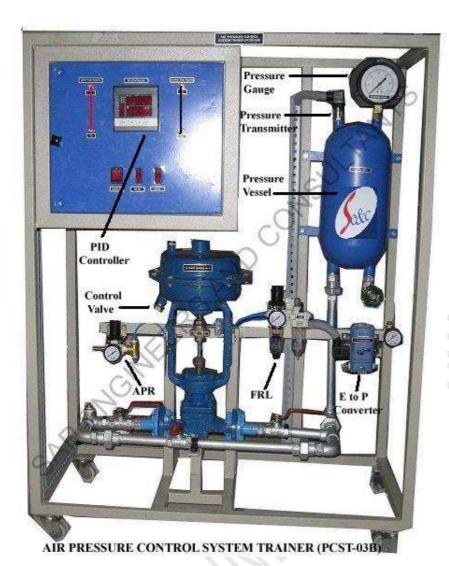
SAP E & C AIR PRESSURE CONTROL TRAINER (PRODUCT CODE: PCST - 03 B) COMPUTERIZED (OPTIONAL)





The Air Pressure Control Trainer (PCST - 03 B) is the system which outlines the basics of Closed Loop Air Pressure Control and various aspects related to it.

KEY WORDS:

- Feedback Air Pressure Control.
- PID control.
- SCADA Based AIR PRESSURE Control.
- P, P+I, P+I+D Controller Action.
- USB/RS232/RS 485/ Ethernet/ Modbus Communication.
- Ability to hook up with DCS (Distributed Control System Trainer)

Technical Specification: -

No.	Item Name	Technical Specifications
1	Pressure Vessel-	Shape: Cylindrical, Material: CRCC 5mm thick / SS 304 1.5 mm thick Diameter: 150 mm,
		Length: 300 mm, Capacity: 15 Kg/cm ² , with ½"BSP connection For Pressure Gauge (0 -
		4kg), Pressure Transmitter, Inlet & Drain facility
2	Piping-	½" GI, Class B, with ½" ball valves: 6 No.
3	Air Pressure	Input: 0-2.5 Kg/cm ² / 0-4 Kg/cm ² / 0-10 Kg/cm ² , Output: 4-20 mA, Type: 2-wire
	Transmitter-	Piezoresistive type, Supply: 24 V DC, 50 mA, Mounting: Top ½"BSP connection
4	Pneumatic Control	Size: ½", Type: Two way Globe type (Air to Close), Cv: 0.2 US GPM, with diaphragm
	valve-	actuator, equal% characteristics, Flange connection: PCD: 60 mm,
		ID: 16 mm, OD: 90 mm.
5	E/P Converter-	Input: 4-20 mA, Output: 3-15 psi, Connection: ¼"NPT / BSP, Supply: 2.1 Kg/cm ² .
6	A.F.R / F.R.L. UNIT-	1] Air Filter, Regulator & Lubricator (optional) for input air supply to the I to P
		Converter, 0-10 Kg/cm ² with pressure gauge, Connection ¼" NPT / BSP.
		2] Air pressure regulator for input air supply to the System, 0-10 Kg/cm ² with pressure
		gauge, Connection ¼" NPT / BSP.

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7	Electronic PID	With Serial PC Interface (ASCII Protocol) USB / Ethernet / RS485 / RS 232, Cut Out Size:
	Controller-	92mm×92mm×144mm, Input: 4-20 mA, Output: 4-20 mA, Display: Dual for PV & SP,
		Bar graph display for Output & deviation, Hi-Low Alarm annunciation.
8	Electrical Control	MS Powder coated panel with switches, indicator, test Points, controller on front facia,
	Panel-	UK 2.5 Terminal Connectors mounted on DIN rail channel, Use of 1sq mm multistrand
		wire with proper insulated Lugs, Feruling & neat wire dressing & clamping, Wires &
		power cables are seated through 1"×1"PVC cable tray.
		Dimension: 1ft (L) ×1ft (W) ×1ft (H)
9	SCADA Application	SCADA Appn S/W, PID control setting (P, PI, PD and PID mode), Auto/Manual Tuning of
	Software	PID, Data Storage, Off Line analysis, online Data Acquisition, Simulation and Printing of
	(Optional)-	data in Graphical and Tabular form. Interactive Graphical User Interface (GUI) included.
10	Computer	PC with color monitor: 15", PC Pentium Dual Core, with serial communication ports,
	(Optional)-	160/300 GB HDD, 512 MB/1 GB RAM
11	Air Compressor	Tank capacity: 25 Liters, Discharge: 2 CFM, Motor: 2 H.P. 230 V AC Operated, Working
	(Optional)-	pressure: 5-6 kg/cm ²

Range of experiments:

- Study of single loop Feedback Proportional (P), Integral (I) and Derivative control (D) actions.
- Study of operation and calibration of transmitters, I/P converter and Control Valve.
- Study of tuning and operation of PID controller.
- Study of stability of single loop AIR PRESSURE Control System.
- Configure microcontroller based controller to give manual output, changing controller modes (Manual/Auto), Checking ON-OFF, Proportional, Integral, Derivative, PI and PID control actions, change local Set point, configure and run a set point ramp, configure measured values to either percentage or Engineering units.
- Study of Communication Protocols and interfacing of System with DCS / SCADA etc..
- Study of SCADA Application Software/ Computerized Control of Air Pressure Control System.

Features: -

- Illustrates the concept of feedback AIR PRESSURE control loop.
- User Friendly, Self Explanatory Systems.
- Leak proof Safety Measures, sturdy piping.
- Enhanced Electrical Safety Considerations.
- Training Manual & Mimic Charts for Operation Ease.
- System Frame with Caster Wheel Arrangement for ease in movement.
- ❖ M.S. powder coated cubical plant with standard Instrument Mountings.
- Inbuilt Safety Measures to avoid improper usage.
- Computer Interface (Optional), SCADA Application software connectivity for analysis of Air Pressure Control System Trainer.

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System Dimension: 4.5 Ft. (L) X 1.5 Ft. (W) X 4.5 Ft. (H)

Services Required:

- Water supply and drainage arrangement.
- ❖ Electric supply 1φ 230 V AC, 50 Hz.
- Clean, dry and dust free Compressed air supply 2.1 kg/cm².

Note:

All descriptive matter and illustrations are intended to give only a general idea of the equipment detailed specifications may be altered at the company's discretion without any notice.

Manufactured/Marketed By

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