MT505 AUTOMOTIVE ENGINE TEST BED

GENERAL DESCRIPTION

The equipment is intended for testing automotive engine.

The engine rests on four supports on one end of the test bed. The supports can be adjusted in three directions to accommodate different size engine. The dynamometer with speed and torque sensors rests on another end of the test bed. The engine is connected to the dynamometer by a double universal joint with a safety guard. Cooling of the engine and the dynamometer is by a cooling tower to minimize test room temperature rise. A flexible stainless steel hose is provided for exhaust pipe connection. Engine throttle and dynamometer load control are by knobs.

Instruments are provided for measurement of dynamometer torque and speed, fuel flow rate, air flow rate, and temperatures.

A fuel tank with fuel flow and air flow measuring instruments are on a stand next to the engine.

Test bed with water brake absorber with optional equipment

Airbox, fuel tank Thermostatic tank and fuel flow measuring device

Test bed with water cooled eddy current absorber with optional equipment

Cooling tank

Test bed with air cooled eddy current absorber with optional equipment

Instrument box

TYPICAL TESTS

- Torque vs engine speed at various throttle settings.
- Engine brake horsepower and efficiency vs speed.
- Specific fuel consumption.
- Air / fuel ratio.
- Volumetric efficiency.

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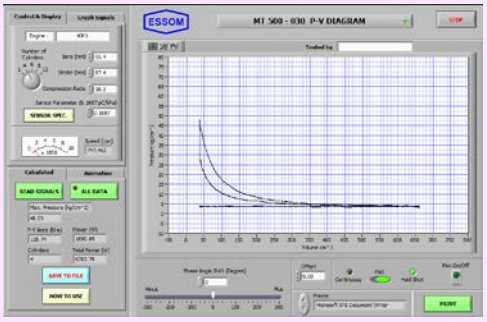
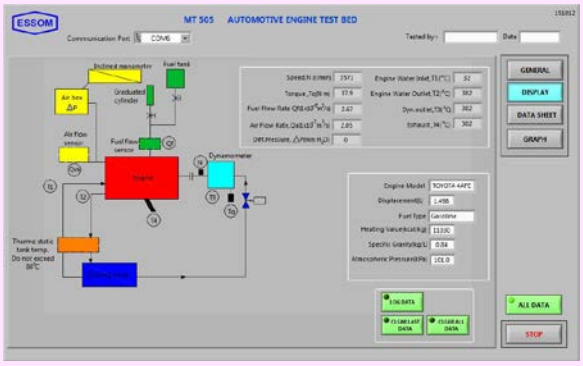
TECHNICAL DATA

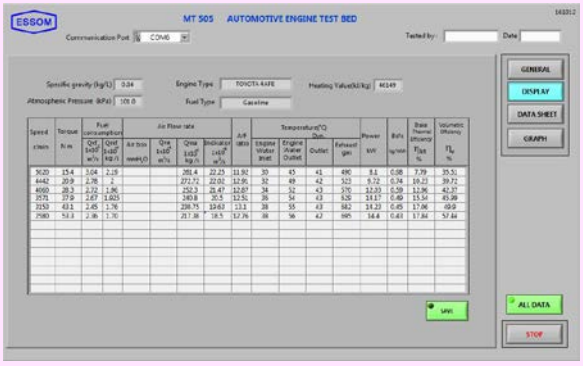
- Dynamometer :
  - Type : Water brake absorber.
  - Maximum torque : At 4000 rpm. over 900 Nm.
  - Maximum speed : 7000 rpm.
- Engine : Good used gasoline engine : 1500cc or larger with fuel injection system, O_2 sensor and catalytic converter.
- Cooling system:
  - Type : Cooling tower with circulating pumps.
  - Capacity : Depending on engine size.
- Measuring instruments :
- Sensors with digital display : Torque and speed
  : Temperature of Engine cooling water inlet and outlet, absorber water outlet, exhaust gas, and ambient air.
  : Differential pressure (for air box with pulse reducer and orifice plate for measuring air flow rate)
- Fuel flow rate : Graduated cylinder and stop watch.
- Safety features : Low oil pressure warning lamp, battery charging lamp, pump operation lamp, over temperatures for engine and dynamometer, and propeller shaft guard.
- Other accessories : Battery, alternator, starter, and fuel tank.
- Power supply : 380V 3 Ph 50 Hz. Other power supply is available on request.

OPTIONAL EQUIPMENT

- Good used diesel engine instead of gasoline engine.
- P-V diagram set for selected diesel engine.
- P-V diagram set for gasoline engine.
- Air cooled eddy current absorber instead of water brake absorber.
- Water cooled eddy current absorber instead of water brake absorber.
- Thermostatic tank for engine operating temperature control.
- MT 505-050 Computer Interface
  This includes sensors, computer interface unit and software for data display and analysis by computer (separately supplied).







Test Bed :

Net (unpacked) shipping dimensions WxLxH : 130 x 400 x 225 cm.
Net weight : Approx. 750 kg.