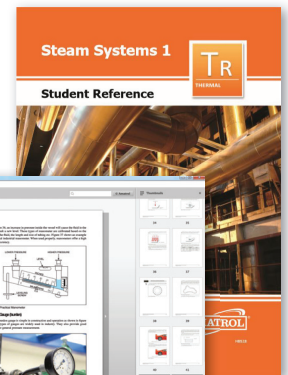


Steam Systems Learning System

950-SH1



Steam Systems Learning System



Optional eBook Curriculum and Student Reference Guide

Learning Topics:

- Steam Systems Science
- Boilers
- Air and Condensate Control
- Pressure Control
- Temperature Control
- Condensate Recovery Systems
- Steam Systems Performance
- Thermal Expansion
- Internal Energy & Enthalpy
- Blowdown
- Strainers
- Heat Exchangers
- Globe Valves

Amatrol's Steam Systems Learning System (950-SH1) introduces learners to the operation, installation, maintenance, and repair of steam systems and their application in paper mills, commercial and residential settings, power companies, and even nuclear submarines. Amatrol's exceptionally thorough steam systems science curriculum covers a comprehensive range of steam system topics, including both practical applications such as how to operate a boiler and theoretical knowledge like the coefficient of volume and thermal expansion.

The 950-SH1 includes industrial-grade components, such as an electric boiler, blow-down separator, and condensate feedwater systems so learners can work with real-world mechanisms and gain experience in areas such as safety, thermal expansion, and steam system performance they would normally only acquire on the job. This is just one example of Amatrol's commitment to providing the best components and curriculum available.



Technical Data

Complete technical specifications available upon request.

Mobile Workstation

- Dimensions: 92-in L x 82-in H x 32-in W
- 2-in squared welded steel tubing
- Heavy duty casters

Industrial Electric Boiler System

- 36 lbs/hr flow rate, maximum pressure of 36 psig
- ASME-coded pressure vessel, rated 100 psig
- Low water cutoff/ level control
- Main on/off switch
- Pilot light
- Blowdown Valve
- Water sight glass with shutoff valves
- Safety Relief Valve
- Steam pressure gauge
- Automatic reset operating control
- Manual reset operating control
- Electric heating elements (set)
- Louvered enclosure with access door

Mobile Mounting Frame

Blowdown Separator

- ASME code tank
- Aftercooler Assembly
- Globe Valve
- Strainer
- Temperature regulator valve
- Check valve
- Thermometer
- Mounting legs

Condensate Feedwater System

- Condensate tank, 9 gallons
- Sight glass
- Globe valve
- Mounting legs
- Condensate pump, turbine-type
- Electric motor, 0.5 Hp
- Makeup valve
- Strainer

Condensate Removal System

Process Water Heat System

- Heat Exchanges, Shell-in-tube type, 4-pass (2)
- Strainer, Y-type
- Steam trap, inverted bucket type
- Pressure regulator, 5-36 psig
- Safety relief valve
- Temperature regulator valves (2)
- Vacuum breakers (3)
- Steam traps, float and thermostatic type (2)
- Thermostatic air vent
- Temperature gauge (7)
- Pressure gauges (2)
- Hot water storage tank, galvanized, 10-gallon
- Centrifugal pump and electric motor drive
- 2-way valves (18)
- Check valve (3)
- Sight glass

Instrumentation

Student Learning Activity Packet (BB528)

Instructor's Guide (CB528)

Installation Guide (DB528)

Student Reference Guide (HB528)

Optional eBook Curriculum (EB528)

Additional Requirements:

- Hand Tool Package (41215)
- Personal Computer
- For PC requirements, see <http://www.amatrol.com/support/computer-requirements>

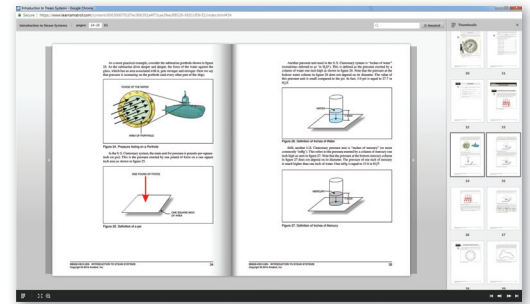
Utilities Required:

- Electrical power: 3-phase, 208 VAC, 60 Hz, 60 amps
- External Water Source & Nearby Drain

World-Class Steam Systems Curriculum

Amatrol's world-class curriculum infuses the scientific theory of steam with how it's harnessed for practical applications. The 950-SH1 explains important concepts like internal energy, specific heat capacity, and flash steam, as well as important calculations for steam power, such as calculating the change in enthalpy caused by phase change. Thus, learners can see how this theoretical material applies to tasks like the startup, shutdown, and blowdown of a boiler; the operation of an OS&Y valve; and how to test a steam trap.

As an online option to the Learning Activity Packets (LAPs), Amatrol's eBooks look like a real book which allows users to flip between pages with ease anywhere with an internet connection. Enhanced with features, such as keyword searches and zoom controls that enable a user to quickly locate and view information, make these eBooks a great learning tool.



Optional eBook Curriculum

Steam Safety Precautions

Amatrol's 950-SH1 also provides learners with a thorough understanding of the dangers of working with steam systems, as well as safety precautions that can prevent injury. The 950-SH1's curriculum teaches ten basic safety rules for working around steam systems, such as the appropriate choice in clothing to avoid burns, what safety components are present on a steam system, and the dangers of opening and/or closing valves without knowing their function. The 950-SH1 also covers maximum allowable working pressure (MAWP) and how safety relief gauges can keep a user safe when pressure builds in a steam system.

Industrial-Grade Steam Components for Real-World Experience

The 950-SH1 features an electric boiler that is an ASME coded pressure vessel rated at 100 psig that can attain 36 psig steam pressure and 36 lbs./hr flow rate. The boiler also features low water cutoff/level control, steam pressure gauge, and both automatic and manual reset operating controls. The 950-SH1's condensate feedwater system features a 9 gallon condensate tank, turbine type condensate pump, and a 0.5 Hp electric motor. The learning system also features several valves, including: pressure regulator, safety relief, temperature regulator, 2-way, check, and globe.



950-SH1 Learning System

