplied to fit any make and model of boiler, new or old. Each unit is supplied with all necessary valves and gauges. The economiser's controls are interlinked with the boiler feedwater's regulating valve to ensure a flow of water through the economiser at all times.

Whether boiler-mounted or installed in a standalone format, every Cochran economiser is lagged and clad to maximise efficiency. Ideally, economiser units should use a vertical gas flow. If site conditions require a horizontal gas flow, additional vent and drain connections are fitted.



Benefits of Cochran Economisers

- Environmental: An economiser substantially reduces overall emissions and consumption of global resources.
- Cost Savings: Our economiser will reduce a boiler's overall fuel consumption by more than 6%.
- Flexibility: Units can be constructed to suit the geometry of the site and can be fitted to suitable heat sources.
- Retrofit: Whilst today almost every Cochran boiler is supplied with an economiser already in place, we design, build and retrofit units to fit every make of boiler, no matter how old it is.
- Maintenance: Our economisers have ease of maintenance and reliability designed-in.
- Efficiency: Every Cochran economiser delivers an increase of 5% in efficiency, increasing to 6% at turndown.

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Ancillary Systems



Blowdown Vessels

Collecting and cooling discharged water during blowdown events, blowdown vessels play a key role in ensuring the safe operation of your boilerhouse. They remove solids and sludge, protecting your boiler whilst ensuring any discharge to drain is controlled below the maximum permissible 43°C.

Cochran has a large range of stock blowdown vessels to cater for standard applications but we can also provide bespoke solutions where required.

Our Blowdown Vessels are CE Marked, as required by the pressure equipment directive (PED) and built to PD5500 CAT 3 to comply with BG03 / Annex D of EN12953-6 as may be required.

Hotwell Tanks

These control feedwater temperature, playing an important role in protecting the boiler from oxygen corrosion, reduced performance and thermal shock. Hotwell tanks also provide a receiver to collect condensate return from process.

We design and manufacture a range of hotwell tanks to suit a variety of applications. Every Cochran tank is fully welded and fabricated in stainless steel and includes a variety of connections and fittings to satisfy specific user requirements. They are fully lagged and clad and can be provided with a support structure and user access platform, as well as the full range of ancillaries, including level controls, steam injectors, valves and fittings.

Cochran also supplies a range of hybrid deaeration accessories which improve the flexibility and performance of existing atmospheric tanks, without the need for costly, fully pressurised deaerator plant.

Pressurised Deaerator Plant

An atmospheric hotwell can only partially remove oxygen and carbon dioxide from steam and condensate systems.

Introduction of a fully pressurised deaerator system will reduce dissolved oxygen to less than 0.02ppm, protecting your steam system against failures from corrosion and potentially extending its working life. In addition, it reduces the amount of treatment chemicals required, and increases the overall efficiency of your boiler.

We provide a range of pressurised deaerator plant, designed and manufactured in full accordance with PD5500 Category 3, or higher. Cochran's pressurised deaerator plant is provided in a fully packaged format and comes complete with all controls, fittings and access platforms required.

System Ancillaries

Cochran provide a comprehensive range of ancillaries for steam systems and boiler plant, these include:

- Blowdown Cooling Water Systems
- Blowdown Manifolds
- Dosing Pumps and Tanks
- Flash Vessels
- Flow Metering
- Heat Exchangers
- Pressure Reducing Valves
- Pressure Sustaining Valves
- Steam Injection Systems
- Steam Traps
- Vent Heads
- Water Softeners

Fuel Handling

We provide a wide range of fuel system ancillaries, covering a broad spectrum of applications, these include:

- Fire, gas and fume detection systems
- Fuel oil pumping, heating and filtration systems
- Fuel slam shut valves for both oil and gas systems
- Gas boosters and bearing assemblies
- Gas regulating valves

Installation Services

In addition to a comprehensive range of bespoke and off-the-shelf plant design and manufacturing products, Cochran also provide a complete installation service that ranges from small repairs and fitting jobs to large scale turnkey projects.

Drawing on our highly experienced Product Support Team and our extensive national network of Service Engineers, Cochran's installation service combines unrivalled knowledge with the extensive capability that only an OEM solution can provide.

For further info contact the Product Support Team on +44(0) 1461 202 111.

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