



# Steam solutions for the pharmaceutical industry

*First for Steam Solutions*

EXPERTISE | SOLUTIONS | SUSTAINABILITY

**spirax**  
**sarco**



# A total steam system solution for the pharmaceutical industry

## Meeting the challenge of delivering innovative solutions for both utility and clean systems

From vitamins to vaccines the global pharmaceutical industry is fundamental to enhancing the world's health.

Steam is indispensable to a huge range of plant and high-purity applications within pharmaceutical manufacturing – from HVAC to sterilization – and can account for a significant percentage of a facility's energy consumption.

As the world's leading authority on steam system engineering our experience can help you comply with stringent industry legislation, health and safety and current Good Manufacturing Practices (cGMPs).

Our innovative solutions will ensure that the correct quantity, quality and purity steam will reach your process at all times. This will benefit your organization through increased productivity, minimal downtime, and ultimately reduce your costs and carbon emissions.

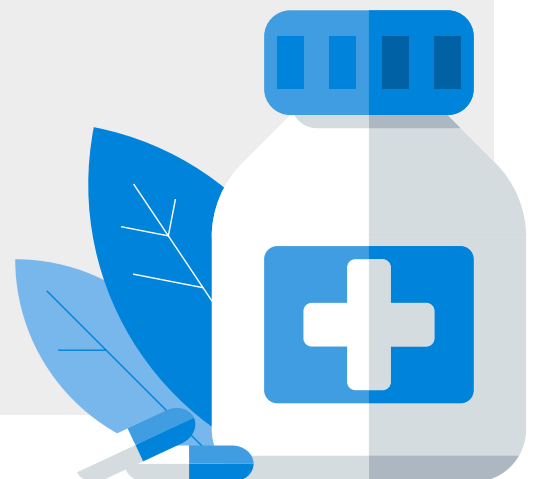
Our capability stretches from plant steam and utilities, to packaged solutions and into clean utilities.

Supported by our network of specialist engineers we are able to use our knowledge and tailor it to benefit your specific business. 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.

When you need someone who understands your processes and the exacting standards that the pharmaceutical industry demands, who better to turn to for all your steam needs than Spirax Sarco?

### Benefits:

- Expert advice on critical steam applications in the pharmaceutical environment
- Single source of supply for steam solutions from plant to high-purity applications
- Engineered packages for seamless integration and faster field installation
- The reassurance of full supporting documentation
- Global presence with local service and support
- Support for sustainable manufacturing, from system concept to operational energy management



## An integrated solution

Choosing Spirax Sarco for all your steam needs brings advantages of a single point of supply where service and quality are guaranteed.

### **Plant steam**

Spirax Sarco has developed a comprehensive range of steam and condensate solutions, providing benefits such as improved heat transfer efficiency, reduced corrosion risks, flash steam recovery and improved condensate management. These are aimed at lowering water and effluent charges as well as energy losses, to drive savings and improve your systems performance.

