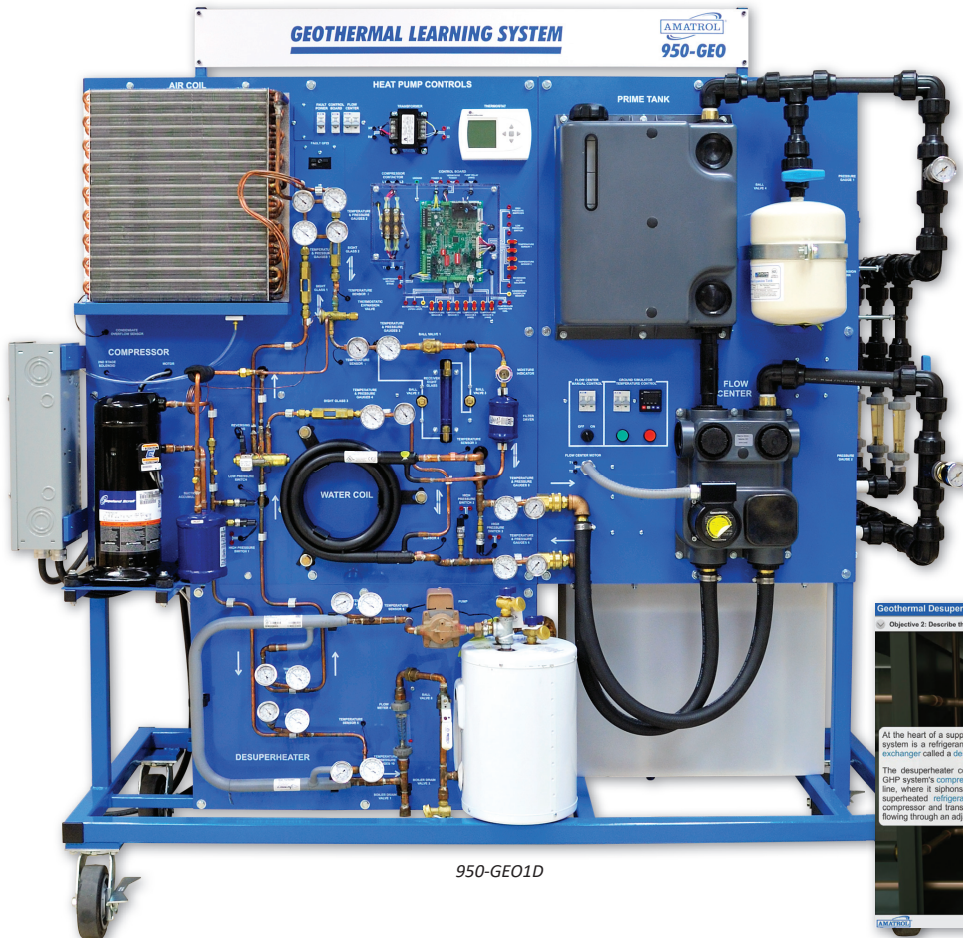
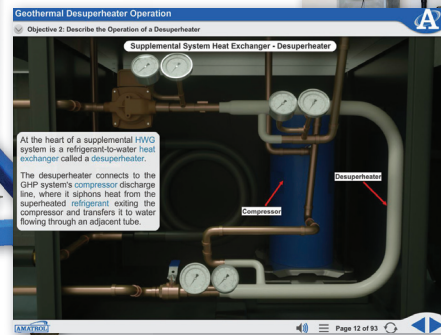
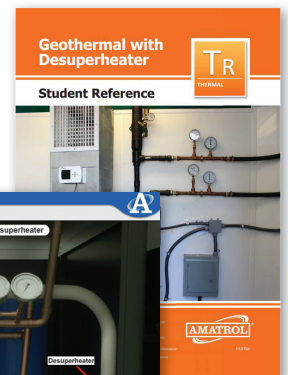


Geothermal Learning System with Desuperheater

950-GEO1D



950-GEO1D



Interactive Multimedia Curriculum and
Student Reference Guide

Learning Topics:

- Geothermal Heat Pump Systems
- Closed-Loop Source Circuit Operation
- Compressors
- Condensers and Evaporators
- Heat Pump Components
- Refrigerants
- Heat Pump Control and Operation
- Heat Pump System Performance
- Desuperheater Operation
- Desuperheater Hot Water Generation

Amatrol's Geothermal Learning System with Desuperheater (950-GEO1D) teaches learners a wide range of knowledge and hands-on skills related to geothermal systems in both residential and commercial applications. Topics range from geothermal system startup and operation to shut down and maintenance. The system features real-world components, often not visible in actual installations, on a vertical panel that permits easy access for hands-on skills and observation.

The 950-GEO1D includes a geothermal desuperheater, which is used to heat water for little or no additional cost. The system also features a ground simulator, so that learners gain practical experience using a realistic, continuously-operational system. Other major components include a 2-stage compressor with a 2-ton heat pump, air duct with ECM blower, ground source loop, and industrial-grade geothermal controller.



Technical Data

Complete technical specifications available upon request.

