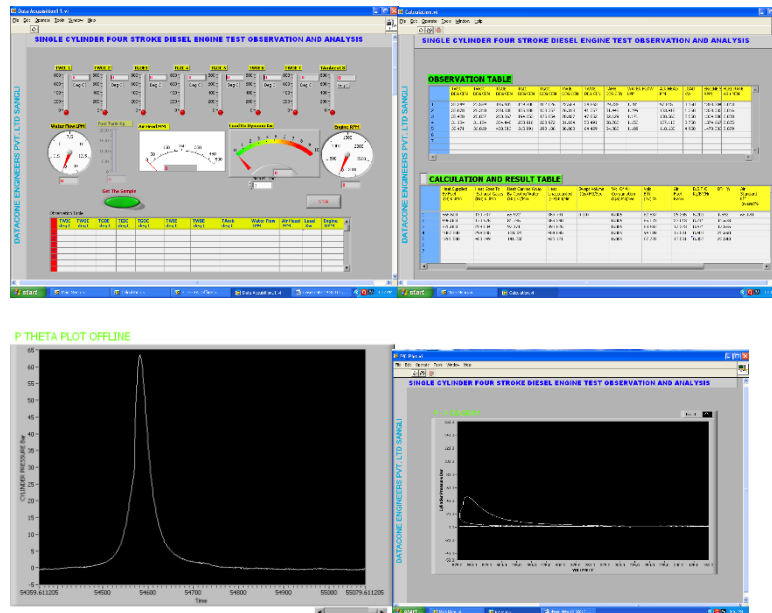


IC-008 COMPUTERISED FOUR CYLINDER FOUR STROKE PETROL ENGINE TEST RIG



RANGE OF EXPERIMENTS TO BE CARRIED OUT:

1. To observe the parameter e.g. Temperature , combustion pressure ,cylinder volume, water flow, dynamometer load , fuel consumption by online.
2. Analyse the above parameter in excel format
3. To observe the p - θ plot online
4. To observe the p - v plot
5. To Calculate the heat balance sheet of the test rig
6. To Calculate the Volumetric efficiency of engine
7. To calculate the air to fuel ratio
8. To Calculate the air standard efficiency.

TECHNICAL DESCRIPTION:

The Setup Consist of Four cylinder four stroke petrol engine (BrandNew). A Propeller shaft is used to couple the engine to the rope brake / hydraulic brake / electric / eddy current dynamometer as a loading device. The instrumentation consist of combustion pressure sensor , rotary encoder, Temperature transmitters, differential pressure transmitters, load transmitter , flow transmitter with ADC and DAC Cards. A Labview software is used for the data acquisition and analysis. The air box with orifice plate and manometer is provided for measurement of air to the engine. A fuel tank with fuel measuring unit with scale is provided. The shell and tube type calorimeter is provided at exhaust of the engine. Digital temperature indicator with thermocouple is provided for measurement of temperature at eight different locations. A speed is measured by using tachometer. A rotameter is provided for measurement of water flow to the engine and calorimeter. Load on the engine is measured by using dynamometer accessories. Necessary water and air pipe connections are provided. The entire setup mounted on sturdy MS frame with powder coated and good color combination.

DIMENSIONS AND WEIGHT :

Size : 2 m.(L)x 1.5 m(W) X 1.7m (H)

Weight : Approx. 400 Kg

SERVICE REQUIRED :

Water : @ 10 LPM , ½ " Pipe connection

Drain Pipe Line 2" size

Fuel : Petrol , 10ltr for 1 hr test period

Power Supply : 230v, AC ,Single Phase , 50HZ

SCOPE OF DELIVERY:

1. Experimental Setup
2. Instructional Manual