

2018 Training

Cochran's small classes and closer personal attention deliver an unbeatable **93% TRAINING PASS RATE** on BOAS courses. Meanwhile, the flexibility to deliver **boiler training anywhere you require**, can minimise the time crucial personnel spend off your premises and allows us to tailor the course to your boilerhouse and site.

BOAS Cat 2

Five Day 'Boiler Operation Accreditation Scheme' (BOAS) Cat 2 Steam Course, held at the Cochran Training Centre.

To book simply call Cochran 01461 202 111.

Developed in association with the Combustion Engineering Association, this course provides extensive knowledge of current legislative and environmental requirements. The Cochran course comprises a full programme of lectures and extensive training notes, followed by an examination. Upon passing the exam, delegates become 'Certified Industrial Boiler Operatives' and may use the 'Cert IBO' designation after their name.

■ Monday 23 to Friday 27 April

£1425+VAT Per Person

BOM-BC

Three Day 'Boiler Operation and Maintenance with Burner Combustion' (BOM-BC), held at BKL's Biggin Hill Centre.

Bookings should be made directly with BK Labtech, simply call Zenaida on 01959 578 849.

Cochran has teamed up with Autoflame/BK Labtech to now combine our popular BOM course with an intensive third day covering Autoflame's combustion control systems. The course is delivered at BK Labtech's state-of-the-art training facility, which is complete with a working Cochran boiler equipped with the latest Autoflame combustion and control equipment.

Primarily aimed at operators, maintenance staff, plant technicians and engineers, the course provides a thorough grounding in the day-to-day operation and maintenance of boilers, burners and auxiliary equipment. It also covers relevant Health and Safety issues, fault identification and emergency situations. The new third day covers burner combustion principles, fuel-air ratio control and maintaining load demand efficiently. The aim of the course is to ensure the plant is operated safely, efficiently and economically.

■ Tue 6 to Thu 8 February ■ Tue 1 to Thu 3 May

■ Tue 25 to Thu 27 September ■ Tue 27 to Thu 29 November

£850+VAT Per Person



The Gold Standard in Training Material

Cochran's revised training material is setting new standards in quality, legibility and compliance. We have long been recognised as offering THE benchmark in boiler training, but now our respected courses are matched with premium quality literature.

The extensive new course notes used on our popular one and two day courses feature an appendix, which includes complete copies of BG01: Guidance on Safe Operation of Boilers and PSSR: The Pressure Systems Safety Regulations 2000 for convenience. According to our Trainer, Bill Higgins, people are finding the first appendix item most interesting. In it we show the thirty two stages of boiler construction via exploded diagrams.

The CEA Boiler Operation Accreditation Scheme (BOAS) is a well-respected qualification for operators and managers. BOAS 'O' is designed for practicing boilerhouse operatives with a minimum of six months' (or 100 hours) of verified, practical experience. BOAS 'M' is for managers and operators of boilerhouses. We offer both courses and, where appropriate, will deliver a course for dual accreditation.

Already being termed 'the gold standard in training notes', the two hundred plus pages of ring bound BOAS course notes are an in-depth training support document, written to match the BOAS syllabus. The BOAS folder also features an appendix of useful information and legislation and a memory stick packed with extensive statutory information, including regional statutory variations.

The documents are both printed in full colour on high quality paper and are packed with highly detailed bespoke illustrations, information on safety, statutory requirements and best practice. Each will form an invaluable personal reference guide for candidates long after they have completed their course.




COCHRAN
Energy Solutions Worldwide

Energy magazine is published by Cochran Ltd:

Newbie Works, Annan, Scotland DG12 5QU.

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energy

The House Journal for the Clients and Staff of Cochran.

Winter 2017 / Issue #5

Inside this issue:

Cochran's Global Energy Solution

The Perfect Boilerhouse Log Book

Cochran Plating Expertise

Charitable Giving

Aftermarket Projects


COCHRAN

Welcome

Welcome to the fifth edition of 'Energy'. I'm pleased to see the way Cochran's own company magazine has developed into an authoritative and informative publication full of handy tips and information for boilerhouse professionals.

In this edition of Energy we officially launch our excellent new Boilerhouse Log Book. Its impressive quality, extensive information, full compliance with BG01 and ease of use means it's selling like hot cakes - in fact, we've already printed a second run due to demand.

There's also news on our new premium quality training literature that supports our respected courses. It's taken quite a while to develop it, with hundreds of pages of text and dozens of specially commissioned full colour drawings and diagrams. Nevertheless, when I hear it's already being described as 'the gold standard' in training notes, it's clear that all the time and effort has been worthwhile.

Mark Smith takes us through the important work of our busy export department as it navigates the complex web of international standards, laws and import duties to deliver Cochran boilers, burners and equipment to the world. A combination of our own globetrotting experts and an extensive network of trusted regional partners helps ensure we provide international service and support that measures up to the exemplary standards that Cochran is famous for. I'm pleased to say that, today, exports account for some 45% of all our new boiler sales.

This issue also sees the first in a series of articles on the wide variety of engineering disciplines required to construct a Cochran boiler. 'Platers' are some of the real unsung heroes of the business; research and development, welders and pipefitters all quickly come to mind in boilermaking, but Platers are the people who cut and form the parts to exacting standards, that everyone else puts together.

Finally I'd like to congratulate the three recipients of our long service awards, Chris, Bob and of course forty year veteran, Gary. Between them they have eighty years of experience, making them a real asset to Cochran. They're all working within the Aftermarket Projects Team. The work of Aftermarket Projects is covered in depth later in the magazine; it's an excellent service that helps extend the operational life of boilers and maximises their efficiency by retrofitting the latest technology.

