



Email : sales@laboratoryinstrumentindia.com

Product Name :
Reciprocating Steam Engine Bench

Product Code :
LBNY-0005-1630008



Description :

The steam engine is supplied with steam from a steam header at a reduced pressure via an overspeed trip solenoid valve and a displacement lubricator from which oil is displaced by droplets of condensed steam into the steam supply to lubricate the engine. Steam Engine Steam Bench consists of a sturdy framework and panels of all steel construction, fitted with a student work surface, interconnecting hack panel and adjustable feet. Engine inlet and outlet steam pressures are indicated on 0-16 bar and -1 to 3 bar Bourdon tube pressure gauges respectively. A control cubicle surmounted by resistive load elements within a separate ventilated enclosure, contains electrical control circuits and is fitted with the control switches and the indicating instruments for engine speed, dynamometer output current and voltage and analogue temperatures which can be selected by an associated multi-position switch. The steam bench comprises a robust single cylinder, double acting reciprocating steam engine driving a dynamometer which enables a calculable, variable resistive load to be easily imposed on the engine. Exhaust steam is cooled by a water cooled, coiled tube type condenser.

Technical Specification :

The bench comprises: a single cylinder, double acting steam engine, fitted with two cylinder drain valves, inlet and outlet temperature measuring points complete with type K thermocouples; lubrication from a displacement lubricator; engine vertically mounted on vibration isolators; flexible steel braided inlet and outlet hoses; a belt driven dynamometer mounted on an adjustable pivoted support bracket and a water cooled, coiled tube exhaust steam condenser fitted with an inlet pressure measuring point connected to a -1 to 3 bar Bourdon tube pressure gauge. Steam bench to demonstrate the method of testing a steam engine and to determine various performance characteristics of a simple steam engine or steam turbine.

Experimental Capability:

To determine the mean effective pressure, brake power, indicated power, steam consumption and mechanical efficiency of a single cylinder steam engine or steam turbine under varying loads and constant speed.



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