Mobile Workstation

Desuperheater

- Hot Water Tank (2.5 gal)
- High-Pressure Relief Valve
- Centrifugal Circulation Pump
- Flow Meter
- Heat Exchanger (Coaxial Tube Type)
- Pressure Gauges (4)
- Temperature Gauges (4)
- Troubleshooting Faults (4)

Heat Pump (Water-to-Air)

- R-410A Refrigerant
- 2-Stage Compressor (20,000 BtuH)
- Air Duct System
- Flow Meter
- Pressure & Temperature Gauges
- Thermocouples
- Condensate sensor
- Pressure Switches
- Receiver
- Manual Valves
- Filter/Dryer
- Suction Accumulator
- Thermostatic Expansion Valve
- Reversing Valve
- Moisture Indicator
- Load-Side Heat Exchanger
- Water Coil
- Tubing
- Air Flow Control

Ground Source Loop

- Flow Center
- Header Loop Circuit
- Expansion Tank
- Header Tank
- Temperature & Pressure Gauges
- Flow center Manual Control

Ground Simulator

Geothermal Control Section

- Main Power Control
- Geothermal Controller
- Thermostat

Shorting Bars (12)

Clamp-On Multimeter

Multimedia Curriculum (M12305/M12307)

Instructor's Guide (C12307)

Installation Guide (D12307)

Student Reference Guide (H19764)

Refrigerant R-410A Reference Guide (G12307)

Additional Requirements:

- Water Supply with Hoses
- Hand Tool Package (11771)
- Computer (Visit www.amatrol.com/support/computer-requirements-for-details.)

Required Utilities:

- Electricity: 240VAC/60Hz/1 Phase

Options:

- Geothermal Flush Cart Learning System (95-GEO3)

Study Geothermal Energy with Real-World Components

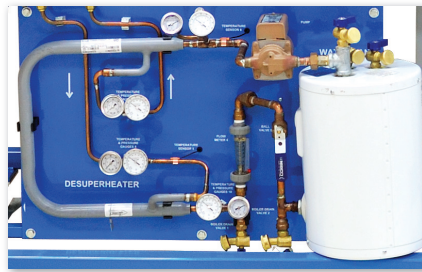
The Geothermal Learning System with Desuperheater (950-GEO1D) features real-world components commonly found in installed geothermal systems. These include a 2-stage compressor, 2-ton heat pump, ground source loop, variable speed ECM air blower, water coil heat exchanger, electrical test points, and high-density polyethylene pipe. These components are mounted for easy observation on a vertical panel, allowing learners to evaluate system operation and performance.



Real-World Geothermal System Components

Develop Hands-On Skills Practicing with a Desuperheater and Ground Simulator

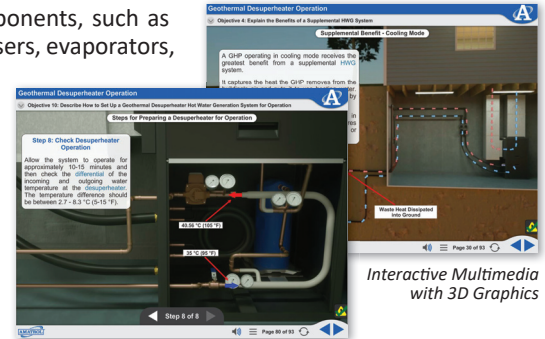
The 950-GEO1D also contains a desuperheater and ground simulator, two features often excluded from training systems. The system teaches learners about desuperheater operation, startup, shutdown, and maintenance. The custom-designed ground simulator acts as a realistic heat source/sink that creates a sustained, temperature-controlled environment that accurately replicates the constant temperature found underground. This allows the system to deliver consistent, accurate data collection, replicating real-world conditions for training.



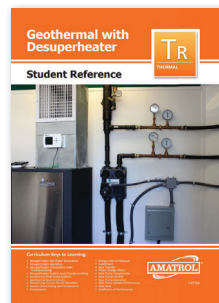
Desuperheater Module on the 950-GEO1D

Engaging, Highly-Interactive Multimedia

Amatrol's curriculum features a highly-interactive, multimedia format that includes stunning 3D graphics and videos, voiceovers of all text, and interactive quizzes and exercises designed to appeal to learners with different learning styles. The 950-GEO1D's curriculum teaches learners the basics of geothermal heat pump systems and then moves on to more advanced concepts and components, such as closed-loop circuits, compressors, condensers, evaporators, refrigerants, suction line accumulators, moisture indicators, thermostats, and desuperheater operation. The combination of theoretical knowledge and hands-on skills solidifies understanding and creates a strong basis for pursuing more advanced skills. The curriculum also provides learners with a solid foundation for pursuing an International Ground Source Heat Pump Association (IGSHPA) certification.



Interactive Multimedia with 3D Graphics



Student Reference Guide

A sample copy of the Geothermal with Desuperheater Student Reference Guide is also included with the system for your evaluation. Sourced from the system's curriculum, the Student Reference Guide takes the entire series' technical content contained in the learning objectives and combines them into one perfectly-bound book. Student Reference Guides supplement this course by providing a condensed, inexpensive reference tool that learners will find invaluable once they finish their training, making it the perfect course takeaway.

