



The Split Range Control Trainer (52313) is highly flexible and modular system for studying of Split Range Control Loops (Pressure Control Loop / Level Control Loop) optional in industrial processes.

Features

- Compact Ergonomic Design.
- User Friendly, Self Explanatory Systems.
- Leak proof Safety Measures, sturdy piping.
- Enhanced Electrical Safety Considerations.
- Training Manuals, 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.
- SCADA Application software connectivity for analysis of Split Range Control Trainer.

Range of Experiments

- Feedback control: - Pressure/Level.
- Split Range control: - Pressure/Level.
- Study of SCADA Application Software/ Computerized Control of Split Range Control System.

Note: Specifications are subject to change.

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Process Experiments

- A sump tank and transparent acrylic tank (secondary) containing water.
- A control system to study split range control (Level/Pressure).
- Electrical control panel along with PC Interface module.

Services Required

- Electric supply 1 ϕ 230VAC, 50Hz.
- Water Supply and Drain Arrangement.
- Clean, dry, compressed air supply at 2.1 kg/cm².

Technical Specification

No.	Item Name	Technical Specifications
1	Sump tank	Material: Polypropylene 5 mm thick, Capacity: 50 liters, Dimension: 12"(L) x 24"(W) x 16" (H).
2	Level Tank	Material: P.P. 5mm thick, Dimension: 150(L) mm x 150(W) mm x 600(H) mm
3	Centrifugal Pump	½ / 1 H.P., 1φ 230 V AC supply, Surface mounting.
4	Pressure vessel	Shape: Cylindrical, Material: CRCC / SS 304, (With pressure Loop) Diameter: 150 mm, Length: 300 mm, Capacity: 15 Kg/cm ² , with ½" BSP connection For Pressure Gauge, Pressure Transmitter, Inlet & Drain facility
5	Piping	½" / 1", Class B GI with ½" / 1" ball valves.
6	Level Transmitter (With level Loop)	Input: 0-400 / 0-500 mm, Output: 4-20 mA, supply: 24 V DC, 100 mA. Type: 2-wire capacitance type, Mounting: Top 2" screwed connection.
7	Pressure Transmitter (With Pressure Loop)	Input: 0-2.5 Kg/cm ² / 0-4 Kg/cm ² , Output: 4-20 mA, supply: 24 V DC, 50 mA. Type: 2-wire Piezoresistive type, Medium: Water Pressure. Mounting: Top ½" BSP connection.
8	Electronic PID Controller	1 No., Single input PID with Serial Interface (ASCII Protocol) USB / RS 485 / RS232, Cut Out Size; 92x92x144mm, Input: 4-20mA, Output: 4-20mA, Display: Dual for PV & SP, Bar graph display for Output & deviation, Hi-Low alarm annunciations.
9	Rotameter	1 No. Range : 0-1000 / 0-2000 LPH , Glass Tube Type/ Acrylic body , Bob Material SS 304, Connection 1" Mounting Inlet Bottom, Outlet Top
10	Pneumatic Control Valve	2 no. Size: ½" / 1", Characteristics: Equal percentage. CV: 5 / 9 US GPM, with diaphragm actuator. Flange connection: PCD: 80 mm, ID: 26 mm, OD: 110 mm. Type: Two way Globe type with valve Positioner (Air to Close Or Air to Open Action) & two way Globe type. With Electronic Signal Converter - 1 No./ Valve Positioners – 2 nos. For Electronic Signal Converter: Input: 4-20mA, Output: 4-20mA on 2 Channels, For Positioner 1: I/P : 0.2 to 0.6 Kg/cm ² output: 0.2 to 1 kg/cm ² , For Positioner 2 : I/P: 0.6 to 1.0 Kg/cm ² output: 0.2 to 1 kg/cm ² .
11	E/P Converter	1 No. Input: 4-20 mA, Output: 3-15 psi, Connection ¼" NPT / BSP
12	A.F.R. / F.R.L. Unit	0-10 Kg/cm ² with pressure gauge, Connection ¼" NPT / BSP.
13	Power Supply	24 V DC, 1.5 A/ 3A, Size: 48mmx126mmx68mm.
14	Electrical Control Panel	MS Powder coated panel with switches, indicator, Test Points, controller on front facia, UK 2.5 Terminal connectors mounted on DIN rail channel, Use of 1sq mm multistand wire with proper insulated lugs, Ferruling & neat wire dressing & clamping wires & power cables are seated through 1"x1" PVC cable tray. Dimension: 1ft (L) x 1ft (W) x 1ft (H).
15	SCADA Application Software (Optional)	SCADA S/W, And PID mode, Auto/Manual Tuning of PID, Data Storage, Off Line analysis, Online Data Acquisition, Simulation and Printing Of data in Graphical and tabular form. Interactive Graphical User Interface (GUI) includes.
16	Air Compressor (Optional)	Tank capacity: 25 Liters, Discharge: 2 CFM, Motor: 1 H.P. 1φ 230 VAC Operated, Working Pressure: 3-4 Kg/cm ²
17	Computer (Optional)	PC with colour monitor: 15", PC Pentium Dual Core/i3, With 2 serial communication ports, 250/500 GB HDD, 2 MB RAM, Floppy Drive.

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