Thomas P Ritchie, Group Managing Director

Long Service Awards

Every year Cochran holds a special event to celebrate those who have served the Company for many years. These awards recognise their ongoing commitment and loyalty to the famous boilermakers.

This year the Long Service Awards took place in June. Coincidentally, this year all the award recipients came from the important Aftermarket Projects area of the business.

Chris Noakes started with the Company 20 years ago as a Service Engineer. He is now one of our most experienced Senior Engineers.

Bob Slater also has 20 years' service under his belt. During his time at Cochran he has held many different roles within the business, but is now Aftermarket Projects Manager.

Gary Johnstone joined us as a Works Apprentice 40 years ago. He served his time as a Welder, spending many years in the position before joining the Aftermarket Projects Team.

Whilst the introduction of new blood with fresh ideas is always beneficial to a business, it is also extremely important to honour the highly experienced old guard who promote the values of loyalty, quality, service and reliability that the Cochran name is founded upon.

Below, left to right: Chris Noakes, Gary Johnstone and Bob Slater.



The Perfect Boilerhouse Log Book

Maintaining a consistent, accurate daily operational log of your industrial boilers and burners is a statutory requirement in many countries, makes good maintenance and servicing sense and is absolutely essential for insurance purposes. Drawing on unrivalled boiler knowhow, Cochran's superb hardbound Boilerhouse Log Book sets a new benchmark in compliance, information and usability. The Log Book is priced at just:

£50

including UK delivery*

To order your copy simply call +44(0)1461 202 111, alternatively you can email spares@cochran.co.uk or visit cochran.co.uk/spares/boilerhouselogbook



Case Bound Quality: The Log Book's premium quality hardbacked design not only ensures it is rugged and hard wearing, but is also in compliance with the legal requirement that the numbered pages cannot be removed or tampered with. The design also includes a handy placeholder ribbon.



Useful Information: The front section has sixteen pages packed with useful information on your legal obligations, water chemistry and guidance on safety. Also included are the specifications for the BG01 'Typical Arrangement' boiler layouts that affect your maintenance and safety responsibilities.



Easily Used Test Log Pages: Each week comprises four separate log pages: Boiler Testing; Burner Testing; Water Testing; General Boilerhouse Records. These easily completed forms combine to provide a complete picture of your boilerhouse operation. This information is essential for good maintenance and easy repair, as well as for insurance and legal purposes.



Reorder Warning: To ensure you maintain a complete picture of your boiler history a reorder reminder page is featured near the end of the 52 week log period, just in case you have forgotten to place your reorder in good time.

* Excluding VAT. Postage outside the UK subject to an extra cost.

Cochran's Global Energy Solution with Mark Smith

Ever since it was established way back in 1878, exports have been an essential element of Cochran's business. Accessing global markets promotes growth, as well as rebalancing any downturns in the local UK market. This multi-national approach has ensured that Cochran has not only survived, but that today it prospers whilst many other famous names in British boilermaking have long-since fallen by the wayside. Despite Cochran's excellent penetration into the UK's education, healthcare, brewing and distillery sectors, in recent times Britain's shift from a manufacturing to a service-based economy has significantly reduced the overall domestic boiler market. This, coupled with increased operational longevity resulting from improved design, construction, efficiency, operation and maintenance, has meant a strong export profile is today essential to the Company.

The day-to-day responsibility for Cochran's pivotal boiler export business falls on to the shoulders of our Export Sales Manager, Mark Smith. Mark has worked in a sales role for Cochran since joining us in 2009, initially responding to Sales Enquiries within the UK, he then took on the export responsibility in 2014. Mark joined us from Collins Walker, a leading UK manufacturer of electric industrial boilers, where he had already gained direct export experience, travelling to markets as diverse as Iceland and sub-Saharan Africa.

Mark picks up the story...

I had always enjoyed the international side of the business, so when the opportunity presented itself to become Cochran's Export Sales Manager I really couldn't say no! To instantly become responsible for over 30% of new business was an exciting and, to be honest, daunting challenge.



Saudi Arabia

Of course, the fact that I wasn't starting from scratch was a big help. We already had long term links with some excellent global partners in key territories and past Export Sales Managers were also still in the business to offer confidence-building advice that helped secure some early successes.

Hitting the ground running

Needless to say though, I had not been brought into the role simply to maintain the status quo and my first challenge was to help increase Cochran's penetration into its established markets; both new boiler sales and through provision of spare parts and added value services.

There are a number of approaches being taken to increase our market share. These range from simply ensuring we maximise communication with customers and supply even better support; through to improving the motivation of our territory partners. Our work with partners extends to reviewing their skill sets and performance, increasing support and training if required and occasionally engaging replacements that are a better fit with Cochran.

My second challenge was to tackle markets where we were not achieving our maximum sales potential. There's obviously a market in these territories, but without reliable local partners to co-ordinate sales and marketing and, crucially, provide after-market support, we were not achieving our full potential. Having now identified new partners that measure up to our exacting requirements, we've developed some excellent local support infrastructure in a number of countries and this is now paying dividends with significantly increased sales.

The next step was to revisit once buoyant markets that had somewhat stagnated. We needed to determine the reason for the decline; what had changed in the territory? In many cases we still had a local partner in place. Were they being hampered

by technical or legislative changes or new competition? Or was it that they themselves had lost motivation, personnel or capability and needed better support from Cochran? Armed with the information we needed, we reviewed our options.

