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Could your heat transfer technology be failing your business?

Effective energy transfer may be a basic prerequisite for the success of your industrial process, but heat exchanger failure is leaving engineers frustrated by unplanned downtime, increased maintenance costs and spiralling production costs. Amidst this frustration, there is a modern technology capable of making heat transfer equipment work much more effectively for your business.

A number of businesses are facing mounting problems with the design of their conventional heat exchangers. Dirt and corrosion are creating thermal stresses and damaging equipment, long lengths of tube are proving vulnerable to temperature variations, and single tube failure is causing entire units to be replaced.

If your business has suffered from any of these issues, then you need a more reliable alternative. But where do you turn? The answer could well lie with heat pipe – a modern concept with characteristics capable of nullifying many of the concerns engineers will be familiar with.

The solution

A heat pipe is a metal tube sealed at both ends with a vacuum inside, filled with a small quantity of fluid. In short, it's

perfect for transporting heat from one place to another.

As a result of the high quality construction of the heat pipe and in particular its high integrity vacuum, heat transfer between the hot stream and the cold stream is virtually instantaneous, making it ideal for process conditions where efficiency is an important factor. Specifically, heat pipe is exceptionally well suited for energy recovery from high temperature, corrosive or contaminated exhaust streams.

The problems associated with conventional heat transfer designs, which were outlined earlier, can be alleviated by using heat pipe technology. The advantages of using a heat pipe heat exchanger are:

- 1. Energy and carbon savings:** Generating hot water or steam from existing waste streams reduces utility consumption and costs by circa 3-7% and carbon by circa 4%.
- 2. Multiple redundancy:** Each pipe operates independently which ensures that the unit is not vulnerable to a single pipe failure. Even if one or two heat pipes fail, this will have a very small effect on the overall performance of the heat exchanger.
- 3. Low fouling and ease of maintenance:** Smooth pipes allow heat pipe heat exchangers to be used in high particulate or oily applications which can have a severely detrimental effect on conventional heat exchangers.

- 4. No hot or cold spots:** Heat pipe heat exchangers eliminate cold corners, eradicate dew point corrosion issues and improve overall thermal performance.
- 5. Robust materials and long life:** Heat pipes can be constructed from robust materials that offer increased resistance to corrosion.
- 6. Low pressure drop:** Solutions featuring heat pipe have extremely low pressure drops, achieved with systems that are also much smaller and lighter than traditional systems

The truth is that up to now, British industry has been rightly frustrated with its conventional heat transfer equipment, often choosing to shut it down or bypass it rather than waste any more time trying to get it to work efficiently. Fortunately, your business may finally have a form of heat transfer technology that promises to deliver.



FIND OUT MORE

To find out exactly how modern technology is capable of making heat transfer equipment work much more effectively, download our latest white paper, 'Corrosion, cracking and downtime: the failure of heat transfer in industrial applications' sxscom.uk/heatpipewp





Prevention rather than cure

When you're spending a lot of money generating steam, you need to ensure that you're able to do it in a way that delivers the best possible value for money. Thankfully there's one piece of routine maintenance you can carry out that's quick, easy and achieves instant benefits.

The condition of something as simple as a steam trap can prove vital in maintaining the efficiency of your system, minimising energy consumption, reducing costs and ticking your health and safety boxes. However, if your steam traps aren't fully functioning, you risk the quality of both your steam and finished product being affected, not to mention the potential for issues such as water hammer. If left to fail completely, you could see a significant impact on your production costs and process efficiency.

Don't be fooled - a steam trap is not a 'fit and forget' item. It's a mechanical device that needs regular servicing to ensure you're getting the best value for money from your system.

But are you performing these checks as a matter of routine? Or has steam system maintenance slid down your priority list due to time or resource constraints? Unfortunately this is a false economy, because if system efficiency or steam quality is high on your agenda then the performance of your steam traps should also be a priority.

So how often should a steam trap be surveyed?