### **Complete packaged solutions**

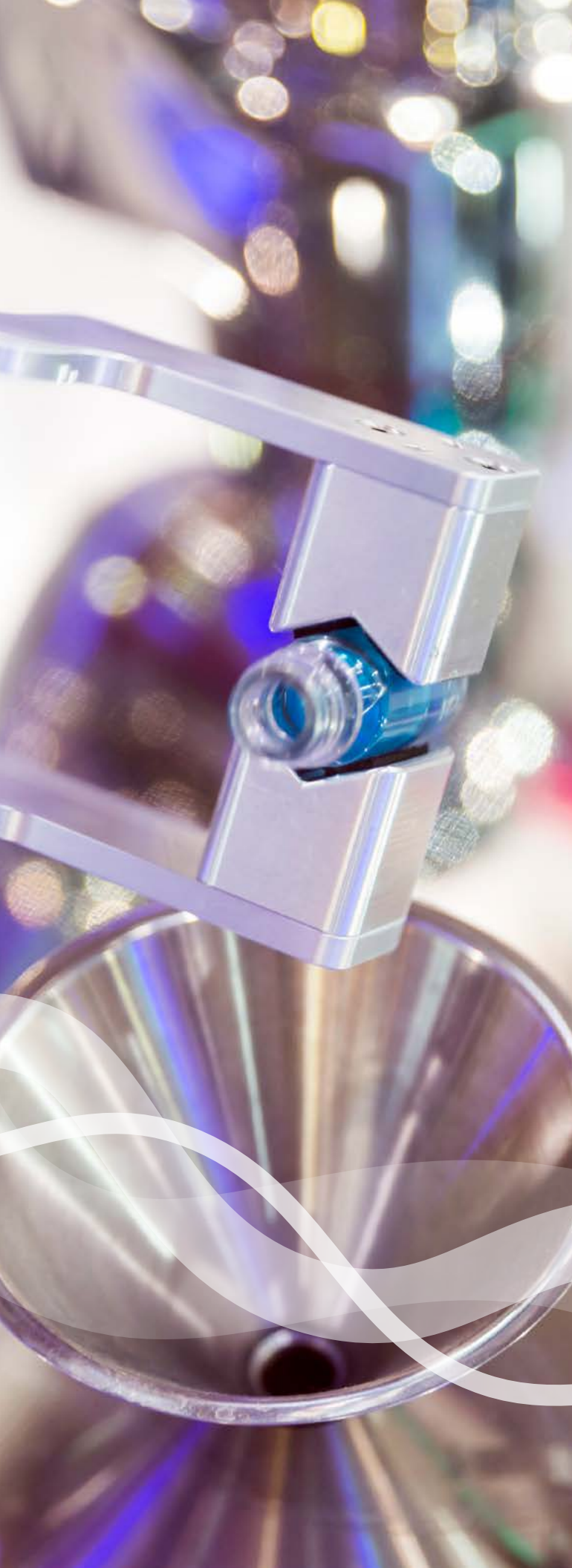
We offer standard or custom engineered packages – from process heating to energy saving solutions. Packages are pre-assembled, sized and configured for optimum performance, seamlessly integrated and factory tested and inspected allowing faster field installation and incurring minimum downtime – all with single source responsibility for lower lifecycle costs.

### **High purity**

Clean and pure steam has formed an important part of Spirax Sarco's business since we developed the first true hygienic steam trap in the 1980s and remains core to our high purity range. Our products and solutions range from steam generation to distribution and provide pure, dry, endotoxin-free steam.

Steam supply is our passion. Spirax Sarco brings over 100 years of expertise and advanced solutions so we can offer technologies to suit every different steam application, including:

- Steam-in-place
- Sterilization
- Humidification
- Sanitary heat transfer
- Steam distribution and condensate return
- Steam generation





## A compliant and accredited process

At Spirax Sarco, we work within a fully accredited ISO 9001 audited system delivering quality throughout our operations

We manufacture in a number of strategically located ISO 9001 and 14001 approved production sites, with specialized facilities for high purity manufacturing.

We continually monitor certification and documentation requirements within the pharmaceutical industry enabling us to provide you with all documentation necessary to ensure compliance.

You can have confidence knowing that the solutions you implement are not only compliant with current legislation, but that any recent developments have been implemented, saving you time and expense.

Our products and packages, when required, can be supported with full documentation covering:

- Technical datasheets and drawings
- Pressure / integrity testing
- Full material certification
- FDA and USP class VI approved material certification
- Surface finish certification
- Welding documentation

### **Spirax Sarco's Clean Steam Traps and Air Vents Deliver:**

- 'Gold Standard' EN10204 3.1 Certification, across all wetted parts, including FDA approved element fill as used in our proprietary steam trap technology.
- 'Best in Class' mitigation of contamination risk within the pharmaceutical and biopharmaceutical manufacturing process.

“Spirax Sarco's solution cut our implementation costs and gave us the compact, high efficiency solution we needed.”

*Gilead Pharmaceuticals,  
Manufacturing Representative*



## An efficient and reliable steam system

Keeping your system at optimum efficiency not only reduces your total cost of ownership, but can also increase production efficiency. With a national network of experienced engineers, means we can support you wherever your location.

### Benefit from a well-trained, knowledgeable and professional workforce

We bring the experience to you. With a range of customizable and effective steam programs available, we make sure that your team has the necessary understanding, training, and documentation to support running your steam systems as well as, any assessments or legislation requirements.

### We focus on your steam system, so you can focus on your process

Spirax Sarco can provide you with a cost-effective solution for your routine and preventative maintenance. Our qualified and experienced engineers can work alongside your team to

improve and sustain your plant's efficiency. We ensure that your processes are trouble-free, health and safety compliant and that steam consistently reaches your point of use at the correct quantity, quality and purity.

Having a preventative maintenance process in place, will support your quality critical systems that are subjected to continuous performance evaluations.