The final challenge was to identify and develop a number of completely new territories for Cochran; territories where there was real potential, but where we had no historical presence. This process involved researching individual countries' potential customer sectors and identifying ways to overcome any commercial and technical barriers. Following the proven Cochran model, next we engaged with local partners who could assist in developing market potential.

Red Tape

In breaking into new markets there are obvious commercial challenges of outperforming any international competitors established in the region and beating local manufacturers with their cost benefits and local knowledge. There are also potentially large import tariffs that must be negotiated and dealt with if we are to achieve a competitive price.

To even be allowed to operate in a country, Cochran must also assess and comply with technical barriers, codes and standards - usually in a foreign language! This is where the Company's heavy investment in achieving an extensive raft of international accreditations pays real dividends. Cochran currently holds ASME 'U' and 'S' stamps, Chinese and Russian government accreditation, as well as ISO9001; all of them vital to our export efforts.

Cochran's own network now covers around forty territories directly; the Company also maintains two overseas offices providing service support; and we currently have boilers operating in over a hundred countries worldwide. As a result, between 2014 and 2016 our new boiler export sales grew 25% from £4.8m to £6.0m. So-far, 2017 has already seen Cochran exceed previous years' sales, with an anticipated further 25% growth to a year-end total of £7.5m. Cochran's new boiler export business now makes a significant contribution towards our future success in today's stormy economic climate.

So what makes a good partner?

Our most successful territory partners are obviously operating in the most buoyant markets. Importantly though, sustained success also demands positive sales coverage across an entire territory and throughout all potential market sectors... However, it is essential that they also offer exemplary standards of commissioning and service back up - making them worthy ambassadors for Cochran's world famous quality and service.

A 'quality' service is reflected directly in the volume of sales coming from these markets; especially the Gulf, Hong Kong, China and Bangladesh. This uncompromising approach is also starting to pay real dividends in the newer markets like Pakistan, Nigeria and Southern Africa.

Mark Smith, Export Sales Manager

52 year old Cochran Export Sales Manager, Mark Smith is married to Lorraine. He has two children, one at University and one at College. Interests outside of work include car maintenance, attending motorsport events, DIY and spending time with friends and family.

He spent twenty years as an Electronics/Telecommunications Engineer, before moving into steam boiler sales and manufacturing 14 years ago.

Mark remembers that during the early days in his role as Export Sales Manager he found it pretty daunting to consider all the diverse countries he'd be visiting on his own, with all the flight, visas and security issues that emails make so much easier today. Nevertheless, once he'd undertaken a few trips and spent time with Cochran's agents, the trips became a regular and enjoyable part of his job.

He says "This was mainly down to the hospitality shown to me by our agents and customers", adding "My role is to ensure our partners have all the information they need, to be in pole position to win an order; I strive hard to support them - from initial enquiry to completion of the installation".

"I enjoy visiting each and every country, but if I were to choose one for a holiday destination with my family, and it's a hard decision, but it would be South Africa, the people, different cultures, wild life and the landscape. Visiting all our territories is a pleasure, except sitting around in Airports. I don't like that much. My travels have led me to indulge in various cuisines from Puffin in Iceland to Camel Curry in Saudi Arabia" he continued.



Supporting our partners

Some of our partners have worked with us for many years and operate extremely successfully with little recourse to Cochran. In addition to their unique understanding of their local market, they often know our products almost as well as we do and have become virtually self-sufficient. More recently accredited local partners often need a lot more support, both in terms of visits to the Newbie factory for training and product familiarisation and to the territory itself by the Cochran team.

Of course, whilst I'm the main point of contact, it IS a real team effort. The ongoing success of our partnerships would simply be impossible without the full support of the design team and their work to match local specifications; engineering/production and their superb standards of finish; and of course estimating and contracting who ensure information provided is both timely and accurate. Finally the UK and Far East commissioning teams deliver fabulous technical support and training.

The Cochran Globetrotters

I was recently talking to one of our Far East engineers and was simply amazed at the list of countries he had visited to commission and service Cochran boilers in recent years; ample demonstration of the vast range of markets and nations we serve. Aside from the more obvious countries like China, where he currently has four 20 tonne per hour Twin Furnace boilers to commission at a tobacco plant; he'd also recently worked in Vietnam, Malaysia, Indonesia, Cambodia, India, Bangladesh,

Sri Lanka, Nigeria, Sudan, Qatar, Kuwait and even Papua New Guinea and NORTH Korea! As I write he's busy commissioning a 10 tonne per hour boiler in Pakistan... They say 'join the army and see the world' but working in Cochran's export division certainly seems an excellent alternative!

Looking to the Future

In recent years we've made great strides in further developing our export business and extending and consolidating our network of approved global partners. It is essential that the Company maintains this growth because the UK market is no longer big enough - even with our dominant market share - to sustain our continuing growth.

One of the real beauties of having a strong presence in SO many markets is that a local downturn due to regional economics or political upheaval, is usually rebalanced by an upturn in another. This is evidenced by the fact that in recent years a number of different territories have led our sales figures; China, Russia, Indonesia, Egypt, Saudi Arabia and Bangladesh have all been in the top spot. There are also a number of smaller territories that always do well too; the UAE, Kuwait, Singapore and Hong Kong. We now have high hopes for many of our newer partners; especially those in Africa. There are also some really positive negotiations with a number of potential new partners of the Cochran family who, I'm sure with the right support and a positive outlook will further increase our international presence.

