

THD-001 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.
3. To Plot Volumetric Efficiency/Isothermal Efficiency Isentropic Efficiency against Delivery Pressure & comment on the nature of the plot.

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 one limb of U -Tube manometer on panel. Thermocouple 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 meter 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 .

DIMENSIONS AND WEIGHT :

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

Weight :Approx. 120 Kg

SERVICE REQUIRED :

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

SCOPE OF DELIVERY:

1. Experimental Setup
2. Instructional Manual

OPTIONAL FACILITY: Data logging Facility