SCIENTICO INDIA
Manufacturer & Exporter · Ambala, Haryana, India

PRODUCT DATA SHEET
Catalogue reference for product evaluation

Phone: +91 7015865225 **Email:** info@scienticoindia.com **Web:** scienticoindia.com **Address:** #71, Industrial Area, Ambala Cantt, Haryana, India

Analytical Process Control Trainer | ProzessiX PX-04

Category: Process Engineering Technology · **Order Code:** PX-04 · **Country of Origin:** India

Product Overview

The is an analytical process control trainer for instrumentation and process engineering laboratories, giving students hands-on PID loop tuning across flow, level, temperature and pressure processes on a single bench.The Analytical Process Control Trainer is a comprehensive laboratory system designed to study and regulate chemical properties of process fluids using analytical instrumentation. Made by Scientico India, ISO 9001:2015 certified, and supplied with a calibration certificate and operation manual.

View this product online: https://scienticoindia.com/product/analytical-process-control-trainer-prozessix-px-04/



Request a model-specific quotation
Include quantity and delivery country.

Technical Specifications

Base Module

Parameter	Specification
Controller	Universal Process Controller
pH Sensor Range	0–14
Sump Tank Capacity	20 L
Process Tank Capacity	5 L
Rotameter Range	Water: 1–7 LPM
Product Pump	Max flow 10 LPM, Max head 10 m
Metering Pump	Peristaltic type, Quantity: 2
Metering Pump Flow	0–2 LPH
Metering Pump Speed	Variable

Conductivity Control Module

Parameter	Specification
Controller	Universal Process Controller
Conductivity Sensor Range	0–2000 µS/cm

Parameter	Specification
Process Tank Capacity	10 L
Ion Exchange Chambers	Internal Diameter: 70 mm, Height: 400 mm, Material: Glass, Quantity: 2
Product Pump	Max flow 10 LPM, Max head 10 m
Rotameter Range	Water: 1–7 LPM
Beakers	Capacity 5 L, Graduation 100 mL, Material: Plastic, Quantity: 4

ORP & DO Control Module

Parameter	Specification
Controller	Universal Process Controller
ORP Sensor Range	-2000 to 2000 mV
DO Sensor Range	0–20 mg/L
DO Process Tank Capacity	15 L
ORP Process Tank Capacity	10 L
Activated Carbon Chamber	Internal Diameter: 70 mm, Height: 400 mm, Material: Glass
Product Pump	Max flow 10 LPM, Max head 10 m
Metering Pump	Peristaltic type, Max flow 0–2 LPH, Variable speed
Rotameters	Water: 1–7 LPM; Nitrogen: 0.1–1 m^3/h; Air: 0.1–1 m^3/h
Stirrer Speed	0–300 RPM

Optional Software

Parameter	Specification
Software	ProzessiX PX-04 DAQ Software (Optional)
Development Platform	National Instruments™ LabVIEW™
Operating System	Compatible with Windows™

Scope of Delivery

- 1 Experimental module
- 1 Instruction manual

Key Features

Key Features

- Modular analytical process control training system
- Control of pH, conductivity, ORP, and dissolved oxygen
- Floor-standing workstation with industrial-style layout
- Universal process controllers for each module
- Peristaltic metering pumps for reagent dosing control
- Centrifugal pumps for process circulation
- Ion exchange and activated carbon chambers for process conditioning
- Sensor calibration and electrode installation training
- Variable injection ratio control for dosing pumps

- Optional PC-based data acquisition and monitoring software
- Realistic piping network for process flow simulation

Applications

- Chemical engineering and process engineering laboratories
- Industrial instrumentation and analytical measurement training
- Water and wastewater treatment control studies
- Pharmaceutical and beverage process monitoring education
- Study of analytical sensors and calibration procedures
- Training in dosing control and chemical property adjustment
- Pilot plant demonstrations of analytical process control

Construction & System Design

The Analytical Process Control Trainer is constructed as a modular floor-standing training system designed for laboratory and pilot-scale environments. The base workstation integrates pumps, tanks, piping networks, and sensor modules to replicate industrial analytical control systems.

Each module contains a universal process controller with dedicated sensors and transmitters for monitoring chemical parameters. Peristaltic metering pumps allow precise dosing of reagents to adjust water chemistry during experiments. Centrifugal pumps circulate process fluids through the system.

The conductivity module incorporates ion exchange chambers made of glass, while the ORP and dissolved oxygen module includes an activated carbon chamber and gas flow rotameters for air and nitrogen supply. A stirrer provides controlled mixing to maintain homogeneous conditions within process tanks.

The modular design allows individual modules to be added or removed depending on the training requirements. The system also supports optional data acquisition software developed in the LabVIEW environment, enabling PC-based monitoring and analysis.

Export & Supply Capability

The ProzessiX PX-04 Analytical Process Control Trainer is manufactured by SCIENTICO for supply to domestic and international educational and research institutions. The system is suitable for export to engineering universities, R&D laboratories, and industrial training centers.

Standard supply includes the experimental module and detailed instruction manual. Optional DAQ software can be supplied for advanced control and monitoring applications. The system is packaged for secure international shipment and supported with documentation for installation and training purposes.

Ordering & Delivery

- Send the product name, quantity, delivery country and destination with your enquiry.
- Production schedule, freight, payment terms and export documents are confirmed in the written quotation.

Frequently Asked Questions

Q1. What is the purpose of the Analytical Process Control Trainer?
The trainer is designed to teach how to measure, control, and adjust chemical properties such as pH, conductivity, ORP, and dissolved oxygen in process fluids.

Q2. What modules are included in this training system?
The system includes a base module for pH control and additional modules for conductivity control and ORP/DO control, which can be installed or removed depending on the training requirement.

Q3. What type of pumps are used in the system?
The trainer uses centrifugal pumps for process circulation and peristaltic metering pumps for controlled reagent dosing.

Q4. Can the system be connected to a computer for monitoring?
Yes. Optional ProzessiX PX-04 data acquisition software developed in the National Instruments™ LabVIEW™ environment allows PC-based monitoring and data logging.

Q5. What industries use analytical process control systems?
Analytical process control is widely used in pharmaceutical manufacturing, beverage production, water treatment plants, chemical processing industries, and refinery operations.

Q6. What skills can students learn using this trainer?

Students can learn sensor installation, calibration procedures, dosing pump operation, chemical parameter control, process monitoring, and interpretation of instrumentation diagrams.

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