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In-line steam injection technology: serious savings in an instant

As a process engineer or plant manager, you'll undoubtedly be focused on improving operational efficiency, reducing costs, minimising labour engagement and decreasing production outage. But with so much choice out there, how do you decide what's right for you? Well, if process liquid heating is your game, Instantaneous Jet Heaters might just be the solution you've been looking for.



Not all liquids are created equal, a fact you will know only too well. "Depending on your process, some liquids will be more viscous than others," says Mike Griffin, our Emerging and Innovative Technologies Manager. "Whatever your process liquid, it may be a challenge to heat, pump or mix it without mechanical breakdown or fouling."

"In-line steam injection technology essentially gives you more bang for your buck, by adding a pressurised, high-velocity heat source, which dissipates both sensible and latent heat within the liquid."

The technology to which Mike is referring is known as instantaneous jet heating: a multi-function purpose solution capable of agitating, circulating, mixing and pumping non-viscous fluids, without the need for additional equipment.

"Instantaneous Jet Heaters work by combining steam with a high-pressure liquid through a series of nozzles in the combining tube. The liquid absorbs all of the steam's heat to approximately 10 per cent of liquid saturation temperature, without losing water pressure."

Benefits to the jets? You bet!

At this point, you'll be wondering what benefits such technology can present to you, particularly when it comes to efficiency and reduced downtime.

"The way in which Instantaneous Jet Heaters are designed means by their nature they are highly efficient, reduce energy consumption and carbon emissions, as well as treatment chemical costs. Combining process liquids with the steam reduces fouling impact, while in turn dramatically reduces costs of cleaning and maintaining your vital equipment. This will have a nice knock-on effect to your overall operational costs too.

"Furthermore, our customers want any new equipment they install to be reliable, durable, easy to maintain and simple to repair," Mike says. "Instantaneous Jet Heaters tick all of these boxes. They're robust and simple design means that little maintenance is required. This is due, in part, to their engineering design, reducing vibrations and noise using corrosive-resistant material.

"Their lack of rotating parts also reduce the need for the replacement, lubrication

or adjustment of bearings. In other words, they provide reliable operation at optimum performance with low maintenance cost."

Is it right for you?

If you're still unsure whether this solution is the right one for you, Mike offers this guidance as a starting point.

"Jet heaters are commonly found in industries such as food processing, petroleum, dairy, manufacturing, chemical, distilling and brewing," he says.

"Specific applications also include: circulating cleaning solutions, pasteurisation, the production of scalding sprays, sterilisation, blanching, degreasing, laundering, pickling and quenching. I could go on!

"Having said that, this is a highly bespoke technology that you can adapt to suit a lot of different requirements, and that can be developed to meet your needs.

"Whether you're looking to reduce costs, improve efficiency or keep maintenance down, investing in an instantaneous jet heater could be a great place to start!"

FIND OUT MORE

For more information, visit sxscom.uk/instantaneousjetheaters





A sweet partnership: Ragus Pure Sugars celebrates 10 years with steam specialist

Leading importer and manufacturer of sugar products Ragus Pure Sugars, is celebrating a decade of continued carbon reductions thanks to its partnership with a global steam specialist.

Prioritising environmental values, Ragus Pure Sugars invests in technology and processes that help to reduce water consumption in sugar manufacturing, while improving production and packaging efficiencies.

Since 2007, Ragus Pure Sugars has benefited from the support of Spirax Sarco's service and maintenance programme, which has enhanced the operational efficiency of its boilerhouse and steam distribution network.

Over the last 10 years, energy costs have been reduced dramatically, while site safety has significantly improved.

Peter Eastick, Managing Director at Ragus Pure Sugars, said: "Our manufacturing facility produces hundreds of tonnes of sugar and syrups each day using steam, so we heavily depend on the reliability of our equipment. One of our main goals is to cut carbon emissions year-on-year, and we are strongly committed to sustainability – so it was always important for us to find a partner that could support our mission.

"We chose to invest in a Spirax Sarco service contract 10 years ago, which



provides a whole host of benefits including 24/7 support, priority booking, discounted callout rates and peace of mind that the equipment is being maintained to the correct standard. Since then, we haven't looked back.

"Over the last 10 years we've achieved significant cost savings and improved efficiency levels. We've also achieved shorter heat-up times, while Spirax's Supervisory Control System has helped to further enhance our monitoring and control. This would not have been possible without the continued support from Spirax Sarco's team of steam specialists.