I am very optimistic about the future of Cochran's international business. The markets are challenging, they need tenacity, patience, support and a strategic long-term view. I have no doubt that Cochran is ideally placed to maintain and expand their reputation as global leader in the innovative design, development and manufacture of industrial boilers.



A major Chinese delegation.



Saudi Partners, TIG visit Newbie.



Cochran installation in Cairo.

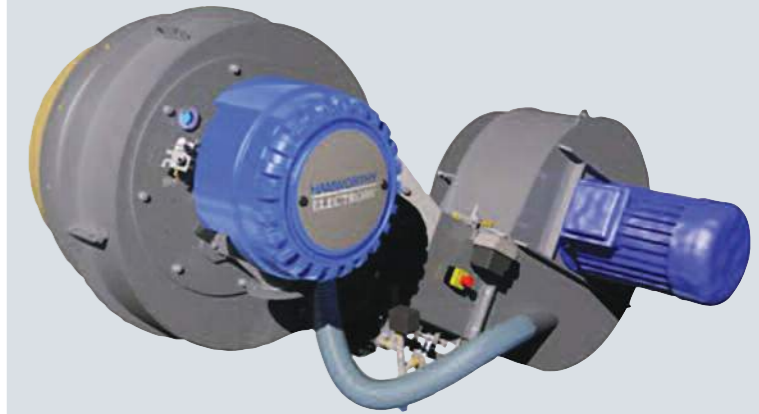


Steam Generation Africa at Cochran.



Thermax boilers installed in Abu Dhabi.

Cochran's Enhanced Hamworthy Servicing



Regular servicing and maintenance of your boilers, burners and associated plant will not only prolong its life, but will also maximise its performance and maintain efficiency.

Cochran's extensive network of highly experienced Service Engineers can service and repair any make and model of boiler or burner, but we have recently enhanced that expertise with the addition of Hamworthy-trained Service Engineers.

These new service engineers have developed a high level of practical and diagnostic experience, so you can be assured you will receive superior support for your Hamworthy burner.

Every Cochran engineer is also backed up by the Company's comprehensive any make or model Spares Department, the Head Office Service Desk and our 24/7 out of hours Emergency System.

To book a service or an emergency breakdown call, contact the service desk during office hours. Out of office hours, the Service Desk number will automatically transfer to the on-call advisor who will offer expert advice and arrange for a Service Engineer to attend as soon as possible.

Cochran Service and Spares Contacts

Switchboard: 01461 202 111

Office Hours: Mon-Thur 8.00 am to 4.30 pm
Friday 8.00 am to 1.00 pm

Service Desk: 01461 200 300 or
service@cochran.co.uk

Spare Parts: Call the switchboard and ask for Spares.
UK customers can also order online at
www.cochran.co.uk/spares

Save money, improve reliability, comply with the law with Cochran Aftermarket Projects

At Cochran we have many years of experience in providing support to existing plant to assist in safe, reliable and efficient operation over its lifetime. This includes taking account of the ways in which changes in technology, legislation and guidance affect the safe and efficient operation of boiler plant. Cochran's Aftermarket Projects team undertake full Boilerhouse Reviews to help you ensure that your plant is fully compliant with legislation and guidance, optimised for efficiency and has a crisis and contingency management plan in place. The Cochran Product Lifecycle Support covers most major boiler brands and model types of all ages.

Why Choose Us?

- We invented the modern boiler.
- We have over 100 years' experience.
- We have knowledgeable and experienced engineers.
- We have a large in-house team of design engineers.
- No job is too small, too large or too challenging.
- We have ISO9001 accreditation.
- The work we carry out is fully insured.

Reasons to Upgrade

- **Save Money:** Use less fuel to generate the same energy.
- **Improve Reliability:** Don't lose production through breakdowns.
- **Better Information:** Use comprehensive data to improve efficiency.
- **Improve Safety:** Reduce the risk to personnel and potentially cut insurance costs.
- **Environmental:** Reduce emissions to comply with the law and help the planet.



Common Upgrades

- **Fuel Conversion:** Burner and fuel system replacement with a cheaper or more efficient fuel.
- **Combustion Equipment:** Replacement with a modern high efficiency burner.
- **Enhanced Controls:** Implement a boiler management system for improved, coherent control with remote capability and onsite benefits too.
- **Heat Recovery:** Retrofitting an Economiser can improve efficiency by 5%, typically **paying for itself in just 12 months.**

We have the expertise, experience and resources to maximise boilerhouse efficiency.

