



2018

# Training Courses

*Expert training to optimize your steam system*

*First for Steam Solutions*

EXPERTISE | SOLUTIONS | SUSTAINABILITY

**spirax**  
**sarco**





# Supporting Your Education

Knowledge and understanding are the keys to efficiency, safety, energy conservation and sustainability.

Spirax Sarco is known for our quality products and knowledgeable approach, but it's our people who make us different. We have an expert understanding of the application of steam across a wide range of industries which enables us to ensure our training courses are relevant to your industry and are current with the latest technological trends.

By providing the skills and knowledge that can be used back in your facility, we can help you to:

- Maximize the efficiency of your steam systems
- Increase steam safety
- Optimize performance
- Demonstrate competence and understanding

Our training programs have been developed to provide a variety of course options for you to create a training plan that best fits your needs.

For those new to steam, or anyone in need of a refresher on steam basics, we offer the Fundamentals of Steam Utilization Course (Level 1). Upon completion of Level 1

we offer more in-depth technical classes focusing on engineering design. We are also able to custom design training classes on an as needed basis to be taught at our facility or yours.

Spirax Sarco has been working with industrial markets and their total steam requirements for over 100 years, gaining considerable expert knowledge of steam engineering and steam systems. Throughout our history, we have provided unrivaled knowledge and training to customers, designers, installers and users worldwide, helping them use boiler fuel more efficiently with lower emissions, and reduced energy consumption. Our aim is to ensure that you achieve the maximum benefit from your plant both efficiently and safely.

For full course descriptions, schedules, cost, and/or to acquire additional information, visit our Training page on the web at [www.spiraxsarco.com/global/ca/training](http://www.spiraxsarco.com/global/ca/training).

# Various Program Highlights

## Generation

- Live steam boiler operation
- Water treatment equipment
- Advanced level control systems
- Blowdown heat recovery systems
- Boiler feed water systems

## Distribution

- Distribution piping
- Steam metering
- Steam conditioning station
- Pressure reducing stations
- Steam trap monitoring systems (wired and wireless)

## Utilization

- Steam optimization
- Steam traps
- Heat transfer technologies
  - Shell and tube
  - Plate and frame
  - Clean steam generator
- PID control demonstrations and tuning
- Selection and sizing of temperature and pressure control valves on steam processes
- Best practices for the safe and efficient use of steam shut down systems and traditional safety valves

## Recovery

- Electrical and mechanical condensate pumps with demonstration
- Condensate recovery from heat exchangers and other equipment
- Cost savings from condensate recovery
- Steam system optimization utilizing flash steam recovery

# General Information

## Training Classes Include

- A full two day of intensive and focused training at our training center, which has “live steam”
- Instruction given by our dedicated steam system experts
- A combination of classroom and lab time
- A balance of lecture, examples, cut-away samples, live demonstrations, participant activities and videos
- Reference material supporting the course syllabus

## Enrollment Procedures

Visit our Training page at [www.spiraxsarco.com/global/ca](http://www.spiraxsarco.com/global/ca) to see the full course offerings and locations. Please complete the registration form and payment online. You will receive confirmation when your registration has been accepted.

## Administration

Fees include attendance in your selected steam class, literature and lunch. Cancellations for standard STM courses will be allowed up to one week prior to the class, after which, course fee is nonrefundable. Substitutions are welcome.

## Classes

Unless otherwise indicated, classes start at 8:30 AM and are usually over by 4:30 PM.

## Transportation

Attendees are responsible for their own transportation.

## Tobacco Policy

Spirax Sarco CA facilities are 100% tobacco free. Use of tobacco products on the premises is prohibited.

## Meals

Lunch and refreshments are provided as part of the training sessions.

## What to Wear

Long pants and closed toe shoes are required. Safety glasses are required in the labs and will be provided if you do not have your own.

## Hotel Accommodations

The list of suggested hotels is available upon request.

## On-site and Custom Training

Spirax Sarco offers custom training at a Spirax Sarco training facility or at your facility. Please contact your Account Executive for detail and pricing or call 416-570-6797 for assistance.

# Level 1 Fundamentals

## Fundamentals of Steam Utilization Seminar

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### DURATION

2 DAYS

### DATES

1-2nd March

26-27th April

13-14th September

8-9th November

**COST** \$750

Course Length: 2 Days ([visit spiraxsarco.com/global/ca/training](https://www.spiraxsarco.com/global/ca/training) to see a full listing of course dates)

Course Fee: \$750

### Objectives:

To provide a general understanding of the purpose and safe operation of Steam & Condensate Systems, their efficient use, optimizing performance and plant output.

### Who should attend?

Anyone wishing to build or improve upon their knowledge of steam and steam utilization including engineers, designers, project managers, estimators, contractors, pipefitters, plumbers, maintenance staff, facilities/operations and energy personnel.

### Subjects covered

The Spirax Sarco Fundamentals of Steam Utilization course is designed to teach participants about the fundamentals of steam and operating practices needed to maintain a safe and efficient steam system.

- Basic properties of Steam - the Energy Fluid
- The Steam & Condensate Loop
- Essential Components of the Steam & Condensate System
- Steam Trapping
- Condensate Removal & Recovery
- Heat Transfer & Heat Recovery Systems
- Basic Controls
- Flow Measurement Principles
- Best Installation Practices for Optimum Plant Performance
- Exposure to the practical workings of Pressure & Temperature Control Valves
- Practical demonstration of all major Heat Exchanger configurations

No prerequisite required

### REGISTER

# Level 2 Installation & Maintenance

## Design of Steam and Condensate Systems Seminar

**DURATION**

2 DAYS

**DATES**

8-9th February

5-6th April

10-11th May

11-12th October

22-23d November

**COST** \$750

Course Length: 2 Days ([visit spiraxsarco.com/global/ca/training](https://www.spiraxsarco.com/global/ca/training) to see a full listing of course dates)

Course Fee: \$750

### Objectives:

To provide specialized knowledge of current practices in Steam & Condensate Systems that go into designing a new system. Putting together a project that covers the Steam & Condensate Loop and also factors to be considered so as to make the design energy efficient.

### Who should attend?

Design Engineers, Plant Engineers, Project Engineers & Energy Managers with specific responsibilities towards steam savings

### Subjects covered

The Spirax Sarco Steam System Design course is action packed with many participant exercises. It begins with the sizing of a complete steam distribution system for process applications. This includes sizing of steam pipes, pressure reducing stations and control valves.

Proper steam trap sizing and selection for various methods are practiced as are methods to detect steam trap failure. Condensate removal and recovery are also discussed, as these play an important role in efficiently operating a plant. The participants work through exercises on sizing condensate return lines and flash lines. The concept of stall is discussed and practiced.

- Fundamentals of Steam Refresher
- The Boiler House -Selecting the Essential Components
- Steam Distribution- Pipe Sizing Considerations
- Steam Trap Selection and Sizing
- Condensate Pipe Sizing Considerations
- Pressure & Temperature Control Valve Sizing
- Flash Steam Recovery & Condensate Pumps

## REGISTER

The easiest way to register for Spirax Sarco training courses is via online registration found on the Training page at

[www.spiraxsarco.com/global/ca/training](http://www.spiraxsarco.com/global/ca/training)

If you need more course details or have questions about information in this brochure don't hesitate to contact us.



800-883-4411



[training@ca.spiraxsarco.com](mailto:training@ca.spiraxsarco.com)



[www.spiraxsarco.com/global/ca/training](http://www.spiraxsarco.com/global/ca/training)

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