

Product Name : Single Cylinder Optical Access Compression Ignition Research Engine Test Bed	Product Code : TK499
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Description :

Single Cylinder Optical Access Compression Ignition Research Engine Test Bed

Technical Specification :

Single Cylinder Optical Access Compression Ignition Research Engine Test Bed
Capacity: Above 661cc
Compression Ratio: variable 14:1 to 20:1
Engine Speed: 800-1500 rpm
Number of Cylinders: Two Cylinder (one Cylinder with optical access)
Valve train: 4 valves " (VVT Exhaust) independently change inlet and exhaust valve timing, Overhead Cam Shaft
Intake Valves: 20 Sets of non-rotatable modified self-contained intake swirl valves is provided with the engine.
Fuel System: (CRDI open loop System /Electronic Variable Diesel Injection Timing Kit with the ability to change the start of injection, injection duration, injection pressure and multiple injection like pilot1, pilot2, main and post injection. Changing of injection parameters is controlled from the computer)
Fuel Type: Diesel
Power: 3-5HP
Lubrication: Forced
Starting: Electrical start
Sapphire Window: 15mm x 45mm (Three Sides)
Transparent Synthetic quartz window on Piston: 25mm Diameter
Engine Aspiration: Single Cylinder Optical Access Research Engine has the ability to run on both natural and turbo charged mode.

Dynamometer: The Engine Is coupled with 5 HP Eddy Current Dynamometer
Eddy current adjustable dynamometer

Features Benefits:

Torque is transmitted by a magnetic field without friction or wear
Simple Design - Dynamometer and small solid state controller
Fewer wearing parts - have only four permanently lubricated bearings
Stationery coupling coil
Controller operates on less than 2% of input power
At least One-year warranty

Dynamometer

TORQUE: 4.7Nm to 549Nm 0.48Kg-M to 56Kg-M
Standard: Open ventilated
Standard: Stationery coil
Standard: Class F Insulation
Standard: Epoxy protection on coil
0-80 V DC Standard: Coil Voltages
0% - 100% constant or variable torque loads: Standard Continuous (S1) Duty
AC Tachometer generator: Optional
RPM: Up to 3500 RPM (Max)
Overload: Up to 250% Short time

Torque Converter

Input Power: 230 V AC 50 Hz Single Phase
Standard: Wall mounted enclosure
0 to 80V DC 2.5 Amps/5Amps: Output voltage, current of dynamometer stationery field coil
To vary 0% - 100% torque load in Kg-M Standard: Adjustable Potentiometer
Power ON/Off selector switch with Indication: Standard
Input fuses, low line voltage, line transients, isolated signal
circuits, torque limit standard: Protective features
Data Acquisition System, Sensors, Controls and Software
Sensors
Engine Combustion Pressure Sensor: Piezo-electric 0-100 Bar
Crank angle: Rotary 360 PPR
Air Measurement: DP Sensor
Fuel Measurement: Optical constant volume, fully automatic
Speed: Encoder
Dynamometer Load: Strain Gauge Load cell
Intake Air Temperature Sensor
Exhaust Air temperature
Intake and exhaust camshaft encoder.
Flow and Temperature Sensors for Turbo Air charging unit.
Data Acquisition System: High Speed DAC with 1 mega samples/sec
Controls: Fuel injection System with controls.

Naugralabequipments

Website: www.naugralabequipments.com, **Email:** sales@naugralabequipments.com

Address: 6148/6, Guru Nanak Marg, Ambala Cantt, Haryana, India. **Phone:** +91-9896600003