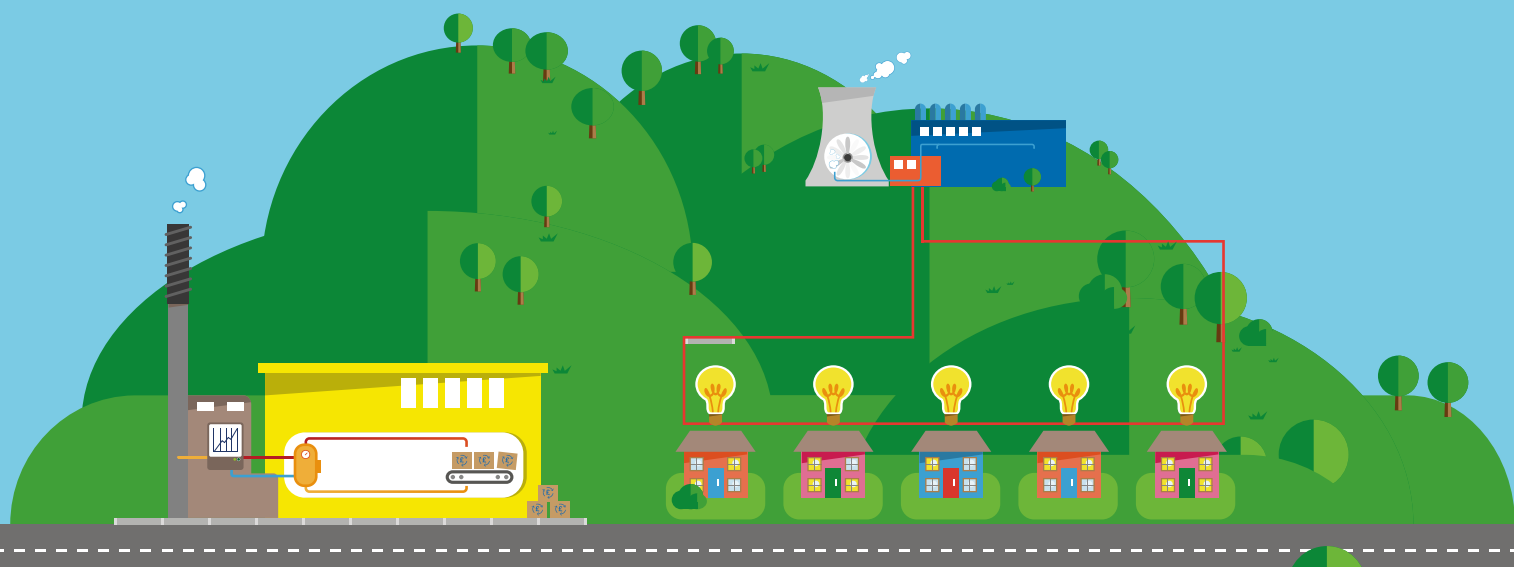
ADMITTEDLY, STEAM IS NOT OUR PRIMARY AREA OF EXPERTISE, THAT'S WHY WE CHOSE TO INVEST IN SPIRAX SARCO'S SERVICES. AS A BUSINESS, WE PRIDE OURSELVES ON BUILDING AND SECURING LONG-TERM RELATIONSHIPS AND IT'S GREAT TO BE CELEBRATING OUR 10 YEAR PARTNERSHIP WITH SPIRAX SARCO.



FIND OUT MORE

For more information, visit sxscom.uk/ServiceContracts





Talking trash: why steam could be the hidden gem of your biomass heating system

Imagine being able to use industrial waste to heat a building. Now imagine adding steam to the mix to generate electrical power. Waste products are hardly the first things we think of when we look at power, but as the future of fossil fuels is more widely discussed, steam and waste may just become the power couple of the future green economy.

In the world of industrial heating, chicken farmers are sitting on a goldmine. High in nitrates and phosphorus, chicken waste has typically been used as a farming fertiliser. This has, however, come with its own issues, such as water-course contamination from run-off, as well as transportation costs. Now, thanks to advances in technology, chicken waste, or litter, has become the fuel warming the very chickens that created it. Talk about reduce, reuse, recycle.

“Biomass is a significant area of growth for commercial industry,” says Angelo Giambrone, business development manager for Spirax Sarco UK.

“**AS PRESSURE FROM GOVERNMENT BODIES CONTINUES TO MOUNT, SO TOO DOES THE PUSH TOWARDS GREENER, MORE SUSTAINABLE FUEL SOURCES.**”

The biomass industry has developed strongly over the past few years, and as the technologies advance, so too does the number of products that can be burned as fuel for heating.

“Biomass, biofuels, anaerobic digestion – they all encompass the concept of creating energy from sustainable sources, which can include waste products,” Angelo says. “Combustion technology is helping to drive this change, as is a rising awareness of the benefits of managing your own fuel source.”

The UK government in particular has taken an interest in the potential of biomass to contribute to the UK’s CO₂ emissions targets, and has introduced the Renewable Heat Incentive (RHI) to encourage more businesses to invest in biomass heating systems.

"The RHI was first launched for domestic properties in 2014 and is the first of its kind in the world," comments Angelo.



