# Controls Technology Basic Hydraulic Learning System – Double Sided

**850-HD1**

FP
FLUID POWER


*850-HD1 (Front)*

*Shown with Optional*
*85-IH, 85-EF, 85-BP, 85-IP*

*850-HD1 (Back) with options*


*Student Reference Guide and*
*Optional Interactive Multimedia*

## Learning Topics:

- Hydraulic Power Systems
- Circuit Connections
- Basic Hydraulic Circuits
- Hydraulic Schematics
- Principles of Hydraulic Pressure and Flow
- Hydraulic Leverage
- Hydraulic Speed Control
- Check Valves
- Pressure Control Circuits
- Sequence Valve Applications
- Pressure Reducing Valve Applications

Amatrol's Controls Technology Basic Hydraulic Learning System – Double Sided (850-HD1) is equipped with the Basic Hydraulic Learning System (85-BH) panels and has the capacity to add another set to the oppostie side to double your training capacity. This learning system introduces industry-relevant hydraulic skills while showing how they apply to fundamental hydraulic principles, such as pressure and flow. After completing this learning system, learners will not only understand concepts like flow rate versus cylinder speed and pressure versus cylinder force, but also be able to operate, install, design, and troubleshoot basic hydraulics for various applications. Hydraulics are used in innumerable industrial applications, including part stamping, assembly, industrial robots, and even crushers used in mining.

The 850-HD1 includes a controls technology workbench, one set of basic hydraulic panels with industrial-components, a 2.5 GPM/500 psi hydraulic power unit, student curriculum, a student reference guide, and much more! The 850-HD1 features standard industrial-grade components in order to provide learners with real-world experience they would normally only attain on the job. The 850-HD1's mobile workstation is constructed of durable welded steel to provide a sturdy, long-lasting learning station. Storage slots are located under the work surface where learners can conveniently store component panels until they are needed.

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## Technical Data

Complete technical specifications available upon request.

**Controls Technology Bench**
**Double-Sided Frame Unit**
**Hydraulic Power Supply**
**Basic Hydraulic Valve Module**
**Basic Hydraulic Actuator Module**
**Basic Hydraulic Instrumentation Panel**
**Hydraulic Hose and Fittings Package**
**Bench Manifold Kit (2)**
**Student Curriculum (BB831)**
**Teacher's Assessment Guide (CB831)**
**Installation Guide (DB831)**
**Optional Interactive Multimedia (MB831)**
**Student Reference Guide (HB831)**
**Additional Requirements:**
- Hydraulic Oil
- Hand Tool Package
- Computer Requirements: http://www.amatrol.com/support/computer-requirements/

**Utilities**
- Electric (110V/60Hz/1Ph)

**Options:**
- Virtual Trainer (VB831)
- Intermediate Hydraulics Learning System (85-IH)
- Advanced Hydraulics Learning System (85-AH)
- Basic Pneumatics Learning System (85-BP)
- Intermediate Pneumatics Learning System (85-IP)
- Advanced Pneumatics Learning System (85-AP)

## Take Full Advantage of Available Training Area!

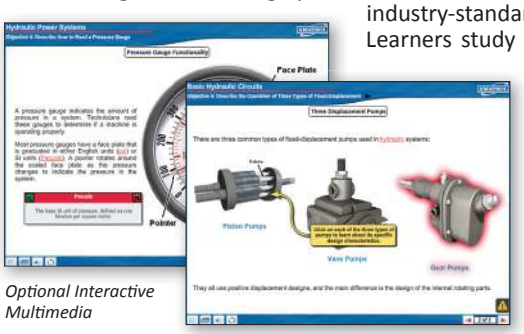
The 850-HD1 maximizes limited training space by providing an area for hydraulic panels on both sides of the learning system. The hydraulic power unit provides hydraulic fluid flow to both sides of the system where learners practice skills such as connecting and actuating basic hydraulic circuits. When precise flow rates and measurements are required, the system has the ability to limit the flow to one side or the other.

Panels can be easy removed and repositioned as necessary to facilitate the completion of the learners' tasks. Additional panels can be stored underneath when not in use and may accessed from either side. Each end of the 850-HD1 is equipped with a hose storage rack that contains all the hydraulic hoses needed to perform the required skills.

*Double-Sided for Maximum Use of Training Area*

## Strong Curriculum with an Array of Hydraulic Skills and Concepts

Within the 850-HD1 curriculum, learners will first study about the physical principles of hydraulics and how hydraulic mechanisms are used in real world applications. From this building block, learners begin constructing hydraulic circuits, which gradually increase in difficulty and number of industry-standard components as the curriculum goes along. Learners study about pumps, gauges, hydraulic motors, cylinders, and numerous valves, including schematic symbols for each component, creating the ability to read and draw their own hydraulic schematics. In addition to the printed curriculum, Amatrol offers an optional version presented in an interactive multimedia format. This format includes all of the text from the printed material with the addition of audio narrative, colorful 3D animations, video, and interactive quizzes and exercises.




*Optional Interactive Multimedia*

## Optional Hydraulic & Pneumatic Systems Available

Additional learning systems are available to extend the capabilities of the 850-HD1 Learning System including an additional set of Basic Hydraulic Learning System (85-BH) panels, intermediate (85-IH) and advanced levels (85-AH). The 85-IH introduces new hydraulic components (pilot-operated check valves, two-position directional control valves, etc.), explains how each works, and how they relate to real-world applications, while the 85-AH trainer teaches learners about hydraulic performance analysis and maintenance. The 850-HD1 also allows learners to utilize Amatrol's pneumatic learning systems: Basic Pneumatics (85-BP), Intermediate Pneumatics (85-IP), and Advanced Pneumatics (85-AP).


*85-IH*


## Student Reference Guide

A sample copy of the Controls Technology Basic Hydraulic Learning System – Double Sided Student Reference Guide is included with the learning system. Sourced from the multimedia curriculum, the Student Reference Guide takes the entire series' technical content contained in the learning objectives and combines them into one perfect-bound book.

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