

STEAM CONDENSATION UNIT

MODEL: SE 504



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HIS Steam Condensation Unit (Model: SE 504) is designed for teaching, training and research purpose for steam condensation control. The unit is suitable for studying different control strategy for steam condensation using PID and Fuzzy Logic. Fuzzy logic controller is optional with additional requirement MATLAB and Fuzzy Logic Toolbox.

DESCRIPTION

This model is a self contained unit, installed on an epoxy coated platform and designed for safety and ease of use. The control panel is protected with anti-splash features. The boiler is of industrial grade and electrically powered. Water is heated to its boiling point

using cartridge heaters that are located inside the boiler. A sight glass on the side of the boiler allows the internal water level to be monitored. Saturated steam leaving the top of the boiler passes around the pipe and heat exchanger before condensing and draining.

EXPERIMENTAL CAPABILITIES

- ◆ Close loop with Proportional band only control
- ◆ Close loop with P plus Integral time control
- ◆ Close loop with PI plus Derivative control
- ◆ PID Loop tuning for optimum control
- ◆ Self tuning
- ◆ Control valve sizing calculation

SPECIFICATIONS

Heat Exchanger

Shell

Material : Glass
Size : DN 50
Length : 1.3 meter

Inner Tube

Material : SS304
Size : 1/2 inch
Length : 1.3 meter

Steam Generator

Capacity : 12 kg/hr
Fitted with sight glass, safety relief valve and feed water pump.

Temperature Sensor (4 pcs)

Range : 0 to 200 degC

Control Valve

Material : Cast iron body
Input : 4 - 20mA

All pipings are in SS 304 material.

OVERALL DIMENSIONS

Height : 2.00 m
Width : 0.70 m
Length : 2.1 m

MANUAL

The unit is supplied with Operating and Experimental Manuals in English giving full descriptions of the unit, summary of theory, experimental procedures and typical experimental results.

UTILIZATION REQUIREMENT

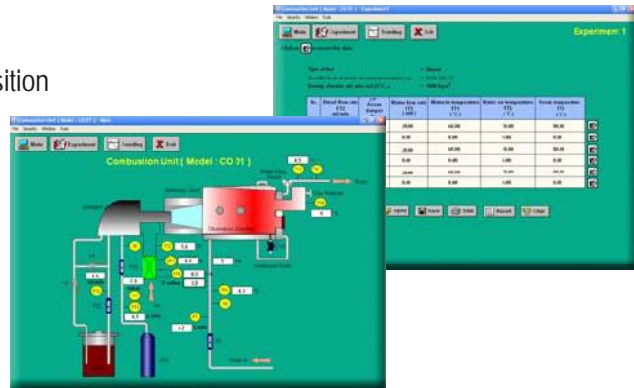
Electric Supply: 240V AC / 50Hz / 34A
Cooling Water: Laboratory tap water, 10 lpm @ 2m head.
Drainage point & Vent point.

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