

CONDENSER AUTOMATION

MULTI-ENTRY AND SINGLE-ENTRY CONDENSER AUTOMATION SYSTEM

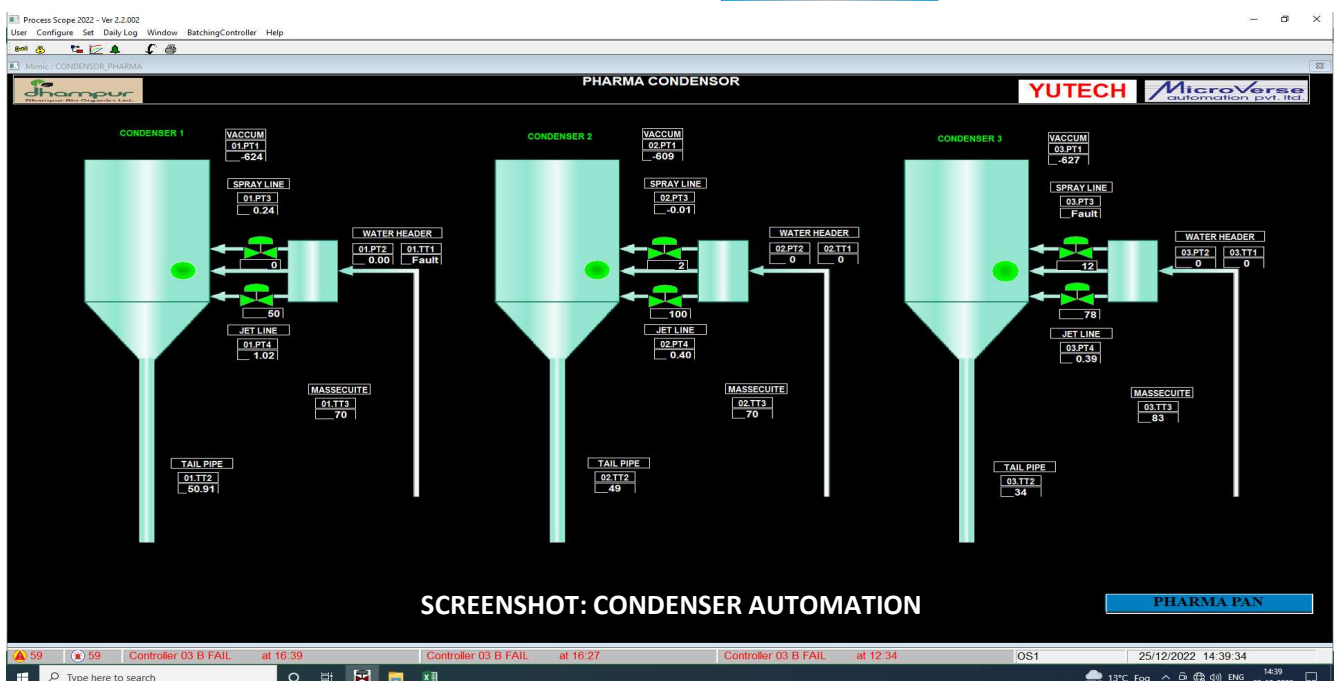
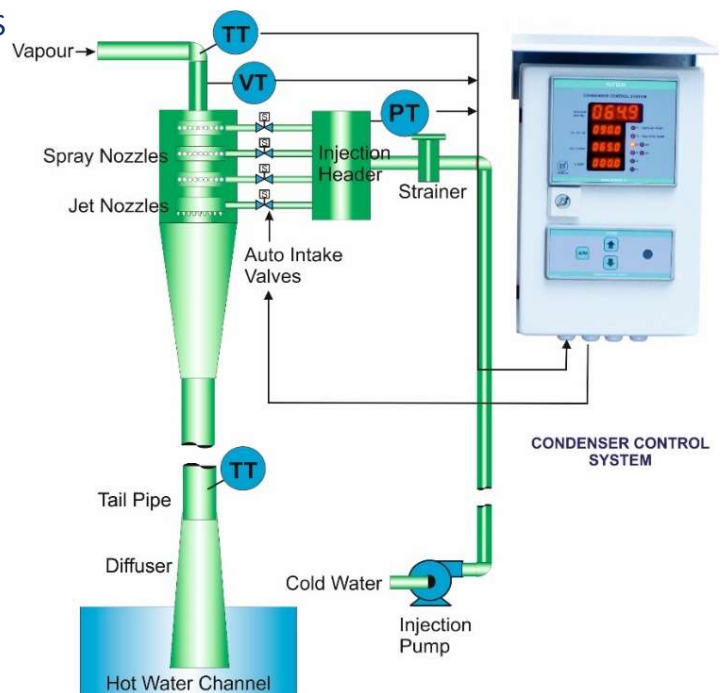


CONDENSER AUTOMATION ADVANTAGES:

- CONSTANT VACUUM
 - ENSURES PROPER EVAPORATION IN EVAPORATORS AND PROPER BOILING IN PANS. STABLE VACUUM AS PER SET POINT AVOIDS FALSE GRAINING CONDITIONS IN A PAN
 - ENSURES STABILIZED VAPOUR LOAD THUS HEATING EFFICIENCY IS INCREASED
- ENTRAINMENT IS AVOIDED HENCE SUGAR LOSSES ARE AVOIDED
- HUGE WATER SAVING AS WATER QUANTITY IS OPTIMIZED
- HUGE POWER SAVING AS POWER WASTAGE IN EXCESS WATER PUMPING IS AVOIDED
- HUGE MONETARY BENEFITS DUE TO SAVINGS

CONDENSER AUTOMATION:

- FOR SEPARATE WATER ENTRY FOR DIFFERENT SETS OF SPRAY NOZZLES AND SPRAY JETS WATER QUANTITY IS AUTOMATICALLY CONTROLLED BY THE ON/OFF VALVE FOR THE RESPECTIVE NOZZLE SET VALVE WITH VACUUM AND TEMPERATURE DIFFERENCE BETWEEN THE VAPOUR AND CONDENSATE TAIL PIPE
- WATER PRESSURE IN THE COMMON INJECTION HEADER MAINTAINED BY CONTROLLING INJECTION PUMP VFD
- JET COMPARTMENT CONTROLLED BY SEPARATE VALVE
- VAPOUR AND TAIL PIPE TEMPERATURE MEASURED



SCREENSHOT: CONDENSER AUTOMATION

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CONDENSER AUTOMATION:

- Single Entry and Multiple Entry Condensers have the same Control Philosophy but a different Control Method.
- A Single-Entry Condenser's Water Intake is Controlled by a Control Valve in a PID Loop with the Vacuum and Temperatures being the Remote Set Variables.
- In a Multiple-Entry Condenser, every Set or Compartment of Nozzles has an On/Off Type Control Valve to start or stop its water intake.
- The number of Jets and Nozzles and their Diameter is designed as per Condenser Capacity, the Control Valve is designed to suit this size and flow rate.
- Water Pressure in the Common Injection Header maintained by Controlling Injection Pump VFD
- Jet Compartment Controlled by Separate Valve
- Vapour and Tail Pipe Temperature Measured

AUTOMATION PHILOSOPHY:

- Vapour Vacuum and Temperature sensed
- Condensate Temperature Sensed in Tail Pipe
- Temperature Difference Calculated
- Vacuum and Temperature Difference are both Analyzed to derive Remote Dynamic Set Point
- Spray Water is controlled as below:
 - Multi-Entry System:
 - Spray Jets are controlled by separate ON/OFF type Control Valves as per the Remote Dynamic Set-Point
 - 2, 3, or 4 Sets of Nozzles for Spray as per Design
 - 1 or 2 Sets of Jet Nozzles as per Design are controlled only if necessary
 - Single-Entry System:
 - Spray Jets are controlled by a Control Valve in PID Action as per the Remote Dynamic Set-Point
 - 1 or 2 Sets of Jet Nozzles as per Design are controlled only if necessary

Product Code: A15COAACC4RC2D4R4FMC

- A15COAACC4RC2D4R4FMC – A15COA means Condenser Automation System of A15 Product Family. Ethernet Communications is in the A24 Model.
- A15COAAC4RC2D4R4FMC – AC Power Supply
- A15COAACC4RC2D4R4FMC – Analog Inputs and Outputs
 - AI (C4R): 4-20mA Current and RTD PT100, 4 Channels;
 - AO (C2): 2 Ch. 4-20mA (Ch. 1: Spray and Ch. 2: Spare can be used for Spray / Jet)
- A15COAACC4RC2D4R4FMC: Digital Inputs and Outputs
 - DI (D4): 4 DIs (24VDC); DO (R4): 4 Relay Outputs (24VDC, 1A)
- A15COAACC4RC2D4R4FMC – Field Mounted Enclosure
- A15FDAACSCTRC2D4R4FMC – Controller
- A24FDAACSCTRC2D4R4FMC – Analyzer with Controller and Ethernet Model, EM: Modbus TCP/IP Communication (Ethernet)

THE CONDENSER AUTOMATION SYSTEM IS AVAILABLE AS A STANDALONE LOCAL CONTROL SYSTEM (OPTIONALLY WITH ETHERNET COMMUNICATION FOR DCS) OR IMPLEMENTED IN PLC-SCADA OR PLC-HMI OR DCS.

PLEASE VISIT OUR WEBSITE www.yutechautomation.com.

CHANNEL PARTNER:

YU Technologies Pvt. Ltd.

HO & Works: B 8/5, MIDC, Miraj, 416 410, Distt: Sangli, Maharashtra, India.

T: +91 233 2644042, +91 916 832 4851, +91 916 832 5127 / 8.

E: info@yutech.in; sale@yutech.in

W: www.yutech.in; www.yutechautomation.com