DESCRIPTION:

The apparatus is a self-contained unit operated on close circuit basis containing a sump tank. The setup is consisting of a double acting, single cylinder reciprocating pump coupled with a AC motor. Rpm of the AC motor is varied by means of three step pulleys. A RPM indicator with proximity sensor indicates the RPM of pump. Flow of water is measured by using measuring tank and stop watch. Vacuum gauge is fitted on suction line and pressure gauge is fitted on delivery line to measure the pressure.

Sensors for data acquisition is provided. Rpm sensor for speed measurement , flow sensor for discharge measurement , pressure sensor for discharge and vacuum , energy meter with output for energy measurement. Software is provided for data analysis using usb connection to PC.

Technical Details:

- Pump: Double acting single cylinder (1HP) speed 250 RPM (max), Head: 5kg/cm^2 max.
- Drive: 1HP AC motor
- Sump tank: 70 Ltrs
- Flow Measurement: Using measuring tank with piezometer (40Ltrs)
- Stopwatch: electronic
- Pressure Gauge: Bourdon type 0 to 7 kg/cm^2
- Vacuum gauge: 0 to 760 mm hg
- Vacuum gauge: 0 to 760 mm hg
- RPM Measurement: Digital RPM indicator with Proximity sensor
- Energy measurement: Electronic energy meter.
- Pressure gauge: 2 nos (0 to 6 bar and 0 to -1 bar)
- Flow sensor for discharge measurement
- Control Panel comprises of: Standard make on/off switch. Mains Indicator.

Experiment:

- To determine total head, overall efficiency and pump efficiency and volumetric efficiency of the reciprocating pump
- To plot head vs. discharge, pump efficiency vs. discharge

Note: Specifications are subject to change, Photos shown above are Indicative, Actual Product can Vary.