FOR CHICKEN FARMERS, FOR EXAMPLE, IT'S LIKE THE CHERRY ON TOP OF AN ALREADY SWEET DEAL. NOT ONLY ARE THEY BURNING ANIMAL WASTE AS AN INEXPENSIVE SOURCE OF FUEL, BUT THEY ALSO RECEIVE MONEY FROM THE GOVERNMENT IN THE FORM OF A QUARTERLY PAYMENT.

The RHI is open to businesses and organisations across England, Scotland and Wales but, as Angelo explains, there are a few caveats.

"You can't stick a woodchip boiler in the back garden and claim the benefit. You have to be able to demonstrate that the biomass installation is making a valid contribution to your energy requirements."

Where does steam fit in?

It's all well and good to have biomass heating a building, but why would you then need steam?

Angelo explains: "Industries that implement biomass have a fantastic opportunity to increase the RHI that they receive, while generating a small amount of power for their plant.

"Generating steam instead of hot water in a biomass system allows the latest technology in electrical power generation to be used. This production of electricity from a 'renewable' fuel then allows users to claim a doubling of their RHI benefit. Furthermore, once the power is generated, you can convert the steam back into the hot water that you need."

Today, steam plays a vital part in industry worldwide, from pharmaceuticals to clothing, food production to healthcare.

Angelo continues: "Combustion advances and government initiatives have now brought the hi-tech world of steam to a whole new group of users, who stand to benefit in a big way.

"You only have to return to the example of the chicken farmers to see what a difference it can make. They're using animal waste (which they have in abundance) to generate steam that powers a turbine to provide electricity, before being recycled back as hot water to warm the chicken coop. It's a win, win and win situation.



ANY INDUSTRY CAN BENEFIT FROM THIS. ADDING STEAM TO YOUR BIOMASS SYSTEM IS A GREENER WAY OF TURNING A GOOD OPPORTUNITY INTO AN UNMISSABLE ONE

FIND OUT MORE

For more information, visit
www.spiraxsarcom.com/uk





Service big enough to cope, but small enough to care

Whether you're a maintenance manager in Motherwell, or an estates officer in Exeter, there's a good chance you'll need a helping hand with your steam system every so often. After all, when steam isn't your core business, having someone just down the road who can pay you a visit when you need help, is worth its weight in gold.

As a business, we might have a brand name that is trusted all over the world, but that's not to say we don't have local teams out in the field, whose job it is to make sure you can benefit from knowledge and experience you can trust.

So how many local representatives do we have, and how can they help you?

Coverage like no other

We employ over 36 sales engineers and a further 22 service engineers nationwide, which means that no matter where you're based, a product or technical expert will never be too far away. Even in the far reaches of Scotland, where response times from other national organisations may not be as fast as you'd like, we have local

experts you can count on.

In fact, since establishing our valve refurbishment service in Carlisle, South Lanarkshire, it is even easier for those of you based north of the border to work with us. Spread around this very hub are four area sales engineers, one sales manager, two service engineers, two survey and audit engineers, four valve refurbishment specialists, and one service specialist. If that's not a comprehensive team of experts, we don't know what is!

Local meets global

While our teams may be based locally to you, they also have the benefit of working for a company with over a century's worth of experience with steam systems all over the world. Yes,

you may well be able to work with a small, local service provider based around the corner from your plant, but there will inevitably be times when you need more. Occasionally, you may well need products to be available quickly, direct from the manufacturer, and people who can draw upon a global resource to support you.

It may be that you're in urgent need of a spare part to repair your steam system, that you're keen to commission a system audit to establish how you can eke out those extra performance benefits, or that you want to refurbish your valves rather than replace them with new ones. Whatever your need, and wherever you're based, you're never far from an engineer with the knowledge and skillset to help.

FIND OUT MORE

Contact us on **01242 521361** to discuss your specific requirements or download our services overview brochure to learn more about the services we offer: sxsc.com.uk/sxsservicesbrochure.





Close the loop on your steam system to battle the bills

The cost of fuel is one of those topics that we keep coming back to. We all know that costs are rising and that it can become more and more challenging to find savings. Then there's the ambitious carbon emissions targets we're being challenged to meet. So if you're a steam user, where do you turn in your search for major savings?

When it comes to the future of energy, we prefer to look at the glass as half-full. Let's take, for example, a food manufacturing company, which recently identified potential savings of up to £50,000 per year from heat recovery. Pretty impressive, right?

How did they do it? Quite simply, by investing in a steam system audit. Mathew King, our Business Development Manager, explains:

“**FUEL PRICE HIKES AND THEIR IMPACT ARE INEVITABLE, BUT WITHOUT SOME MITIGATION EFFORTS, THEIR EFFECTS CAN BE SERIOUS. HIGHER ENERGY BILLS, LEAD TO HIGHER PRODUCTION COSTS, WHICH INEVITABLY LEAD TO A MORE EXPENSIVE END-PRODUCT OR SERVICE.**”

The problem of big bills isn't set to go away any time soon either, as prices continue to rise¹.