Boiler Repairs

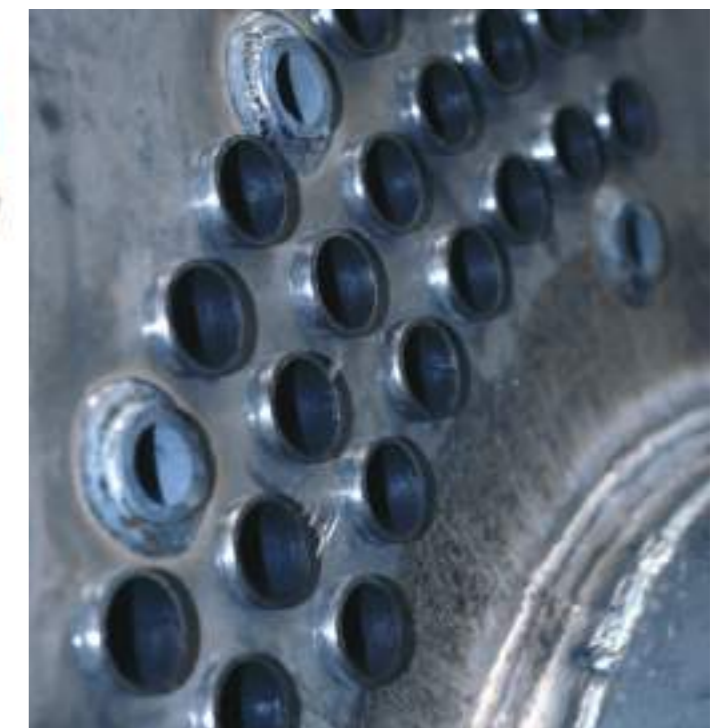
Our Aftermarket Projects team provide major repairs beyond the normal scope of our excellent service engineers, as well as providing expert advice and installation of boiler operation and efficiency upgrades. Cochran's Aftermarket Projects Engineers have the skills, knowledge and experience to identify issues and repair pressure parts on site; **minimising costly downtime and consequential production losses.**

One of the most common repairs performed is the installation of a 'D Patch'. An NDT inspection may identify erosion and/or corrosion at the bottom of the furnace. To repair this serious issue, our engineers will cut away the damaged section of the furnace, prepare a matching replacement section and weld it into place.

Another common repair is **retubing**. The requirement for premature retubing is commonly the result of issues with the chemical dosing of feedwater. The first sign of tube failure is most likely to be a leak.

In the last edition of the magazine we included an extensive feature on **water treatment**; it really is one of the most important elements of boiler maintenance, with ineffective dosing often leading to serious buildup of scale, reduced efficiency and dangerous hot spots that ultimately result in tube failure. Expert advice on chemical dosing regimes and feedwater additives are, of course, available from Cochran.

Pictured below: A typical boiler tube plate.



Call in the Cochran experts to achieve significant cost savings and improved efficiency.

Boiler Upgrades

Cochran has vast experience in upgrading all types and brands of industrial boiler and ancillary plant. Projects can range from simple fuel conversions to total boilerhouse refurbishments that address every aspect of plant control, combustion and monitoring. New components and the latest systems offer a broad spectrum of benefits, particularly when it comes to **reducing emissions and improving both fuel efficiency and reliability**. In some cases increased automation and better control systems can even achieve **reduced boilerhouse manning levels; delivering significant savings** as a result.

Do your records show that fuel consumption is creeping up whilst output remains unchanged? Has reading BG01 or attending boiler operator training highlighted the fact you're not meeting code requirements? Have you been told to make cost savings in your energy production?

Bring in Cochran's experts to undertake an in-depth **boilerhouse assessment** and to propose fully costed recommendations matched to likely, and often impressively short, payback periods.

A well-engineered shell boiler will last for decades if it is well-maintained. However, technology around the shell is improving all the time. There is no need to replace the pressure part if it is sound, but you could still take advantage of newer technology.

Upgrading Combustion Equipment can often save money and improve efficiency. Are fuels now available to you that weren't when the boiler was installed? Converting to more economical fuel sources or introducing dual fuel firing capability is an obvious way to cut costs. Even firing on the same fuel, you could probably improve efficiency and reduce emissions by **upgrading to a newer burner** because technology has moved on.

These days **economisers** are fitted to new Cochran boilers as a matter of course, but if you don't have one, we can retrofit them. An economiser scavenges the waste heat from boiler exhaust gasses to preheat feedwater, typically improving overall boiler efficiency by 5%. That means that the capital cost of retrofitting an economiser will usually be recovered in the first year.

Our Synergy Boiler Management system can pay real dividends through efficiency, reliability and longevity.

Boiler Management

Many upgrades are driven by the need to cut costs, some by emission and efficiency legislation and others by the need to improve reliability. Yet another reason is the need for better operational data. Knowledge, as they say, is power and knowing exactly how your plant is performing under different loading conditions can help you make decisions that ensure it operates at maximum efficiency. It can also help you to programme maintenance at suitable times.

A boiler's efficiency is affected by peaks and troughs in production. In fact, an over-specified boiler operating at ideal levels is usually more efficient than a smaller system 'turned up to eleven'.

Maintaining good records using one of our new **Log Books** and the introduction of leading-edge Boiler Management, such as Cochran's **Synergy** system, can pay real dividends in terms of the efficiency, reliability and operational longevity of your boilerhouse plant. With the latest boiler management technology, all the information you need to make key operational decisions is at your fingertips; it will also enable you to operate your system and much of its ancillary plant remotely, potentially reducing operator costs.




Want to reach hundreds of key boilerhouse decision makers?

...Then it's time to advertise in Cochran's Energy magazine.

Energy magazine represents the authoritative voice of Cochran boilers, burners, parts, servicing and training and is packed with valuable information and features that make it an essential read for industrial energy professionals. Rates for quarter and half page advertisements are excellent and include design of your advert if required.

