


Key Words-

- Feedback Control.
- Feedback Flow Control.
- Feedback Level Control.
- Cascade Control (Flow + Level)
- Ratio Control (Flow + Flow)
- PID Control.
- SCADA/Lab view Based Control.

Features

- Compact Ergonomic Design.
- User Friendly, Self Explanatory Systems.
- Leak proof Safety Measures, Sturdy Piping & Robust Construction.
- 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.
- Computer Interface & SCADA Application Software connectivity for analysis of Cascade Control Loop (Optional).

Experiments

- Study of Feedback Flow, Feedback Level Loop.
- Study of single loop Proportional (P), Integral (I), and Derivative (D) control.
- Study of operation and calibration of transmitters, I/P converter and pneumatic control valve.
- Study of programming and operation of PID controller.
- Study of stability of dual loop cascade (Flow - Level Control) & ratio control system.
- Study of Rotameter, capacitance type level sensor, wheel flow meter & control valve.
- Study of SCADA Application Software/ Computerized Control of Cascade and Ratio Control System (Optional).

Services Required

- Electric supply 1 ϕ 230 V AC, 50 Hz.
- Clean, dry Compressed air supply at 2.1 Kg/cm².
- Water Supply and Drainage Arrangement.
- Laptop/Desktop computer (FOR SCADA)

Note: Specifications are subject to change.

Tesca Technologies Pvt. Ltd.

IT-2013, Ramchandrapura Industrial Area, Sitapura Extension,
 Near Bombay Hospital, Vidhani Circle, Jaipur-302022, Rajasthan, India,
 Tel: +91-141-2771791 / 2771792; Email: info@tesca.in, tesca.technologies@gmail.com
 Website: www.tescaglobal.com

Technical Specification

No.	Item Name	Technical Specifications
1	Sump tank	Material: Stainless Steel 1.5 mm thick/P.P. 5mm thick, Capacity: 30 liters, with top cover, Dimension: 1ft (L) ´ 1ft (W) ´ 1ft (H).
2	Level Tank	Material P.P. 5mm thick, Dimension: 150(L) mm ´ 150(W) mm ´ 600(H) mm
3	Piping	½", Class B GI, with ½" SS ball valves: 10 Nos.
4	Centrifugal Pump	½ H.P., 1φ 230 V AC supply, Surface mounting.
5	Flow Meter/DPT	a) Type: Turbine Type / WFM type, 2 Nos. 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"
6	Level Transmitter	Input: 0-400 /0-500 mm, Output: 4-20 mA, Supply: 24 VDC, 100 mA. Type: 2-wire Capacitance type, Mounting: Top 2" screwed connection.
7	Level Switch	Float operated, Float Material: SS304, Switching Current: 0.5A; Switching voltage: 240 VAC/200 VDC, Switch Action: Reversible, Weight: 315 Gms
8	Pneumatic Control Valve	Size: ½", Type; Two way Globe type (Air to Close), Equal Percentage Type, Cv: 5 US GPM, with diaphragm actuator. Flange connection: PCD: 60 mm, ID16 mm, OD: 90 mm.
9	Rotameter	2 no. Range: 0-1000 LPH, Glass tube type/acrylic body, Connection: ½", Bob material: SS 304, Mounting: Inlet Bottom Outlet Top.
10	E/P Converter	Input: 4-20 mA, Output: 3-15 psi, Connection: ¼" NPT / BSP.
11	A.F.R / F.R.L. Unit	0-10 Kg/cm ² with pressure gauge, Connection: ¼" NPT / BSP.
12	Electronic PID Controller /DAQ Card	2 no. Single input PID (1 No.) & Dual input (1 No.) for Cascade and Ratio, With Serial PC Interface (ASCII Protocol) USB / Ethernet / RS 485 / RS 232, Cut Out Size: 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 annunciations.
13	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. Dimension: 1ft (L) × 1ft (W) × 1ft (H)
14	SCADA Application Software (Optional)	Make: Elipse/Labview/Eqvt. PID control setting (P, P+I, P+D 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. *Labview is mandatory for PCST-46A for its Operation
15	Computer (Optional)	PC with color monitor: 18.5", Intel Core i3, 500 GB HDD, 4GB RAM, Keyboard & Mouse, DVD Writer, With supporting OS and Communication port.
16	Air Compressor (Optional)	Tank capacity: 25 Liters, Discharge: 2 CFM, Motor: 1 H.P. 230 V AC Operated, Working pressure: 5-6 kg/cm ² .

Note: Specifications are subject to change.

Tesca Technologies Pvt. Ltd.

IT-2013, Ramchandrapura Industrial Area, Sitapura Extension,
Near Bombay Hospital, Vidhani Circle, Jaipur-302022, Rajasthan, India,
Tel: +91-141-2771791 / 2771792; Email: info@tesca.in, tesca.technologies@gmail.com
Website: www.tescaglobal.com