



PC-PID based feedback flow, pressure, Level, Temperature control (52357) is highly flexible And modular system for studying of various Feedback control loops in industrial processes.

It has been designed to include these processes in a single structure. The system includes Transducers, actuators, PID + computerized Control with SCADA Software.

#### Key Words

- Feedback Level control,
- Feedback Pressure control,
- Feedback Temperature control,
- Feedback flow control.

#### Features

- Compact Ergonomic Design.
- User Friendly, Self Explanatory Systems.
- Leak proof Safety Measures, sturdy piping.
- Enhanced Electrical Safety Considerations.
- Training Manuals and 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 given feedback System (Optional).

#### Experiments

- Feedback control: - Flow, Level, Temperature and Pressure.
- Study of SCADA Application Software/ Computerized Control of Feedback Control System(Optional)..

#### Services Required

- Electric Supply of 1 $\phi$  230 VAC motor.
- Clean, Dry, Compressed Air Supply. Working Pressure: 5-6Kg/cm<sup>2</sup>.

**System Dimensions-** Approx 4.25Ft. (L) X 1.75Ft. (W) X 5 Ft. (H)

**Weight: Approx.** 110Kgs

Note: Specifications are subject to change.

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### Technical Specification

No.	Item Name	Technical Specifications
1	Sump Tank	1 no. Material: Stainless Steel, 1.5 mm thick/ P.P.5mm thick , Capacity: 30 litres Dimension: 1.5ft (L) x 1ft (W) x 1 ft (H).
2	Level Tank	1 no. Material: P. P. 5 mm thick, Dimension: 150mm (Ø) x 500mm (H).
3	Heater / Geyser	Type: Electrical 2 coil, Capacity: 3 KW
4	Piping	1", Class B GI with 1" SS ball valves
5	Pneumatic Control Valve	2 Nos., Type: Pneumatic, Size: ½", Input: 3-15 psig, Linear & Equal Percentage
6	Temperature Transmitter	PT100, Type-2 wire, Range: 0-100°C, Output: 4-20 mA, 01 Nos.
7	low Transmitter	1 no. ½", Turbine type / Wheel Flow Meter type. Range: 0-600 LPH / 0-1000 LPH, Output: 4-20 mA , Type: 3-wire type, Supply: 24 V DC: 100 mA Mounting: Horizontal, Connection: ½"
8	Level Transmitter	1 no. Input: 0-500 mm Output: 4-20 mA, supply: 24 V DC, Type: 2-wire capacitance type, Mounting: Top 2"screwed connection
9	Pressure Transmitter	GPT, Type: 2 wire, Range: 0-2.5 bar, Output: 4-20 mA
10	I to P Converter	Input: 4-20 mA, Output: 3-15 psig, 2 Nos.
11	Thyristerized Phase Angle Control Card	Input: 4-20 mA, Output: 0-230 VAC variable, 10 A Max
12	Rotameter	1 No., Range: 40-400 LPH, Glass tube type/acrylic body, Bob Material: SS 304 Connection: 1", Mounting: Inlet- Bottom, Outlet- Top.
13	Air Filter Regulator	Range: 0-2.5 Kg/cm <sup>2</sup>
14	Pressure Vessel	1 no. Shape Cylindrical, Material CRCC, / SS 304 Diameter: 150mm, Length: 300mm Capacity: 15 Kg/cm <sup>2</sup> , with ½ inch BSP Connection, For Pressure Gauge and Inlet facility
15	Air Compressor(Optional)	Tank capacity: 25 Liters, Discharge: 2 CFM Motor: 1 H.P. 230 V AC Operated working pressure: 5-6 kg/cm <sup>2</sup>
16	Electronic PID Controller	1 No., Cut Out Size; 92×92×144mm, Input: 4-20 mA, Output: 4-20 mA, Display: Dual for PV & SP, Bar graph display for Output & deviation, Hi-Low alarm annunciation.
17	SCADA Application Software(Optional)	SCADA Make: Elipse/Eqvt. PID control settings (P, PI, PD and PID mode),Auto/Manual Tuning of PID,Data Storage, Off Line analysis, Online Data Acquisition Simulation and Printing of data in Graphical & tabular form. Interactive Graphical. User Interface (GUI) included
18	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 Multistrand wire with proper insulated Lugs, Ferruling & neat wire dressing & clamping Wires & power cables are seated through 1"×1"PVC cable tray. Dimension: 1ft (L) ×1ft (W) ×1ft (H).

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