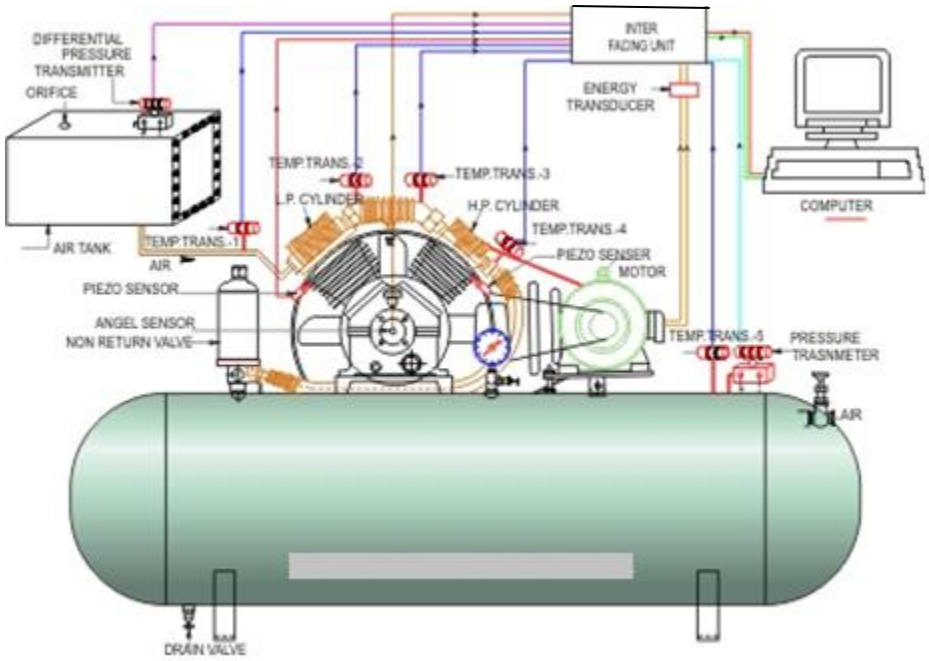
THD-004 COMPUTERISED SINGLE STAGE RECIPROCATING AIR COMPRESSOR TEST RIG



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 ,T_4 , T_5reads temperature at inlet (T_1) outlet Temperature

1, Camp's Corner, Nr. Narhari Hospital, Fatehgunj, Vadodara - 390 002, Gujarat, India.
Tell No. +91 265 750186, Cell No. +91 9727759429
info@fadaklabequipments.com

from 1st cylinder (T_2) & after intercooler temperature (T_3) , after 2nd cylinder (T_4) and Tank Temperature (T_5) records temperature of air.

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 1.7m (H)

Weight :Approx. 120 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

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