### We offer dedicated Clean Steam Centers, that incorporate ISO7 cleanroom standards

Spirax Sarco is focused on meeting the requirements needed for delivering a clean and pure steam solution.

We also recognize and supply the industry need for full product material traceability as part of our manufacturing process.

Spirax Sarco will reflect industry practice expectations by following cGMP throughout our production facility.

*Spirax Sarco's Clean Steam Manufacturing Facility*





**spirax**  
**/sarco**








Spirax Sarco, Inc  
 1150 Northpoint Blvd  
 Blythewood, SC 29016  
 T +1(800)883-4411  
[www.spiraxsarco.com/global/us](http://www.spiraxsarco.com/global/us)

    YouTube

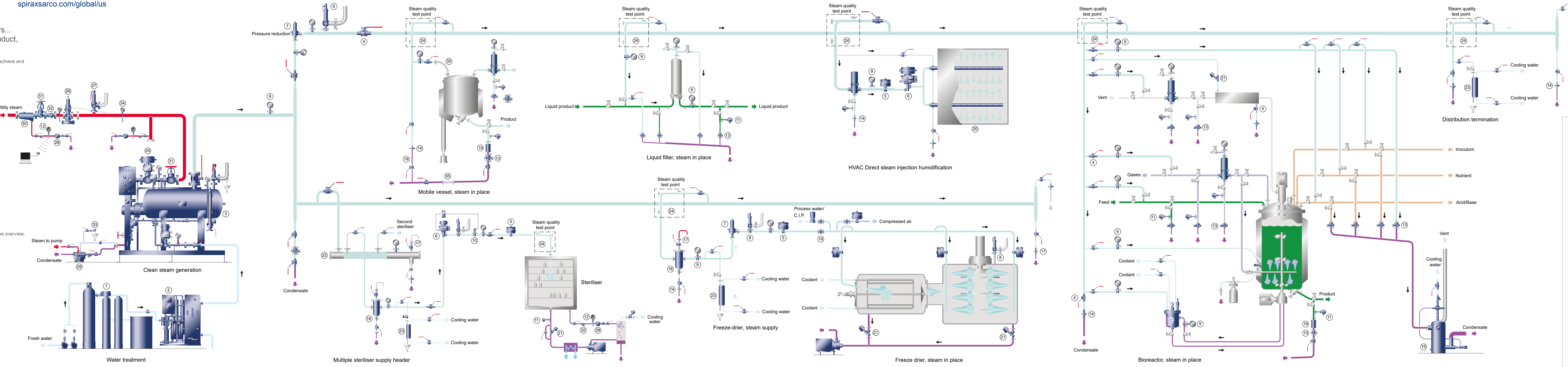


Spirax Sarco is committed to helping our customers...  
 reduce energy costs, improve the quality of the product,  
 and increase production time.

The symbols below highlight some of the many areas where we can help you to achieve and  
 exceed your business targets.

-  Improved maintenance
-  Energy saving opportunities
-  Process time improvements
-  Product quality assurance
-  Water savings
-  Product software available
-  Chemical savings

For identification of the highlighted products see the 'Product key' at the end of the overview.



**Product key**

**Plant room**

1. Softener/water pre-treatment
2. RO feedwater treatment
3. Clean steam generator

**High purity steam**

4. Ball valve - M70i or M80i
5. Actuated ball valve - M70i or M80i
6. Pneumatic control valve - Sleni-Trol
7. Self-acting pressure control - SRV66
8. Safety valve

**Instrumentation**

9. Pressure gauge
10. Pressure transmitter
11. Temperature transmitter
12. STAPS wireless steam trap monitor

**High purity condensate**

13. Steam trap - BT6-B
14. Steam trap - BTM7
15. Flash steam condenser/cooler

**High purity ancillaries**

16. Separator - CS10
17. Air vent - AVM7
18. Check valve - CVS10
19. Sight glass - SGS10
20. Direct steam injection lance
21. Piston valve - PF6 sanitary clamp
22. HTM2010 steriliser header

**Sampling**

23. Sample cooler - SCS20
24. Steam quality test elbow

**Plant steam and condensate**

25. Pneumatic and electric actuated control valve
26. Pilot actuated pressure control valve
27. Safety valve
28. Steam trap
29. Separator
30. Separator
31. Isolation valve
32. Strainer
33. Air vent
34. Pressure gauge
35. Flexible coupling

All drawings shown are diagrammatic representations of the process and therefore should not be referred to as 'best practice' installations.

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