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PRODUCT DATA SHEET
Catalogue reference for product evaluation

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Pressure Control Trainer | NexuMation 70

Category: Instrumentation Lab Equipment · **Order Code:** NEXUMATION 70 · **Country of Origin:** India

Product Overview

The Pressure Control Trainer NexuMation 70 is an educational board with a 5 Liter approx. pressurized vessel and sensors and actuators for pressure. This pressure control trainer has manometer, direct reading, and strain gauge pressure sensors, a 25bar 10 Ltr/min water pump, and ON/OFF and PID control circuits. A safety valve is set at 20 Bar. Fixed supply is +15V -15V. Optional digital PID controller with data acquisition and PLC unit are available.

View this product online: https://scienticoindia.com/product/pressure-control-trainer-nexumation-70/



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

Technical Specifications

Pressure Control Trainer NexuMation 70: Technical Specifications

Parameter	Value
Fixed Supply DC	+15V -15V
Vessel	5 Liter approx.
Piping	Plastic
Pressure Sensor	Manometer, Direct Reading, Strain Gauge
Valves	Manual, Solenoid, No Return, Safety set at 20 Bar
Water Pump	25bar, 10 Ltr/min
Pressure Sensor Interface	P/V converter and Differential Amplifier with Offset and Gain Control

Technical Data

Parameter	Value
ON/OFF Control	Comparator with Hysteresis Control
Analog Source	0 ~ +10V, 0 ~ ±10V
PID Controller	Proportional Integral & Differential Control with Feedback
Pump Driver	DC to PWM Driver with DC Level offset Control
Solenoid Valve Driver	ON/OFF Control with Driver

Parameter	Value
Programmable Logic Controller Unit: Digital Inputs	14 X 24V DC (Source/Sink)
Programmable Logic Controller Unit: Digital Outputs	10 X 24V DC (Source)
Programmable Logic Controller Unit: Analog Inputs	2 X Voltage Type
Programmable Logic Controller Unit: Analog Outputs	2 X Voltage Type
Programmable Logic Controller Unit: Program Memory	125KB
Programmable Logic Controller Unit: Programming Language	Ladder, STL & FBD

Key Features

Key Features

- **Application:** pressure control trainer for pressure measurement and control experiments
- **Sensors:** installed on-board
- **Control Circuits:** installed
- **Drivers:** installed
- **Protection Circuits:** installed
- **Vessel:** 5 Liter approx.
- **Water Pump:** 25bar, 10 Ltr/min
- **Pressure Sensor:** Manometer, Direct Reading, Strain Gauge
- **Safety Valve:** set at 20 Bar
- **Control Modes:** ON/OFF and PID
- **PID Parameters:** controllable, graph plotting available

Experiments

- Study of the Pressure Sensor
- Study of the Characteristics of the Pump and of the Solenoid Valve
- Study of the characteristics of the static process and of the time constants
- ON-OFF, P, PI, PD and PID Closed Loop Control of the Pressure

Construction and Design

The Pressure Control Trainer NexuMation 70 has an educational board with a pressurized vessel. The vessel is approx. 5 Liter. Plastic piping connects the circuit.

A water pump rated 25bar and 10 Ltr/min pressurizes the system. Pressure sensors include manometer, direct reading, and strain gauge types. Valves include manual, solenoid, and no return types, with a safety valve set at 20 Bar.

The pressure control trainer has a pressure sensor interface with a P/V converter and differential amplifier. It has offset and gain control. The pump driver is a DC to PWM driver with DC level offset control. The solenoid valve driver provides ON/OFF control.

A fixed DC supply of +15V and -15V powers the trainer.

Software

- Digital PID Controller with Data Acquisition Unit / Interface Software (Optional)
- PID parameters controllable, graph plotting available

Scope of Delivery

- Educational board with pressurized vessel
- Control module
- Power Cords
- 2mm Patch Cords
- Experimental Manual

Optional Accessories

- Digital PID Controller with Data Acquisition Unit / Interface Software

- Programmable Logic Controller Unit

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 does the pressure control trainer contain?
It contains an educational board with a pressurized vessel, sensors and actuators for pressure, and a control module with ON/OFF and PID control circuits.

Q2. How can pressure be controlled?
Manually, or through a software PID control algorithm.

Q3. Which closed loop experiments are included?
ON-OFF, P, PI, PD and PID closed loop control of the pressure.

Q4. What pressure sensor and pump are used?
Pressure sensors are manometer, direct reading, and strain gauge types. The water pump is rated 25bar, 10 Ltr/min.

Q5. What safety feature does the trainer have?
A safety valve set at 20 Bar protects the system.

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