Installing and maintaining solar thermal closed-loop systems require hands-on skills and troubleshooting ability across both drainback and pressurized systems. Likewise, engineers and designers need to understand the technologies used in these systems as well.

Amatrol’s 950-STCL1 Solar Thermal Closed-Loop Troubleshooting Learning System allows students to develop the specialized skills and knowledge needed for working with the two common types of thermal closed-loop systems: drainback and pressurized. The 950-STCL1 teaches students connection, operation, programming, and troubleshooting of both drainback and pressurized systems. The curriculum is PC-based multimedia that is highly interactive. It allows students to use the learning style best for them – reading, listening, or visual. The 950-STCL1 supports the NABCEP (North American Board of Certified Energy Practitioners) test for Certified Solar Thermal System Installer.

The 950-STCL1 includes all components needed to develop hands-on, job-ready skills: all solar specific components as well as balance of system items. The learning system contains a mobile workstation, multiple component circuit panels, two solar collectors, fault insertion, PC-based multimedia student curriculum, and instructor’s assessment guide. An optional sun simulator is available to facilitate classes indoors when outdoor conditions do not support solar heating.
Fault Insertion For Both Electrical and Fluid Systems

At the heart of a technician's skill set is the ability to troubleshoot a system. The 950-STCL1 is equipped with a wide array of both electrical and fluid faults that allow instructors to replicate realistic system and component failures. Students will learn to independently solve the many common types of situations they will encounter on the job.

Balance of System Components – Replicates Real World Thermal Systems

Developing installation and troubleshooting skills for solar thermal systems requires all the components commonly found in these systems. Elements such as vacation bypass, check valves, relief valves, flow meters, and tempering valves are essential to create realistic systems and troubleshooting situations. Amatrol also includes a digital differential controller that features many programming capabilities which allow students to learn how to program the more sophisticated thermal systems they are likely to encounter.

Two Types of Closed-Loop Thermal Systems

Solar technicians will encounter both drainback and pressurized closed-loop solar thermal systems. Across any given region that experiences freezing conditions, both of these systems are used extensively. Amatrol includes the components needed to configure either system, including both an expansion tank and drainback tank. Students can switch between the two systems with valving.

Optional Sun Simulator (95-STS1)

Amatrol offers an optional sun simulator, the 95-STS1, for use indoors with the 950-STCL1. The Solar Thermal Closed-Loop Learning System’s two thermal collectors work either outside with direct sunlight or inside with the sun simulator.