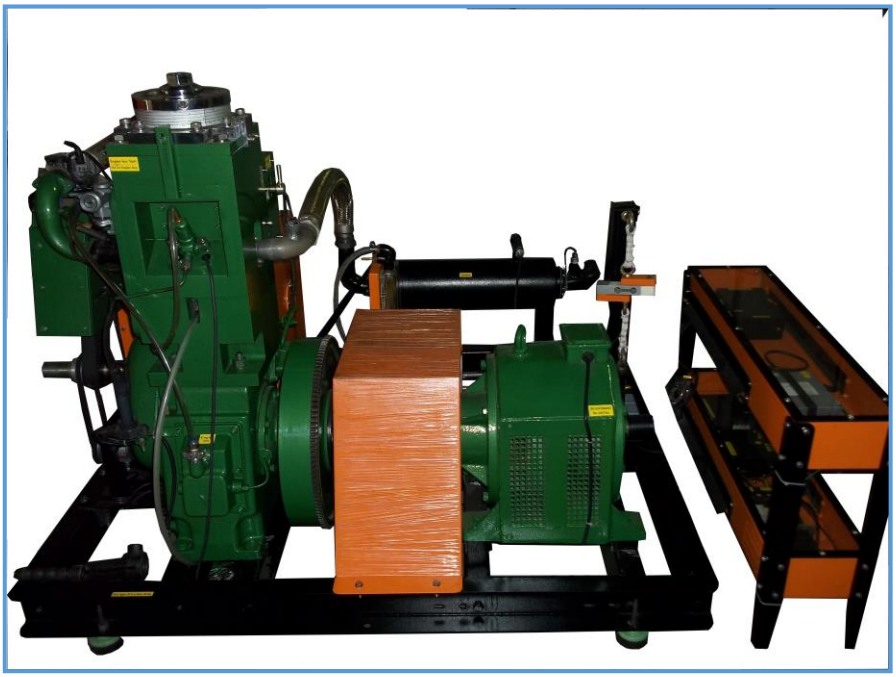
Computerized Variable Compression Ratio Diesel Engine Test Rig without CRDI Open ECU and EGR (Product Code: CVCR02)



Features

- Engine performance enhancement for diesel and alternative fuels
- Engine performance and combustion studies
- High Quality instrumentation
- Calculates BP, IP, FP, sfc, bsfc, BTE , Volumetric η & mechanical η
- PV and P-θ diagrams
- Mass Fraction Burnt
- Estimated End of Combustion Angle (EEOC)
- Calculates Gross IMEP
- Calculates Maximum Heat Release Rate
- Calculates Start of Combustion
- Calculates Combustion Duration and many more parameters

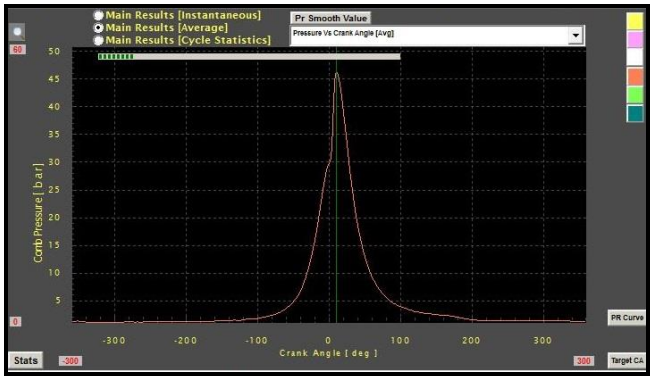
Product Description

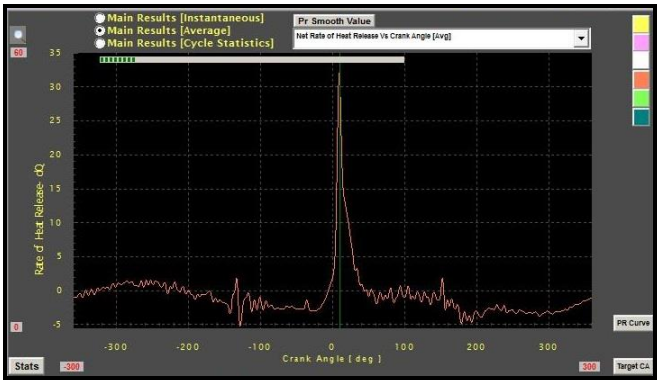
The engine is mounted on Sturdy base frame. The base frame is fabricated with mild steel “C” channel. The engine and the dynamometer are coupled using standard tyre coupling. The air tank is fitted with a differential pressure sensor for measuring the Actual volume of air drawn into the cylinder. The thermocouple and necessary signal conditioner for the measurement of temperature at various points in the calorimeter are suitably provided. Liquid Level Sensor is used to measure the fuel flow consumption of the engine. Rota meter is used to measure the water flow of the engine and exhaust gas calorimeter. The load of the engine is measured using a load cell. The panel is fabricated with suitable SWG CR sheet and as per IS standard; the front portion of the panel is provided with provision for mounting computer, Printer, UPS and all instrumentations and signal conditioner related components. Power and control wiring are suitably marked using ferule for easy troubleshooting. The panel is finished with powder coating.