Think positive

“There is a positive trend coming out of this, though,” says Mat. “Businesses are starting to get serious about energy efficiency. In fact, many of our customers are starting to set a really good example for others to follow. “This didn't happen overnight, though. One hospital, for example, underwent an extensive audit which flagged control, optimisation and distribution of steam as areas for improvement – with the potential for annual combined savings standing at over £200,000!”

He continues: “The great thing about audits is that you can tailor them to your needs. You can have the all-inclusive steam and thermal energy audit that covers everything, from the boiler-house to the steam traps. Alternatively, you can create a bespoke solution that focuses solely on the areas you've identified as needing a bit of TLC.

“The process starts by benchmarking the performance of your energy centre and the efficiency of steam generation, identifying areas for improvement. From there, distribution is reviewed to ensure your losses are minimal and that your condensate is returned wherever possible. Finally, your in-process steam usage is evaluated, to maximise efficiency and identify opportunities for heat recovery or utilisation improvements. The result should mean significantly improved performance and cost saving potential for your business.

Speak to a specialist

“Rising fuel prices isn't the only



challenge the industry faces. There's also a shortage of in-house specialist skills, which means that most companies won't be able to identify any opportunities with their steam systems, unless they approach a professional.

Mat concludes: “As a benchmark figure, you could be looking at cost savings of around 20 per cent by commissioning a steam and thermal energy audit, which could amount to hundreds of thousands of pounds. If you look at our hospital, food manufacturing and chemical customers, though, the potential is there to save even more.”



FIND OUT MORE

For more information, or to arrange an audit, please visit sxscom.uk/SteamSystemAudits.



News

A TIME FOR GIVING

Christmas is seen as a special time of year when families come together, but this is not the case for everyone. The expense and expectation that comes with the festive period places strain on many families, but for those living in poverty or facing homeless or family breakdown this can be a particularly difficult time of year.

It is for this reason that Spirax Sarco employees Pamela Hodges and Elizabeth Peacock decided to rally the troops at our UK head office in Cheltenham to support CCP's Hamper Scamper appeal. Hamper Scamper is a Christmas Giving Scheme designed to spread a little cheer to those in need and relies on the generosity of donors and volunteers from the local community.

Employees were encouraged to donate food items or gifts for children and young people. As a result of



Elizabeth and Pamela's hard work and dedication the appeal was extremely well supported by Spirax Sarco staff. In total, 9 large boxes full of festive treats were donated to the appeal.

The Hamper Scamper appeal starts in October each year. For more information please visit: www.ccp.org.uk/Appeal/hamper-scamper

CAMPAIGNING FOR YOUNG ENGINEERS

With the recognised shortage of young engineers, staff at Spirax Sarco likes to get involved in opportunities that promote the various STEM career pathways available to those still at school, college or university.

In support of Tomorrow's Engineers Week which ran from 6-10th of November, some of Spirax Sarco's graduates, apprentices and year-in-industry students got together to devise a social media campaign that told the stories of the journeys their careers have taken so far. The campaign was designed to show the opportunities available to young people who may not know what engineering really is.

For more information about Tomorrow's Engineers, please visit: tomorrowsengineers.org.uk

BRITAIN'S MOST ADMIRED COMPANY WINNER

Spirax-Sarco Engineering plc has been voted top of its sector (Engineering & Machinery) and also Britain's 3rd most admired company for 2017/18 overall in Management Today's Britain's Most Admired Company awards.



The awards are compiled by researchers from the Leeds Business School who ask senior executives from around 230 publicly-listed companies in 24 sectors and analysts at some of the leading City investment firms to evaluate companies based on 12 criteria. Spirax Sarco Engineering plc was thrilled to have won the accolade against some stiff competition!

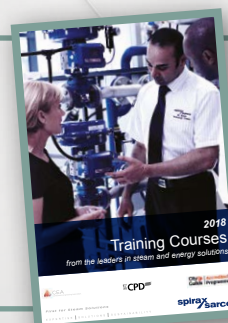
Want to work for one of Britain's Most Admired Companies? Take a look at our current UK vacancies: sxscm.uk/spiraxvacancies.

Training

THE 2018 TRAINING BROCHURE IS HERE

We're pleased to announce that the 2018 training brochure is now available! Booking is now open and we're expecting some courses to fill up fast, so we'd recommend booking early to secure your place. The 2018 course dates can also be viewed on our website: sxscm.uk/spiraxsarcotrain.

If you have any questions about our courses, or would like a copy of the brochure, please get in touch on training@uk.spiraxsarco.com or 01242 535211.



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