The regularity with which steam traps should be tested always depends on the process in which they are found but we recommend that a survey be carried out at least annually to bring steam traps back up to peak condition and help you stay one step ahead. After all, a well-maintained system is a much more reliable one.



DON'T BE FOOLED - A STEAM TRAP IS NOT A 'FIT AND FORGET' ITEM. IT'S A MECHANICAL DEVICE THAT NEEDS REGULAR SERVICING //

Steam trap surveys

A steam trap survey assesses a system's current efficiency with a detailed inspection of your entire steam trap population, checking that each trap is the right type for the application and that it is also correctly installed.

Better still, a survey can also bring to light other critical issues relevant to your steam system. For example, it can provide you with a calculation of CO₂ emissions and even the cost of leaks from associated equipment, such as stop valves.

Once a steam trap survey is completed, you'll be provided with a comprehensive report, identifying an inventory of your steam trap population, total costs



of steam losses, a programme for replacing faulty or incorrect steam traps and a calculation of potential savings.

Surveying the benefits

Because surveys will offer insight into the condition of your steam traps, preventative maintenance will become more routine. Regular maintenance allows you to start pinpointing trends over time and may help to highlight particular 'problem' areas that cause persistent issues, for example. These can then be addressed proactively so unscheduled downtime is eliminated.

One of our customers is reaping huge benefits, following a one-off steam trap survey. As a result, the well-known food processing company has saved enough energy and treated water to pay for the survey in less than nine months, also reducing their carbon footprint by 200 tonnes a year. Could you be achieving similar results?

FIND OUT MORE

If you would like to learn more about our steam trap survey and maintenance services, visit [sxscom.uk/trapsurveys](https://www.sxscom.uk/trapsurveys).





Serious about clean steam? Look no further

With many of you relying on clean steam for your process every single day, you may be pleased to hear that we've opened a brand new UK clean steam manufacturing facility.

Based in Cheltenham, our new 1,200m² factory will administer the production of our clean steam system components including BT6-B, BTM7 and BTS7 thermostatic steam traps and clean sample coolers – with many more products to follow.

We believe organisations like yours should be able to guarantee the

traceability of all clean and pure steam products from a single point of supply. Similarly, we also know how important it is that your process uses products which are as clean as the steam they produce.

This thinking underpins the investment we've made in our new facility, which is based on over three decades of clean steam knowledge (dating back to the

1980's when we developed the original clean steam trap, the BT6).

The hope is that this new facility will prove just how serious we are about clean steam, allowing you to do the same. Here's how:

Tracking your products from start to finish

We mentioned it earlier on, but you can now take advantage of full traceability and certified validation on the materials we use to manufacture each of our clean steam products. They even undergo rigorous quality testing in-house before being transferred to a dedicated distribution centre, so you can rest assured that they meet the most demanding of industry standards and guidelines.

A factory as clean as your steam

Our state-of-the-art facility is housed within a stainless steel construction to eliminate the risk of cross-contamination from ferrous and non-ferrous metals. Assembly of your clean steam products is even completed in an ISO 7 cleanroom, making it the first facility of its kind in the UK. ISO 7 is the default classification for medical device packaging, and this is just one of several segregated testing, cleaning, and packaging locations at our facility which further reduces even the slightest risk of contamination.

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WE UNDERSTAND THE QUALITY ISSUES OUR CUSTOMERS NEED TO CONSIDER WHEN THEY INVEST IN CLEAN STEAM SYSTEMS. //

Dedicated solvent cleaning facilities complement the cleanroom by ensuring every component is free of potential contaminants before entering the cleanroom environment. When the product is finished, it is sealed within the cleanroom before being transferred to the packing area.

On opening the new facility, our Group Chief Executive, Nick Anderson,



commented: "We understand the quality issues our customers need to consider when they invest in clean steam systems. Our belief is that organisations operating in the food and beverage, healthcare and pharmaceutical industries should be able to guarantee quality, service, and traceability of all clean and pure steam products from a single point of supply. Taking these needs into account, our new factory underlines our commitment to helping process businesses to achieve the best possible quality of clean and pure steam."