For further information and rates please contact Claire Young on +44(0)1461 202 111 or CYoung@cochran.co.uk



Cochran Ltd, Newbie Works, Dumfries & Galloway, UK DG12 5QU. Cochran.co.uk



The Perfect Boilerhouse Log Book

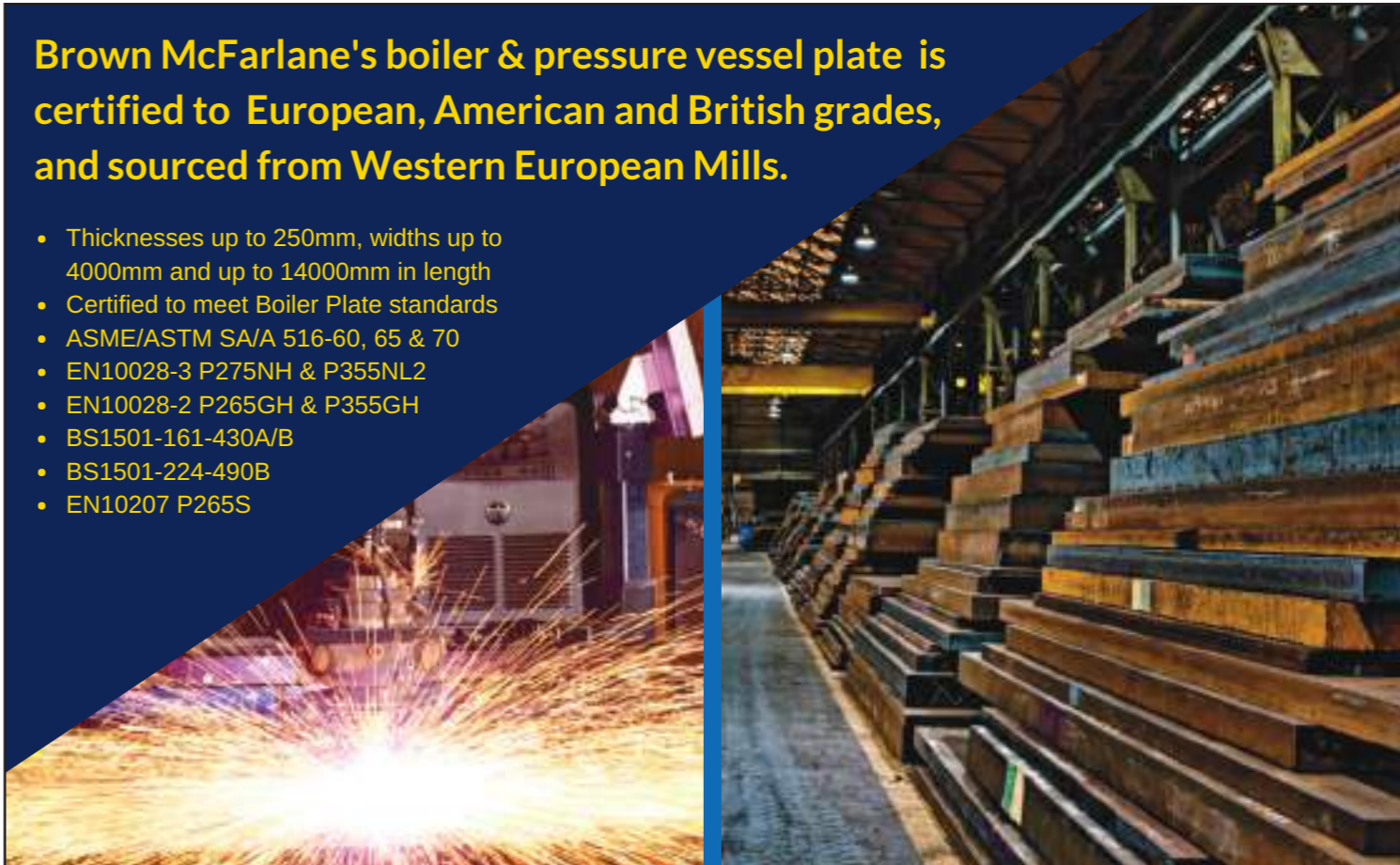
Maintaining a consistent, accurate daily operational log of your industrial boilers and burners is a statutory requirement in many countries, makes good maintenance and servicing sense and is absolutely essential for insurance purposes. Drawing on unrivalled boiler knowhow, Cochran's superb hardbound Boilerhouse Log Book sets a new benchmark in compliance, information and usability. The Log Book is priced at just:

£50 including UK delivery (£60 including VAT)

To order your copy simply call +44(0)1461 202 111, alternatively you can email spares@cochran.co.uk or visit cochran.co.uk/spares/boilerhouselogbook

Brown McFarlane's boiler & pressure vessel plate is certified to European, American and British grades, and sourced from Western European Mills.

- Thicknesses up to 250mm, widths up to 4000mm and up to 14000mm in length
- Certified to meet Boiler Plate standards
- ASME/ASTM SA/A 516-60, 65 & 70
- EN10028-3 P275NH & P355NL2
- EN10028-2 P265GH & P355GH
- BS1501-161-430A/B
- BS1501-224-490B
- EN10207 P265S



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 E: glasgow@brownmac.co.uk
 Find out more at our website: www.brownmac.com

Charitable Giving

Charitable giving is a rewarding way to support the community or aid those in special need. Every year Cochran donates to numerous deserving charitable causes, supporting both local and national campaigns.

There is a bewildering array of charities providing targeted support to a vast range of people, projects and campaigns. Cochran is careful to choose reputable organisations that provide genuine benefits to causes which our employees support. As the heart and soul of a business, our employees' views are a key driver in selecting charities to support. Every autumn we ask our workforce for ideas on deserving recipients of the monies that would, in the past, have been spent on company Christmas Cards.

Cochran is also keen to support any employee who undertakes special money raising efforts for their chosen charity. In addition to logistical support and generous donations, the Company may also provide promotional banners, logos and branding to help market events, raising a good cause's profile and maximising potential donations from the public.