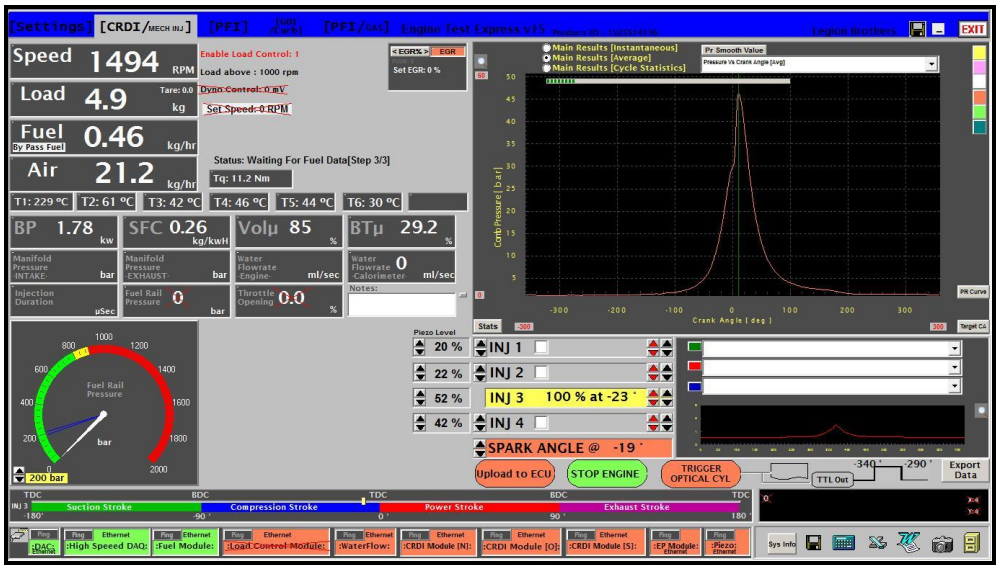
Plot No: 34/G, 4TH Main 3RD Phase Peenya Industrial Area, Bangalore - 560 056.
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Software (Engine Test Express)

Windows based powerful software for real time data measurement, auto zoom graphs, analog and digital display of data in the computer, store indefinite no of graphs for analysis. Facilities to export data to Microsoft excel. The data acquisition software is developed by legion brothers.







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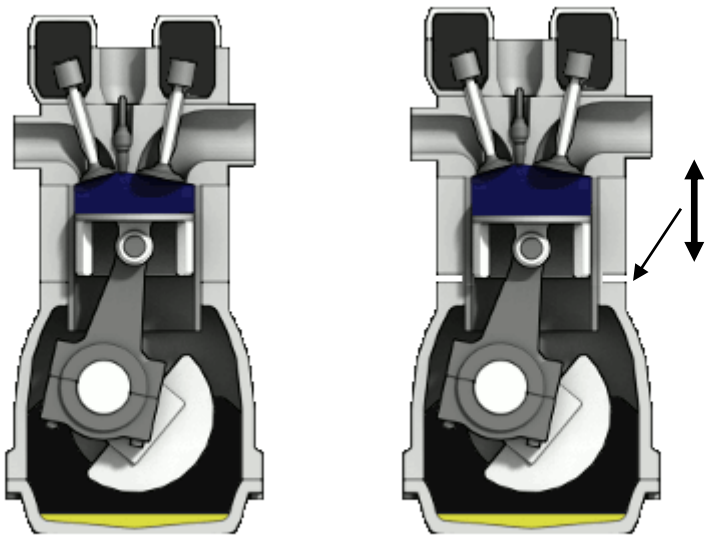
Computerized Variable Compression Ratio Diesel Engine Test Rig without CRDI Open ECU and EGR (Product Code: CVCR02)

Product / Component Specification

Product	Computerized Variable Compression Ratio Diesel Engine Test Rig without CRDI open ECU and EGR
Product code	CVCR02
Engine	Make : Legion Bothers Compression Ratio : 5:1 to 20:1 No of cylinder : One Cooling : water Speed : 1400-1500 Rpm Power : 3 to 5HP Starting : Electric Start
Dynamometer	Type : Eddy Current Cooling : Air cooled Capacity : 5HP
Coupling	Tyre Coupling
Calorimeter	Single shell and tube-Mild Steel
Air tank	500mm cubic-Mild steel
Panel	Mild steel powder coated with provision for mounting computer, ups, printer and instrumentation
Base frame	C channel-Mild steel
Combustion pressure sensor	Piezo-electric 0-100 bar
Crank angle encoder	360 ppr, 1 Deg resolution with TDC pulse
Air measurement	DP sensor with inline transmitter
Fuel measurement	Optical liquid level sensor constant volume, fully automatic
Dynamometer load	Strain gauge load cell with inline transmitter
Temperature	“k” type with inline signal transmitter
Water flow	Rota meter-Acrylic
Daq	200 Ks/s
Software	Engine test express for engine combustion analysis and performance software

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Variable Compression Ratio Mechanism



Higher CR Lower CR

The desired compression ratio can be achieved by vertically lifting the engine head and bore together, resulting in increased clearance volume. The variable compression ratio is achieved without change in combustion chamber geometry. Operate on both SI and CI mode without changing the engine head.

Features

- Easy change of compression ratio
- Compression ratio variable from 5:1 to 20:1
- SI and CI mode operation without changing engine head
- Vertical 90 Deg lift ensures no mechanical stress in the connecting rod and piston
- Valve timing unchanged during change in compression ratio

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