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Product Name :
Steam to Water Heat Exchanger

Product Code :
LBNY-0005-1020006



Description :

The Steam to Water Heat Exchanger is self contained and designed for bench top use having its own steam generator and condenser tubes housed in a thick walled glass cylinder.

A differential pressure manometer also allows the pressure drop due to velocity to be investigated in each configuration.

The tubes may be connected in a single, double or four pass configuration and full instrumentation is provided for the investigation of the thermal performance in each configuration.

Experimental Capabilities:

Demonstration of the increase in Steam to Water Heat Exchanger effectiveness due to increasing the number of tube passes at constant flow rates.

Visual demonstration of filmwise condensation and nucleate boiling.

Investigation of the saturation pressure/temperature relationship for H₂O at low pressures.

Investigation of the effect of increasing flow velocity and the number of tube passes on the overall heat transfer coefficient.

Measurement of the effect of coolant flow velocity and the number of tube passes on pressure drop.

Technical Specification :

Steam To Water Heat Exchanger having its own 3 kW steam generator and four tube condensers, all within a single thick walled glass cylinder. High quality Glass Reinforced Plastic, having an attractive appearance, and on which the following components are mounted. Complete with three interchangeable manifolds allowing single, double or four pass operation.

Differential pressure Manometer and Digital Display: measuring pressure drop across condenser.

Digital Thermometer: measuring steam chamber and condenser inlet and outlet temperatures. Resolution 0.1°C.
Safety Features: include steam chamber pressure relief valve, pressure switch and heater high temperature cut out. All electrical components earthed and fused.
Flow meters: including total water flow through condenser and water flow from mains. Ranges: One 10 to 90 cm³ s⁻¹. One 1 to 12 g s⁻¹.
Pressure Gauge: showing steam chamber pressure. Range: - 100 to + 100 kN m⁻².



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