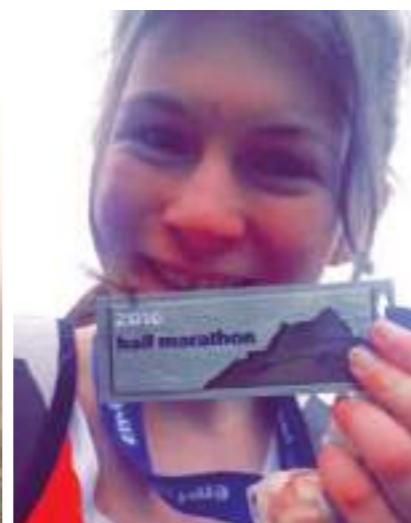
Employees' efforts are also proudly promoted through our well-read Facebook page which includes links to their individual 'Just Giving' pages.

We have also contributed directly to a range of national charities, including Cancer Research UK, the Headway brain injury charity and The Huntington's Disease Association. Cochran has sponsored employee, Rowane's Half Marathon in aid of the British Heart Foundation, match funding all her other donations. We also play host to the Macmillan Cancer Appeal's 'World's Biggest Coffee Morning'; organised each year by the Newbie team.

This year, instead of spending money on buying and posting christmas cards, Cochran has once again decided to donate these costs, preferring to circulate an e-card with details of christmas closing times and emergency numbers. 2017's recipient of the annual donation is Guide Dogs. This fantastic charity helps blind and partially sighted people across the UK through the provision of guide dogs, mobility and other rehabilitation services.

Recent local recipients of Cochran charitable support:

- Annan Athletic Football Club, Strip Lottery
- Annan and District Athletics Club Match Day Sponsorship
- Annan Bowling Club
- Annan's Christmas Lights Fund
- Annan First Dumfriesshire Scout Group
- Annan Riding of the Marches
- Celebrate the Children
- Children's Hospice, South West
- Cochran Benevolent Fund
- Dumfries and Annandale Women's Aid
- Dumfries Nith Inshore Rescue Boat
- Dumfriesshire Pony Club
- Silloth Golf Club Charity Day – prize donation



Cochran's New Service Apprentices

Joel Bailey

Age: 16

Location: Lincoln

Studies: One day per week at Lincoln College as part of his Modern Apprenticeship in Engineering.

Interests: Supporting Newcastle Utd and his Vauxhall Corsa.

Nathan Anderson

Age: 18

Location: Darlington

Studies: One day per week at Darlington College as part of his Modern Apprenticeship in Engineering.

Interests: Playing for Rustons FC and supporting Notts Forest.

Cochran has a hugely successful apprenticeship programme which plays a key role in nurturing the skills essential to maintain the Company's firmly established position as a global leader in industrial boilers. In fact, the Company's Managing Director, Thomas Ritchie, joined Cochran as an apprentice himself.

These apprenticeships ensure that the Company is constantly developing a new generation of highly qualified engineers who will drive the business forward into the future. Whilst Cochran has long had apprentices at its factory, we don't often have Apprentice Service Engineers. However, we recently inducted a pair of Apprentice Service Engineers, Joel Bailey and Nathan Anderson, based many miles from the Newbie headquarters.

Both have strong ties to Cochran; Joel's father, Dave Freeman and Nathan's father, Stuart Anderson have each worked as highly skilled engineers for the Company for a number of years. In fact, they are the ideal teachers to lead the way for the younger generation of Cochran.

Nathan said "I feel that on-the-job training through a Modern Apprenticeship is the best way to learn a trade. It helps develop real-life skills, backed up by technical training at college". Nathan added "The thing I'm enjoying the most about working at Cochran is that no two days are the same. There are new challenges every day and I'm constantly doing things that I've never done before ... And I even get paid to learn!"

Joel chipped in "My typical week consists of travelling to multiple customer sites, assisting a senior Service Engineer, learning how to commission and carry out repairs, modifications and upgrades to the boilers. I enjoy getting to experience a range of different real working environments", adding "It feels good to work for a such a famous manufacturer".

The Company is proud to support our two new Apprentice Service Engineers as they develop their skills. In years to come we're sure they'll become well-respected members of our excellent network of Service Engineers, adding to an already unrivalled national network that is the envy of our competition.

Manufacturing Spotlight

Plating expertise

Platers are highly skilled individuals who assemble or fabricate components from steel plates. There are Platers in other kinds of manufacturing, such as shipbuilding, so technically ours are Boilermaker Platers. Although boiler configurations have changed over the years, the fundamental skills of this trade are still relevant today.

Plating at Cochran

Since Cochran manufactures ALL of its products at the famous Newbie factory near Annan in Scotland, we provide significant local employment for a broad spectrum of highly skilled and experienced tradesmen. The expertise of our Platers is used throughout the manufacture of our extensive product range.

Every one of the Company's Platers has completed a nationally recognised apprenticeship, with the majority having 'served their time' at Cochran, helping ensure they match up to our exacting standards. In line with our long running and highly successful apprenticeship program, we currently have two Apprentice Platers.

In-House Training

Passing on hands-on knowledge and skills to less experienced team members has been, and always will be, the backbone of Cochran and its famous build quality. Along with practical training for their trade, we also provide apprentices with extensive Health & Safety Training, including the safe use of tools and specialist equipment.

The Platers are involved at several stages during each boiler build. Think of boilers as a giant 3D jigsaw; it is the Platers that make and shape the parts and assemble them, then our Welders join those pieces together ready for other teams to add the remaining items. The welding trade will be featured in our next issue.

