

Order Code : 20213501.1.7  
Name : Reciprocating pump

### Description

The present set-up is designed to study characteristics of a given reciprocating pump. The reciprocating pump is coupled to DC motor. A speed control arrangement facilitates the end user to operate the reciprocating pump at different speeds. To calculate the input power to the motor, an energy meter is provided. A RPM Indicator with Proximity sensor indicates the RPM of Pump.

Present set-up is self-contained water re-circulating unit, provided with a sump tank, reciprocating pump etc. Water is pumped by means of reciprocating pump and passing through the pipeline, it returns back to the sump which make the system re-circulating type. Flow of water is diverted either to measuring tank or sump tank with the means of a flow diverter, when needed. Control valves and Pressure gauges are fitted in suction and discharge line of the reciprocating pump to conduct the experiments on different head and flow. Flow rate of water is measured with the help of measuring tank with piezometer and stopwatch. The supplied set-up is complete in all respect. Only water supply and electricity supply is to be provided by the end user for running the set-up.



### Experimentation/Learning Objectives

- To determine total head, overall efficiency and pump efficiency of the reciprocating pump.
- To plot Head vs Discharge, Pump efficiency vs Discharge.

### Technical Details

- Medium Flow : Clear Water
- Pump : Double acting, Single Cylinder, Capacity 1 HP, Speed 250 RPM (max.), Head 5 kg/cm<sup>2</sup> (max.)
- Drive : 1 HP AC motor with AC drive, Variable Speed.
- Sump Tank : Capacity 50 Ltrs. approx.
- Measuring Tank : Capacity 25 Ltrs. approx. with Piezometer.
- Stop Watch : Electronic.
- Pressure Gauge : Bourdon type.
- Control Panel Comprises of :
  - Energy measurement : Electronic Energy meter, L&T make.
  - RPM measurement : Digital RPM Indicator with Proximity sensor.
  - MCB : For overload protection.
- Standard make On/Off Switch, Mains Indicator, etc.
- Tanks will be made of Stainless Steel.
- An ENGLISH instruction manual consisting of experimental procedures, block diagram etc. will be provided along with the Apparatus.
- The whole set-up is well designed and arranged on a rigid structure painted with industrial PU Paint.

### Utilities Required

- Electricity supply: Single phase, 220V AC, 50 Hz, 5-15 Amp. combined socket with earth connection. Earth voltage should be less than 5 volts.
- Water Supply : Initial fill.

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

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