

MT505C AUTOMOTIVE ENGINE TEST BED, Computer Control

GENERAL DESCRIPTION

The equipment is for testing an automotive engine with computer control.

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. A flexible stainless steel hose is provided for exhaust pipe connection.

Fuel tank with fuel flow and air flow measuring instruments are on a stand next to the engine. Data display, analysis, and control are by a touch screen computer.

Instruction manual is also included.



Test bed with water brake absorber with optional equipment



Computer with instrument box for water absorber



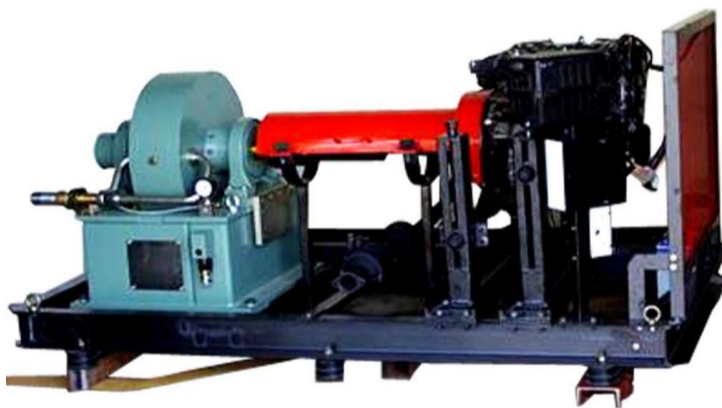
*Airbox, fuel tank
Thermostatic tank and optional fuel flow measuring device*



Cooling tower



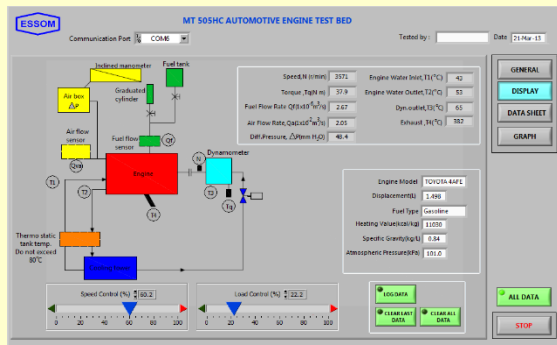
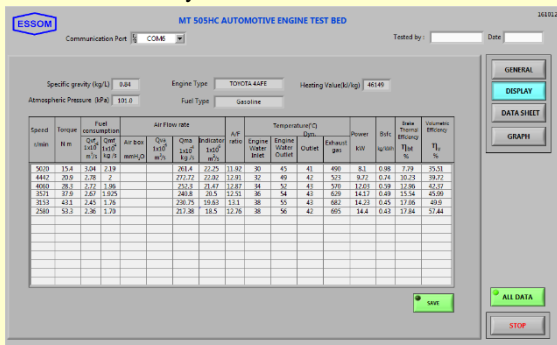
Computer with instrument box for water-cooled eddy current absorber



Test bed with water cooled eddy current absorber

EXPERIMENT CAPABILITIES:

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

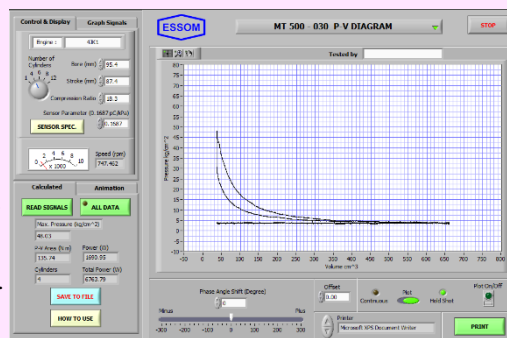


TECHNICAL DATA:

- Dynamometer:
 - Type : Water brake absorber.
 - Maximum torque : At 2000 rpm. over 750 Nm.
 - Maximum speed : At 4000 rpm. over 900 Nm.
 - Maximum speed : At 6000 rpm. over 750 Nm.
 - Maximum speed : 7000 rpm.
- Engine: Good used gasoline engine : 1500 cc or larger, with fuel injection system, O₂ sensor and catalytic converter.
- Cooling system:
 - Type : Cooling tower with circulating pumps
 - Capacity : Depending on engine size.
- Sensors with digital display : Torque and speed
- Safety features : Differential pressure (for air box with pulse reducer and orifice plate for measuring air flow rate)
- Other accessories : Temperature of Engine cooling water inlet and outlet, absorber water outlet, exhaust gas, and ambient air.
- Computer control : Low oil pressure warning lamp, battery charging lamp, pump operation lamp, over temperatures for engine and dynamometer and a propeller shaft guard.
- Computer interface unit and software for data display, analysis, and control by touch screen computer (separately supplied).
- Power supply : Battery, alternator, starter, fuel tank and barometer.
- Power supply : Engine throttle and dynamometer load.
- Power supply : 380 V, 3 Ph, 50 Hz. Other power supply is available on request.

OPTIONAL EQUIPMENT

- MT 500-010 Portable exhaust gas analyzer (HC, CO, CO₂, O₂, NOX)
- MT 500-030 P-V diagram set.
- MT500-030D Sensor adapter for selected diesel engine.
- MT500-030G Sensor adapter for selected gasoline engine.
- MT 505-ECW Water cooled eddy current absorber instead of water brake absorber.
- MT 505-005 Thermostatic tank for engine cooling water temperature control.
- MT 505-040 Exhaust fan for the case of long exhaust pipe.
- MT 505-041 Torque arm with standard weights for torque calibration.
- MT 505-042 Graduated cylinder and stop watch for fuel flow rate calibration.
- PH 100-030 Water manometer for differential pressure calibration.
- Good used diesel engine instead of gasoline engine.
- Other optional equipment, please contact manufacturer (essom@essom.com)



Test Bed:
Net (unpacked) shipping dimensions W x L x H : 130 x 400 x 225 cm
Net weight : Approx. 750 kg

Cooling Tower :
Net (unpacked) shipping dimension W x L x H Maximum up to : 270 x 196 x 223 cm
Net weight : Approx. 225 kg