Constant Improvement

In order to ensure we match our benchmark quality standards, we continually review the available personnel, pinpointing areas for possible improvement and providing additional training as needed.

This process enables our highly skilled craftsmen to be utilised throughout production, as required. The Plating team have a very flexible approach and their excellent team work is vital in tackling the broad diversity and sheer quantity of work we have within the factory.

Construction Process

As construction takes place, every assembly or fabrication is inspected against a controlled manufacturing drawing to ensure the highest quality of build and code compliance is achieved. Inspection is carried out by both by our own in-house quality team and third party inspectors.

The following are descriptions and supporting photos of the key elements of boiler manufacture that involve Platers.

The Plating Team



This picture features nine of the Company's thirteen highly skilled Platers, as well as one of our two apprentices. All but one of the Platers served their time at Cochran.

Between them they boast a total of 253 years of experience, with three having over 40 years' experience and three others between 25 and 30 years' experience.

Back row, left to right:
Jack Pool, John Lister, Andrew Glendinning, Robert Easton (Apprentice), Jamie Wallace (Chargehand Plater), Guy Graham

Front row, left to right:
Aaron Weild, Sean Hodgson, Paul Williamson, John Wakefield

Missing from the photograph:
Stephen Brown, Brian Johnstone, Iain Pool, George Tully and the remaining Apprentice, Callum Kellie.

Step One

Steel boiler plate arrives as flat sheets and is cut to size before the Platers roll it into a cylinder on the rolling machine.

This powerful rolling machine can roll boiler shells of as much as 5 m in diameter; engineering which is quite impressive to see on this scale.

Once the longitudinal seam (red) has been welded (more on Welders next time), the Platers use the rolling machine again to ensure the shell is perfectly cylindrical and that there is no weld peaking.



Step Two

The rolling mill is also used to form the furnace tube which houses the burner that will power the boiler.

More than a dozen different tubes must be cut, rolled and welded to form the shell and furnace of each boiler.

A number of different gauges and grades of steel are utilised to match the exact requirements of each piece they are destined to form.



Step Three

A swaged furnace assembled and ready for welding into a single unit.

In this picture it can be seen that the furnace tube has been corrugated for strength and that there has been the addition of special reinforcing belts, which are often known as 'Bowling Hoops' (coloured red).



Step Four

This is a first end/mid seam assembly i.e. the rear tube plate (coloured red) has been fitted into one end of the shell.

Centre lines on shell and tube plate are used to ensure the plate is fitted correctly.



Step Five

The Platers then fit a variety of standpipes to the shell.

These provide access for a wide range of fittings, such as pressure gauges, thermometers, water feeds, steam takeoffs and safety valves.

The boiler must always be level before any pipes are fitted.



Step Six

This is a final pressure part assembly, ready for welding. The furnace is inserted into the shell with the access tube through the rear tube plate.

It is held in place while the front tube plate (coloured red) is positioned correctly into the shell (you can't slide the furnace in because of the bowling hoops).

Short stay tubes are inserted through the rear tube plate into the reversal chamber. Once the furnace (the large void bottom centre) and short stay bars are tack welded into place, the long stay bars are fitted.



Step Seven

Platers also fabricate the shells for the Company's range of burners.

Cochran is the name behind a number of respected burner designs which can be fitted to all modern industrial boilers.

These include the Simplex and Triplex and the Equinox, as well as the newly launched UltraLoNox burner.

Pictured here are a pair of casings for our Equinox burners, ready for painting.

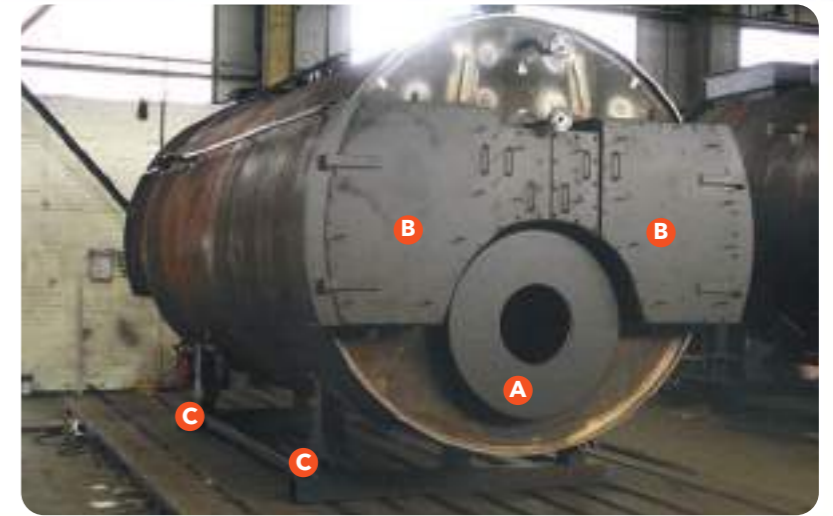


Step Eight

As the boiler takes shape, the Platers also fabricate the burner mounting flange (A) and the smoke box casings (B) that form the front face of the boiler.

At this stage they also construct the boiler supports and framework on which it will be mounted (C).

The boiler supports are fixed in place by the Welding team.



Step Nine

A completed twin furnace boiler shell.

In this photograph the unit has been fully insulated and clad with aluminzinc sheeting.

During the next steps a wide variety of fittings, valves, pipework, controls and feeds will be installed as the boiler nears completion... Along with the burners whose outer shells have already been built by the Plating team.

