

# The dairy industry

Effective steam solutions



*First for Steam Solutions*

EXPERTISE | SOLUTIONS | SUSTAINABILITY

**spirax**  
**/sarco**



## Innovative steam solutions for the dairy industry

At Spirax Sarco we offer an extensive range of steam solutions to the dairy industry, helping our customers to reduce energy costs, water consumption, and improve product quality.

Steam is indispensable to a huge range of process applications within dairy manufacturing, accounting for a significant percentage of a facility's energy consumption.

We will work with you to ensure that the steam reaching your process is the correct quantity, quality and purity at all times, and we can help ensure your steam applications comply with stringent industry legislation as well as health and safety requirements. This will benefit your organization through increased productivity, minimal downtime, and ultimately reduce your costs and carbon emissions.

Supported by our global network of specialist engineers, we are able to use our expertise to help you reach your specific business targets. We can assist you from system concept and design, all the way through to operational energy management that will support your implementation of sustainable manufacturing.



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## Ensuring your product quality

Clean steam is widely used in the dairy industry to reduce the risk of product or process contamination in applications like ultra-high temperature (UHT) sterilization and sterilize-in-place (SIP).

It is critical that the steam is supplied in optimum condition and contains nothing likely to spoil the product or otherwise cause harm.

With our product range, you have the reassurance of knowing that our high efficiency point-of-use solutions will help ensure your process not only meets, but exceeds the required purity standard, and that the steam in contact with your process is free from contaminants.

## Steam safety

Dairy manufacturers are legally required to ensure the quality of the final product by identifying potential hazards and controlling them, typically by using a hazard analysis and critical control point system (HACCP).

The current lack of legislation or guidance governing the quality and purity of steam, means manufacturers should be vigilant in ensuring suitable controls are established and adhered to. Within a HACCP context, steam quality and safety could be described as a HACCP prerequisite or, if the steam is added directly into the product, as a stage in the food production process.

## How we can help...

Our expert engineers can offer guidance in the following areas relating to steam quality and purity within the dairy industry:

- The various grades of steam quality available to users and how these are achieved
- Potential sources of contamination arising from the use of an inappropriate grade of steam
- Best practice in the design, maintenance and testing of steam systems to ensure the correct quality and purity of steam reaches the process.



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## Dairy is guaranteed steam purity in its cheese production thanks to Spirax Sarco

**Company:** Dairy company **Location:** Minneapolis, MN

**Objective:** Reduce the risk of particle contamination within cheese production.

**Solution:** The installation of a Spirax Sarco CSF26 culinary steam filter solution.

**Results:** Steam purity in compliance with 3A Culinary Industry Standard.  
Reduced operating costs.



## Key stages of a HACCP

Identify hazards  
through analysis

Identify critical  
control points

Establish critical limits

Implement monitoring  
procedures

Implement corrective  
measures

Implement verification  
procedure

Keep records





## you establish a HACCP for using steam in dairy applications?



→ We can carry out a full analysis of your steam system through a steam quality audit.

→ We will work with you to identify where hazards can be prevented, for example where steam is directly in contact with the product.

→ We'll help you establish acceptable parameters for steam quality.

→ Our steam measurement and sampling solutions provide insight into the quality of your steam.

→ We have a range of equipment that will automatically respond if contamination is detected in returned condensate. This system, together with on-going checks ensures deviations are quickly dealt with.

→ Our expert steam engineers can provide on-going support to ensure all of your steam system equipment is functioning correctly, and advise where improvements may be made.

→ We'll work with you to ensure important information about your steam system performance and steam quality is recorded, providing documentation on the quality of your steam.

## Energy saving and water reduction

With energy targets set out by governments and authorities and the pressing need to reduce costs, we can help you by advising where savings may be made in your steam system.

The opportunity for recovering both water and energy from the boilerhouse and specific process applications is significant, and we are committed to ensuring none of these opportunities are overlooked. For example, condensate recovery is a direct way of saving costs through energy and water reduction, and we can show you where systems could be installed to gain these benefits.

Through energy auditing we can also recommend products and solutions that will improve the efficiency of your applications, from milk delivery to packaging and dispatch.



### Dairy optimizes condensate collection and return for improved control and energy savings

**Company:** Dairy Company    **Location:** NC

**Objective:** Energy savings from steam and condensate system improvements.

**Solution:** Spirax Sarco supplied and installed new pump trap systems within the pasteurizing and clean-in-place applications.

**Results:** Savings of \$22,000 a year.  
Payback period of two years.



**Saving energy and water, improving product quality and ensuring your steam system is working as efficiently as possible will help you make more for less.**

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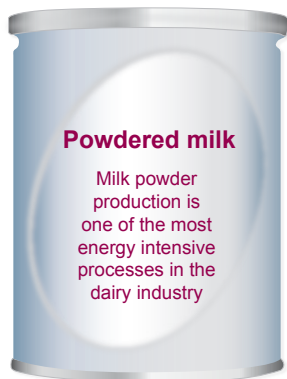
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## Examples of energy and water saving opportunities in dairy steam applications



- We ensure all opportunities for condensate return are maximized through the installation of appropriate equipment. These not only protect process equipment, but also allow for condensate to be returned to the boilerhouse where its heat energy can be used
- Any concerns around contaminants in the condensate are eliminated through use of condensate contamination detection equipment (CCD). Our CCD systems will automatically discard condensate if contamination is detected
- We can also help you recover any waste heat from Single Use or Full Recovery CIP systems reducing energy costs and CO<sub>2</sub> emissions.



- The use of automated monitoring equipment helps avoid waste. For example, our STAPS wireless steam trap monitor will detect any failed or leaking traps allowing corrective action to be taken immediately
- Energy savings through accurate air temperature control can be achieved by using our range of control valves with easily interchangeable seats
- Our solutions for flash steam recovery from high pressure steam heaters will improve process efficiency and reduce your costs.



- Our clean steam generator packaged solutions ensure the right grade of steam is supplied at the right flow rate and pressure for your application
- We are able to help you recover and re-use low grade waste heat from UHT processes, reducing energy consumption, cooling tower evaporation losses and general running costs
- As well as heat recovery, we can monitor and maintain site performance using our comprehensive range of flowmeters.

## Making a difference in the dairy industry

With continued investment into our world class steam technology center and testing facilities, we are constantly researching and developing new products and solutions that will help our dairy customers unlock the potential of their steam systems.

We train our sales engineers in purpose-built facilities located throughout the world, providing them with a robust understanding of steam applications for the dairy industry. We recognize that it is not our products alone that provide the value to our customers; it is the application of our knowledge and experience.



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We are making a difference in dairies worldwide, to find out how we can make a difference to your business visit [spiraxsarco.com/us](http://spiraxsarco.com/us)



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