Applications Overview
for the steam and condensate loop
Steam Generation

Feedwater Storage and Conditioning
1. Feedtank
2. Deaerator heads
3. Steam injection and temperature control systems
4. Level controls
5. Recirculating systems
6. Air vent and vacuum breakers

Feedwater Supply and Boiler Level Controls
7. Modulating feedwater valve controls
8. Water level alarms
9. Feedpump check valves
Also available:
- On/off feedpump controls

Boiler Blowdown TDS Controls
10. Auto TDS control systems
11. Sample coolers
Also available:
- Blowdown systems for coil and other boilers

General layout only, some of the detail has been omitted for clarity. Your local Spirax Sarco engineer will be pleased to advise.
Blowdown Heat Recovery
12 Flash vessels
13 Residual blowdown heat exchangers and circulating pumps

Bottom Blowdown Valves and Vessels
14 Timed, bottom blowdown valves
15 Inlet manifolds
16 Isolation and check valves
17 Blowdown vessels
18 Cooling water systems
19 Vent heads

Also available:
- Manual bottom blowdown valves

Steam Start-Up
20 Steam main start-up systems
21 Steam separators

Condensate Monitoring
22 Conductivity monitoring system
23 Turbidity monitoring system
24 Condensate dump valves

Some products, services or solutions may not be available in certain markets.
Steam Distribution and Utilization

Pressure Control
25 Pneumatic pressure control systems
26 Direct acting pressure reducing valves
27 Pilot actuated pressure reducing valves
28 Safety valves

Temperature Control
29 Self-acting controls
30 Pneumatic temperature control systems
31 High temperature cut-off valves
32 Electric temperature control systems

Flowmetering
33 Variable area flowmeter also available
- Fixed area
- Vortex
- Orifice
- Also see Wireless communication

General layout only, some of the detail has been omitted for clarity. Your local Spirax Sarco engineer will be pleased to advise.
Steam Traps

34 Thermodynamic
35 Float
Also available:
- Balanced pressure
- Bimetallic
- Inverted bucket
36 Steam trapping station

Ancillaries

37 Strainers
38 Air vents
39 Sight glasses
40 Pressure gauges
41 Vacuum breakers
42 Separators
43 Check valves
44 Steam trap monitors
45 Manual and actuated ball valves
46 Stop valves
47 Bellows sealed stop valves
48 Double block and bleed isolation valves

Wireless Communication

49 Wireless steam trap monitoring
50 Wireless flowmeter

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Humidification
51 Steam injection humidifiers
Also available:
- Self-generative humidifiers

Clean / Pure Steam
Many of the products shown are also available for clean or pure steam applications in the biotechnology, pharmaceutical, food and drink industries.

Flash Steam Recovery
52 Flash vessels are used to convert pressurized condensate into useful flash steam - used here on the first stage of an air heater battery.

General layout only, some of the detail has been omitted for clarity. Your local Spirax Sarco engineer will be pleased to advise.
Condensate Recovery

53 Combined pump traps and pressure power pumps for condensate removal and return (no electrics).

54 Electric pump sets used where condensate can freely drain into a receiver.

Heat Transfer Solutions

55 Flash recovery package
56 Exhaust vapor condenser
57 Domestic hot water package
58 Heating package

Some products, services or solutions may not be available in certain markets.
Complete Integrated Solutions
Packaged heat exchangers, product assemblies, system audits, design, installation, maintenance and project management.

Boiler Controls and Systems
Feedtanks, level controls and alarms, feedpump check valves, boiler blowdown valves, TDS control systems, steam injection systems, sample coolers, heat recovery systems, conductivity meters, condensate contamination detectors, blowdown vessels and vent heads.

Flow Measurement
Variable area orifice, target variable area, inline and insertion vortex, insertion turbine, transit-time ultrasonic, thermal mass, electromagnetic flowmeters, and flow computers.

Control Systems
Pneumatically or electrically actuated two-port valves, positioners, programmable electronic controllers, pneumatic transmitter controllers, pressure reducing valves, surplussing valves, safety valves, self-acting temperature control valves and high limit temperature cut-outs.
Steam Traps
Thermodynamic, float and thermostatic, balanced pressure, inverted bucket and bimetallic steam traps, sealed and quickfit steam traps, Spiratec steam trap performance monitors and steam trapping stations.

Condensate Pumps and Energy Recovery
Automatic steam (or gas) powered fluid pumps, pump-trap combinations, electric powered condensate recovery units and flash steam recovery vessels.

High Purity Products
Temperature controls, pressure control instrumentation, steam traps, sample coolers, ball valves, separators and filters.

Pipeline Ancillaries
Manifolds, separators, bellows sealed stop valves, check valves, diffusers, strainers, sight glasses, pressure gauges, air vents, vacuum breakers, hosedown stations and ball valves.
Complete Integrated Solutions for You

With so much going on, businesses today are increasingly relying on outside expertise for management of energy sources. Allow us to help so you can concentrate more on your core business activities.

Spirax Sarco has the expertise and products you require regarding the use of steam and other related industrial fluids. Our offerings make us the perfect partner as a solutions provider. These solutions can range from simple product assemblies to major turnkey projects, such as boiler house upgrades.

**System Services**

At Spirax Sarco, we offer a complete range of services to ensure the effective and safe management of steam, condensate and other industrial utility fluid systems.

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**These Services Include:**

- Tailored audits to identify areas for improving system efficiency, and ensure compliance with Health, Safety and Environmental legislation.

- Steam System Conditioning and Quality Testing programs that deliver reduced cost of ownership and optimized heat transfer throughout the system.

- Design of customer-specific energy saving solutions and strategies.

- Design of process improvement solutions to increase product quality and / or yield.

- Installation of new and replacement products to improve energy utilization, system reliability and reduce water and chemical usage.

- Commissioning and routine servicing, in addition to advice on Planned Preventative Maintenance programs, to fully optimize process performance and uptime.

- Project management to ensure seamless on-time, on-budget completion of large turnkey contracts.

- Equipment recalibration and repair facility to help maintain system safety and process availability.
You need more than just the world’s most comprehensive range of steam and condensate loop products.

It’s a good starting place to know that we can offer every component found in your steam and condensate loops, 12,000 products! But that alone doesn’t solve your challenges.

**Gain Total Control Over Your Steam Processes**

By explaining your core business, and the steam processes it needs to your local Spirax Sarco contact, they acquire the foundation they need to think in plant-wide terms for your unique process solutions. Their proposals are site specific, tailored to your current operating conditions and focused on providing increased control.

- Higher quality, more consistent steam
- Enhanced energy savings and recovery
- Better system-wide metrics
- Easier commissioning, start-ups and balancing of systems
- Improved safety
- Full compliance to local and international regulations and your sustainability goals (e.g., learning your current CO2 emission levels)
- Streamlined and optimized maintenance programs
- Life cycle cost analysis (LCCA) to minimize your total cost of ownership
- Guaranteed performance

**Start Where You Are**

Obviously, we’re in it for the long haul. But your needs might be very immediate: troublesome boiler controls, inadequate flow measurements, premature failure of steam traps and so on. We’ll start where you are, bringing a collective expertise of over 100 years of steam control to even the most basic equipment challenge.

For our complete product line, you can download our technical information at: [www.spiraxsarco.com/global/us](http://www.spiraxsarco.com/global/us)

Better yet, call us so you can begin leveraging the expertise of your local contact at: **1-800-883-4411**