



Since 2011

**COMPUTERIZED TWIN CYLINDER
DUEL FUEL TURBO CHARGED
DIESEL ENGINE SETUP WITH
OPEN ECU SYSTEM**

**Make : MMI
Model : MMI RICE 020**



Engine : MAHINDRA MAKE

- Engine type : CRDI Diesel engine with turbo charger
- No. of cylinder: 2
- Cooling : Water cooled
- Torque : 98 NM @ 2200 RPM
- Volume : 900 cc
- Filter : Diesel particulate filter (DPF)

Eddy current dynamometer : TECHNOMECH MAKE, TME 50

- Type : Water cooled Eddy Current
- Maximum Power 50 HP : @ 1500 rpm
- Cooling media : By water
- Maximum Torque : 130 Nm@1800 - 4000 rpm

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MICRO MECH INSTRUMENTS

An ISO 9001 : 2015 Certified Company

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COMBUSTION PRESSURE TRANSDUCER Make : KISTLER

Pressure range : 0 to 100 Bar with integral inline Charge amplifier and mounting cylinder separately and including connecting cable, Sensitivity ($\pm 0,5\%$): 40 mV/bar, Supply voltage : 7 to 32 VDC

CRANK ANGLE ENCODER Make : KUBLER - German

Resolution : 1° @ 360 PPR, Operating Volt : 10-30VDC With coupling adapter for mounting on Dynamometer Shaft

- Temperature Measurement system : 5 No's of K type temperature sensor provided
- Fuel measurement : U cap fuel sensor measure the fuel flow rate
- Air intake measurement : Differential Pressure transmitter will be provided to measure the air flow
- Sensor indicator : MODBUS controller: 8 channel masibus controller
- Input Type : Thermocouple, RTD, Voltage, Current, Accuracy: 0.1% FS 8 Channel controller for sensing pressure, temperature, load and speed with automatic and manual mode.

DATA ACQUISITION SYSTEM

Make : NATIONAL INSTRUMENTS, Model: NI USB 6210

No. of channel : 16 Single Ended, 8 Differential, Analog input resolution 16 Bits, Frequency: 250 KHZ

COMBUSTION ANALYZER SOFTWARE

Technical data :

Make : MMI SOFT 004

Engine combustion analyzer will contain of educational Software for online Representation for P-V & P- Θ diagram and data logging package for interfacing with computer for real time data acquisition. Data will be acquired in Excel Files for further calculations.

Experiment to Perform :

Specific fuel consumption, Brake power, Indicated power, BMEP, IMEP, Brake thermal efficiency, Indicated thermal efficiency, Mechanical efficiency, Volumetric efficiency, Air/Fuel ratio

Overall test rig mounting: The entire test rig will be mounted on suitable, rouged and self-contained Structure / frame with PU painted.

MS powder coated engine testing panel will be provided with attachment of Air tank, Fuel tank, sensor indicator, Load indicator, CC tube, U tube.

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