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Product Name :
Rankine Cycle Steam Turbine

Product Code :
ENGLABINGCAG11100004



Description :

Rankine Cycle Steam Turbine

Technical Specification :

Investigation of a true Rankine Cycle Steam Plant.
Determine of cycle thermal efficiency based on shaft power.
Determination of friction losses at various exhaust pressures.
Investigation of turbine torque/speed and power/speed characteristics.
Investigation of steam quality by throttling.
With the optional power generation module demonstration of electrical power generation.

Specification of Rankine Cycle Steam Turbine

Boiler: Independently certified electric boiler with automatic control, pressure switches, fail safe pressure cut out and large capacity relief valve

Turbine: Single stage , axial flow impulse turbine on a vertical shaft mounted in corrosion resistant sealed ball bearings. Convergent-divergent nozzle discharges at 20° to plane of turbine rotation and rotor has blades with 45° inlet and discharge angles. Rotor diameter 50mm. Maximum turbine speed 40,000 rpm.

Water cooled Condenser: Condenses turbine exhaust steam allowing heat rejection from the system to be measured.

Feed Water Reservoir:- Collects condensate from the condenser for return via the feed pump to the boiler.

Feed Pump: Low volume flow pump.

Flow Meters :- For condenser cooling water. Allows measurement of heat rejection from the condenser.

Digital Thermometer: 0.1°C resolution, with multi-way selector switch for all relevant temperatures

Pressure gauges: For all relevant system pressures.
Turbine Tachometer:- Digital display and over speed cut out.
Turbine brake load: Digital indicator.



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