

Product Name :

Single Cylinder Four Stroke Water Cooled Diesel Engine with Hydraulic Dynamometer Test Rig

Product Code :

ALABS-A175-006

**Description :****Single Cylinder Four Stroke Water Cooled Diesel Engine with Hydraulic Dynamometer Test Rig**

IC engines are widely used in automobile, domestic and industrial sector. They are classified according to cycle, number of cylinders, arrangement of cylinders, fuel used, type of ignition, valve arrangement, cooling system. Test rigs are used to find out the performance of an IC engine. It consists of an IC Engine, dynamometer, fuel measuring, air intake measuring and various other arrangements.

Experiments:

- To determine specific fuel consumption.
- To determine Brake Horse Power.
- To determine Brake Thermal Efficiency.
- To determine volumetric efficiency measurement.

Technical Details:

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Type of Engine:

-Single cylinder, four stroke, vertical water cooled, crank start, diesel engine developing 5 HP at 1500 rpm (Kirloskar New)

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Type of Loading:

-Rope Brake Dynamometer

:Rope Brake arrangement with the brake drum fitted on the engine shaft and provided with cooling water arrangement and spring balance in Kg units.

-Electric Brake Dynamometer

:The engine is coupled with electrical alternator with resistance loading arrangement. Digital voltmeter and digital ammeter is provided.

-Hydraulic Brake Dynamometer

:It consists of weighing gear, control gear, a dead weight in kg unit suitable for testing the engine at different speeds. The engine and dynamometer are directly coupled on a substantial base plate.

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Fuel measuring system

-Fuel measuring system consists of a fuel tank, a burette and a three way cock arrangement.

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Air intake measuring system

-Air tank fitted with orifice and water manometer.

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Measurement of Heat carried

-It consists of inlet outlet piping with flow control valve, water away by Cooling water meter. Thermometers are provided to measure the inlet outlet temperature of water.

-The whole setup is well designed and supported by a good quality painted rigid M.S. Structure.

Optional:

Exhaust Gas Calorimeter:

Made of Stainless Steel including the body & the tubes for cooling water circulation and designed to get maximum temperature difference. The body of the calorimeter is insulated on all sides to prevent heat losses due to radiation. Thermometers are provided to measure the temperature of water and gas



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