Why not see for yourself?

The new facility means you are able to benefit from a dedicated centre of excellence for all of your clean steam products. But don't just take our word for it. Our facility is open to visitors and we'd love to welcome you, so come and see how we can further support you with the design and supply of steam systems tailored for your individual requirements.

FIND OUT MORE

If you'd like some more information about the new facility or would like to arrange a visit, please email connexions@uk.spiraxsarco.com or visit sxsc.com.uk/csfacility.





Safety first

Many may think of a risk assessment as a quick look at potential slips, trips and falls in the workplace, but as we know, the modern boiler house is far from the average workplace. So what does a risk assessment in the boiler plant entail, and how do you go about it?

As detailed by the Health and Safety Executive (HSE) in their publication, Safe management of industrial steam and hot water boilers (INDG436), a risk assessment is a means of determining whether risks from your boiler are at acceptable levels. This means you'll need to carry out a systematic assessment of any potential risks and put controls in place to address them.

This HSE guide outlines twelve specific safety considerations you need to be aware of if you're responsible for your site's boiler installation.

A twelve step process

The twelve areas are as follows:

1. Operation
2. Competence
3. Training
4. Maintenance
5. Design
6. Location
7. Safety system
8. Control system
9. Testing
10. Examination
11. Supervision
12. Management

By going through each of these in turn, you'll be able to comply with "Guidance on Safe Operation of Boilers"

// HOSTED IN A WORKING BOILER PLANT, OUR PRACTICAL TRAINING HELPS YOU DEVELOP THE NECESSARY SKILLS IN A REAL-LIFE ENVIRONMENT //

(BG01) as well as Regulation 3 of the Management of Health and Safety at Work Regulations 1999, which – like the HSE guidelines – clearly defines the need for a risk assessment within the workplace.

Our Introduction to Boiler House Risk Assessment training course runs in accordance with INDG436 and aims to help you to understand how a boiler house risk assessment can be completed. By training your own staff in this way rather than hiring an assessor when required, you'll not only save money in the long term, you'll also develop and retain skills within your business.

Training designed for you

Hosted in a working boiler plant, our practical training helps you develop the necessary skills in a real-life environment, from defining a competent person in the boiler house environment to understanding the key principles of risk assessment.

Through our unique partnership with a dedicated health & safety trainer for this course, you can take advantage of over a century's knowledge of steam system engineering combined with an understanding of how the successful management of risk can enhance business performance.

BY THE END OF THE COURSE YOU WILL BE ABLE TO:

- ✓ Understand the principles of risk assessment
- ✓ Complete the risk assessment process
- ✓ Understand the definition of a competent person
- ✓ Identify and know the requirements of INDG436 and associated legislation
- ✓ Understand the specific requirements for conducting a boiler house risk assessment



FIND OUT MORE

So why not book a place on one of our upcoming courses? To do so, simply visit [sxsc.com.uk/racourse](https://www.sxsc.com.uk/racourse) and complete the online registration form.





Why charity begins at home

As the saying goes, charity begins at home, so when we heard the Multiple Sclerosis (MS) Society was looking for a venue in Cheltenham to host its next information event in September, we were only too happy to oblige. To mark the occasion, we caught up with Rachel Child to find out just how important a role the charity and their events play for those living with MS.



// IT WAS A REALLY PRODUCTIVE DAY – AND CERTAINLY A LOT OF FUN! //

I joined the MS Society’s Cheltenham and North Cotswold Branch soon after I was diagnosed, having developed MS not long after I gave birth to my son 12 years ago. I had a massive attack which left me paralysed up to my neck and although I am still paralysed having had treatment, the use of my arms came back. The MS Society really helped me to access the care I needed in order to live an independent life. I try to be as independent as possible, and I’m very active – so active in fact that I’ve had a few carers who haven’t been able to keep up with me!

