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Product Name :
Single Cylinder Engine w. Variable Compression

Product Code :
LBNY-0005-10300022



Description :

The engine can be operated as an external ignition petrol engine or an auto-ignition diesel engine. The mode of operation can be changed by a few simple conversion steps. This allows the compression ratio to be adjusted over a wide range. The key feature is that the cylinder has been modified so that its height can be adjusted along with that of the cylinder head. Major technical modifications have been made to a standard water-cooled single cylinder engine to allow demanding issues in engine technology to be investigated by experiment.

Learning Objectives/Experiments:

Influence of ignition point on fuel consumption, power output, efficiency and exhaust gas composition
Comparison of diesel and petrol cycles
Plotting of torque and power curves
Determination of volumetric efficiency and lambda (fuel-air ratio)
Energy balances
Determination of friction loss (in passive mode)
Determination of specific fuel consumption
Determination of efficiency
Influence of compression on fuel consumption, Power output, efficiency and exhaust gas composition.

Technical Specification :

Engine completely equipped with fuel lines and temperature sensors for exhaust gas and cooling water
Fuel hoses with self-sealing quick-release coupling
Water-cooled single-cylinder experimental engine for setting up an engine test stand in conjunction with

Petrol mode with carburettor
Adjustable ignition point
Diesel mode with direct injection
Engine mounted on base plate
Force transmission to brake unit using claw coupling
Demonstration of diesel and petrol processes on an engine with variable compression
Creation of different compression ratios using a height adjustable cylinder.



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