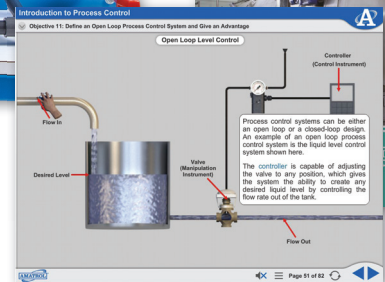
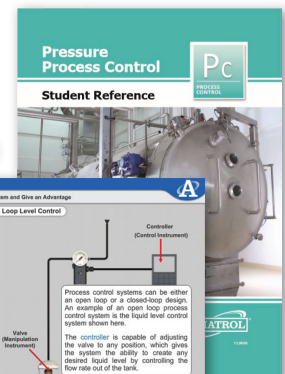


Pressure Process Control Learning System

T5555



Pressure Process Control Learning System



Interactive Multimedia Curriculum and Student Reference Guide

Learning Topics:

- Process Control Concepts
- Instrument Tags
- Block Diagrams
- Piping & Instrumentation Diagrams
- Instrument Index
- Final Control Elements
- Pressure Measurement
- Loop Control Devices
- HMI Panel Operation
- Pressure Control Systems
- Process System Alarms
- Automatic Control Methods
- Performance Concepts
- Control Loop Performance
- Open- & Closed-Loop Tuning

Amatrol's T5555 Pressure Process Control Learning System offers the ability to control liquid level and tank pressure simultaneously using a human machine interface (HMI), programmable automation controller (PAC), and variable frequency drive (VFD) that are found in real-world industrial fields, such as pharmaceutical, bio-technology, and power generation! This functionality allows learners to study important industrial gas blanket applications, as well as gain valuable, hands-on experience in practicing a broad range of pressure process operations in both manual and automatic modes.

Amatrol's T5555 Pressure Control training simulator features an exposed component layout built to enhance a learner's understanding of a pressure process control system's operation. This training simulator is compact enough to fit through a standard door, yet broad enough to offer all of the skills and topics a learner needs. Additional industrial-grade components on this learning system include: level sensors, which learners can use to set alarms; a centrifugal pump for producing liquid flow; and several valves to show their function and operation in a loop control system.



Technical Data

Complete technical specifications available upon request.

Tabletop Workstation

Dimensions: 66-in L x 46-in H x 28-in W
Steel mounted and plumbed

Tank Assembly

Pressure Gauge, 0-30 psi
Safety Relief Valve, 40 psi
Modulating Valve, 24 VDC
Sight Flow Indicators (2)
Pressure Transmitter, 100 max psi
Pressure Regulator Valve

Gas Exhaust Assembly

Modulating Valve, 24 VDC
Silencer, bronze

Reservoir Tank Assembly

Reservoir Tank: 6 gallons
Tank Lid
Strainer
Filter/Regulator
Safety Lockout Valve

Motor Assembly

½ HP, 3 PH, 208-230 V
Centrifugal Pump

VFD-PLC Interface Assembly

Light, Red, 28VDC (2)
Switch, Rotary 2-position (2)
Switch, Pushbutton, Green
Switch, Pushbutton, Red

VFD Panel Assembly

Allen-Bradley PowerFlex4

Touchscreen Panel Assembly

Siemens Simatic Touch Panel

Control Console

Power Supply, 24 VDC
Siemens Simatic S7-1200

Electric Proportional Valve

Piezoelectric Pressure Sensor

Lockout/Tagout and Padlock

Power Cord

Student Curriculum – Interactive PC-Based Multimedia (M33308)

Instructor's Guide (C33308)

Installation Guide (D33308)

Student Reference Guide (H19698 & H19699)

Additional Requirements:

Personal Computer
For PC requirements, see <http://www.amatrol.com/support/computer-requirements>
Mobile Technology Workstation – 6-ft. (82-610 or equivalent)

Utilities Required:

120 VAC, 60 Hz, Power Outlet
Compressed Air Supply, 100 psi
Water Supply

Control Liquid Level and Tank Pressure Simultaneously!

This process control training system is capable of controlling liquid level and tank pressure simultaneously by utilizing components including a differential pressure sensor and proportional valves. Using an industrial-grade variable frequency drive-controlled (VFD) centrifugal pump, learners can directly practice gas blanket applications in manual or automatic modes for this and similar applications. In manual mode, the HMI is used to adjust the percentage that each of two proportional flow controls are open and to control the flow rate from the centrifugal pump. The simulator's pump draws water from a 6 gallon industrial pressure vessel to guarantee resilience in this top quality product. The system's reservoir tank assembly also includes a strainer, filter/regulator, and a safety lockout valve.



T5555 Vertical Tank

Practice Real-World Pressure Control using an Industrial-Grade PAC

Hands-on skills for process instrumentation can only be achieved using real-world industrial components. Therefore, this process control simulator is operated by the powerful Siemens Simatic S7-1200 programmable automation controller (PAC), which provides human machine interface (HMI) for process visualization and control. All electrical components on the T5555 are

connected to the control panel so learners can measure signals and connect devices in a wide variety of configurations to practice industry-applicable skills. This exposed layout allows for easy observation and evaluation of system operation and performance.



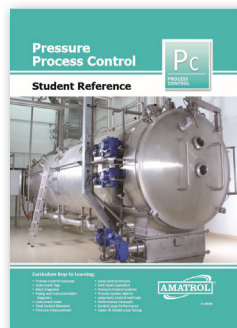
T5555 Controllers

Highly Interactive Multimedia to Engage All Learners

The unmatched process control multimedia is designed to begin with pressure process control basics, such as open- and closed-loop control and logically build to more advanced topics, like variable speed drives, so that the course can be self-guided or taken in a classroom environment. Utilizing text, audio, and stunning 3D animations, learners study major topics including process control concepts, instrument tags, block diagrams, piping and instrumentation diagrams, instrument index, final control elements, pressure measurement, loop control devices, HMI panel operation, pressure control systems, process system alarms, automatic control methods, performance concepts, control loop performance, and open- and closed-loop tuning. Through partnerships with key industry leaders and leading edge educators, Amatrol developed the right balance of knowledge and applied skills needed to train learners to work with pressure process control systems.



Interactive Multimedia Curriculum



Complimentary Student Reference Guide

A sample copy of the Pressure Process Control Student Reference Guide is included with the learning system. Sourced from the curriculum, the Student Reference Guide takes the entire series' technical content contained in the learning objectives and combines them into one perfectly-bound book. If you would like to inquire about purchasing additional Student Reference Guides for your program, contact your local Amatrol Representative for more information.

