

**THD-002** **COMPUTERISED SINGLE STAGE RECIPROCATING AIR COMPRESSOR TEST RIG**



**RANGE OF EXPERIMENTS TO BE CARRIED OUT:**

1. To study all components/Accessories used in Reciprocating Air Compressor.
2. To study & determine Isothermal Work, Isentropic Work, Actual Work Volumetric Efficiency, Isothermal Efficiency, Isentropic Efficiency & Free Air Delivery at different delivery pressure on computer
3. To Plot Volumetric Efficiency/Isothermal Efficiency Isentropic Efficiency against Delivery Pressure & comment on the nature of the plot on computer

## **TECHNICAL DESCRIPTION :**

The test rig consists of Air Compressor with an air suction tank, is fitted with an orifice at one end & other end connected to cylinder. The orifice pressure tapping is connected to differential pressure transmitter on panel. Temperature transmitter  $T_1$ ,  $T_2$ ,  $T_3$  reads temperature at inlet ( $T_1$ ) outlet Temperature ( $T_2$ ) & ( $T_3$ ) records temperature of air in receiver.

Energy Transmitter is used to record the power input to motor & in turn the work required for compression. The control panel houses starter for motor, main switch, Temperature Indicator . A pressure and angle sensor provided for plotting PV Plot on computer. A suitable scada software provided for analysis.

## **DIMENSIONS AND WEIGHT :**

Size :1.5 m.(L)x 1.0 m(W) X 2.0 m ( H )

Weight :Approx. 130 Kg

## **SERVICE REQUIRED :**

Power Supply : 440v, AC ,Three Phase , 50HZ

Computer with suitable version

## **SCOPE OF DELIVERY:**

1. Experimental Setup
2. Instructional Manual

**OPTIONAL FACILITY:** Data logging Facility