As a charity, the MS Society doesn’t receive any funding other than donations from individuals or businesses, so support like Spirax Sarco’s donation of a venue for our event helps the society to provide invaluable support to thousands of people just like me.

As well as helping me with my care plan and giving me the funding for a new standing wheelchair, for example, the branch also encouraged me to try hydrotherapy. I’d always liked swimming, but it was hydrotherapy which ultimately gave me the confidence to outgrow the small pool and get back to swimming lengths again.

Being such a keen swimmer, the pool really is where I feel free and late last year, I met Ben Hooper, who’s hoping to be the first person to swim across the Atlantic. Ben had his own lane at our local pool and gave me some coaching. Soon enough, I’d managed to swim a mile for the first time. Now, I do a mile not once, but twice a week!



As well as this, I’ve been to all sorts of events run by the local branch – pub quizzes, fish and chip nights, jumble sales etc. - which are all a brilliant way to socialise with people with a common interest. It’s great to have such a strong support network from people with similar experiences.

The My MS, My Life event, which took place at Spirax Sarco on 3rd September, really opened our eyes to the wide number of opportunities available to us – from getting involved in more social activities through to realising just how flexible employers can be. The great thing about this particular event was that an MS consultant and two nurses were on hand to answer any questions. To have all three of those in the same room on the same day is actually a really rare occurrence, so it made a great addition to the day.

Overall though, it’s the social aspect of these events that I really enjoy and, as usual, it was great to catch up with my friends in Cheltenham. This time round, the event was particularly enjoyable for me as the local Boccia club that I run - Cotswold Crusaders – played at the event to show off our new kit and hopefully encourage some new members to come along. It was a really productive day – and certainly a lot of fun.

FIND OUT MORE

To find out more about the MS Society and the many ways you and your business can offer support, visit www.mssociety.org.uk.





Community Engagement



SIGNED, SEALED, DELIVERED

We were delighted to welcome HQ ARRC to our head office recently in order to sign a very special birthday card for Her Majesty The Queen. The card stood at a massive 90 inches high and had been on a long tour around Gloucestershire before it was finally sent to Buckingham Palace on behalf of the county's companies and citizens.

FLYING HIGH FOR CHARITY

Midlands Air Ambulance serves a population of over six million people and yet relies solely on donations. To help them continue with their life-changing work, our two sites in Cheltenham recently took part in a week of fundraising activities for the charity, managing to raise £1,025! We were thrilled to find out from Midlands Air Ambulance that our donation would help fund half a flight for one of their aircrafts.

www.midlandsairambulance.com



JOHN PICKERING'S ROYAL ACCOLADE

For those of you who know our National Contracts Manager, John Pickering – did you also know that he is in fact a Lieutenant Colonel and has been working with the Army Cadet Force for an impressive 37 years? John was recently invited to a Buckingham Palace Garden Party in recognition of this great achievement and he says he had a great time. Well done, John!

Training

COMING SOON...

Keep your eyes peeled for our 2017 training course brochure this Autumn. If you're not already on our mailing list but would like a copy, please email us at training@uk.spiraxsarco.com.

IT'S THE (FIVE YEAR) COUNTDOWN



Do you hold a BOAS accreditation? Did you know you have to renew it every 5 years? Don't risk having to retake the full BOAS course – take a look at our BOAS Renewal course dates on the website now: sxsc.com.uk/boasrenewal

UPCOMING COURSES:

Introduction to Steam and Condensate Systems

21st November 2016
5th December 2016

Steam Boiler Plant Fundamentals

22nd – 23rd November 2016
6th – 7th December 2016
19th – 20th December 2016

Boiler House Water Treatment

11th November 2016

Boiler Operation Accreditation Scheme

14th - 17th November 2016
12th – 15th December 2016

Boiler House Accreditation Scheme Renewal

13th – 14th December 2016

Carbon Reduction and Energy Efficient Steam Systems

15th November 2016

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