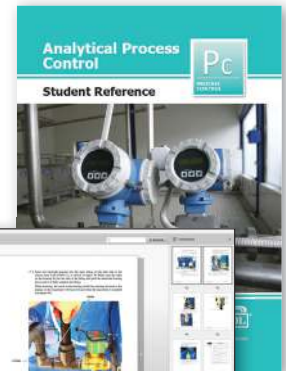


# Analytical Process Control Learning System

T5554



T5554 with T5554-A2, T5554-R1-A, and T5554-C1-A



Student Reference Guide and Optional eBook

## Learning Topics:

- Process Control Concepts
- Instrument Tags
- Piping and Instrument Diagrams
- Analytical Process Control
- pH Electrodes
- pH Meters and Transmitters
- Loop Controllers
- pH Control Systems
- Methods of Automatic Control
- Control Loop Performance

Amatrol's Analytical Process Control Learning System (T5554) covers major topics and skills involved with controlling and modifying the chemical properties of a substance, which is important to industries such as pharmaceutical companies, beverage companies, and refineries. This learning system allows learners to explore a wide range of analytical process control topics, including analytical process control, pH electrodes, pH meters and transmitters, loop controllers, and many more!

The T5554 includes a tabletop workstation with a control panel, PLC interface, and industrial pumps, tanks, and piping. Learners will use these components to perform skills such as manually setting and controlling an electronic metering pump, testing the pH of a solution using pH test strips, and connecting and operating a continuous loop pH control system. These skills will prepare learners for industrial process applications that they'll see on the job.



## Technical Data

Complete technical specifications available upon request.

### Table-top Workstation

Control Panel  
PLC Interface Panel  
Metering Pump  
Injector Pump  
Continuous Stirred Tank Reactor (CSTR)  
pH Transmitter  
pH Probe  
Reagent Tanks (2)  
Piping By-Pass Network  
Student Curriculum (B33303)  
Instructor's Guide (C33303)  
Installation Guide (D33303)  
Student Reference Guide (H33303)  
Optional eBook Curriculum (E33303)

### Additional Requirements:

PID Controller Module – Single Loop  
(T5554-C1-A) or PID Controller Module – Dual  
Loop (T5554-C2-A)

6' Workstation (82-610)  
Holding Tank Chemicals

### Options:

Connection Kit (33278) for connecting two or  
more systems

### Utilities:

Electricity (120 VAC/60 Hz/1 phase)  
Water

## Hands-On Training Using Real Industrial Process Control Components

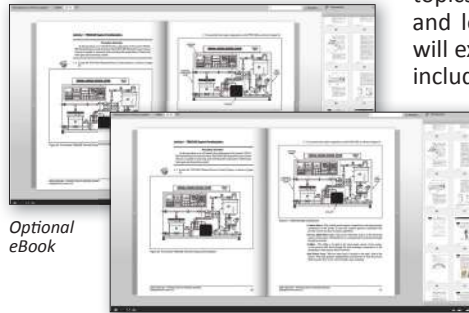
The T5554 includes an array of real-world process control components including a PLC interface panel, metering pump, injector pump, continuous stirred tank reactor (CSTR), pH transmitter, pH probe, two reagent tanks, and a piping by-pass network. These components will be used by learners to perform various hands-on skills such as: manually controlling the liquid flow rate in a process; setting the injection ratio control for an educator pump; installing and connecting a combination glass electrode; calibrating a Honeywell DL421 pH sensor module; and calculating resolution in units of the measured parameter.



Injector Pump

## Comprehensive Process Control Knowledge with Optional eBook Format

The T5554's curriculum begins with process control basics such as instrument tags and piping and instrumentation diagrams before moving into more concentrated analytical process control topics like pH electrodes, pH meters and transmitters, and loop controllers. Within this curriculum, learners will explore vital theoretical process control knowledge including: describing the function of a process hazard analysis; defining pH and explaining its importance; learning five common types of loop controller parameter groups; configuring a Honeywell UDC 3500 for continuous pH control; and much more! Optionally, this curriculum is available in an online eBook format that provides includes easy, quick navigation and searchable course content.



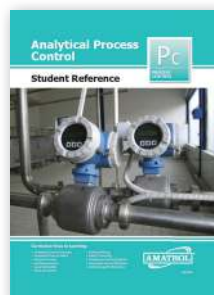
Optional eBook

## Expand Training with Optional Control Modules and Data Acquisition

The Advanced Analytical Control Module (T5554-A2) adds to the T5554 to enable integration with the other Amatrol process control learning system to form very sophisticated process control loops. The T5554 also requires a PID control, offering a choice between a single loop (T5554-C1) or dual loop (T5554-C2). It also offers a 3-channel data acquisition option (T5554-R1-A).



PID Controller Module –  
Dual Loop (T5554-C2-A)



## Student Reference Guide

A sample copy of the Analytical Process Control 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.

