MT 507 INDUSTRIAL DIESEL TEST BED

GENERAL DESCRIPTION

The test bed is intended for low speed, high torque industrial diesel engine.

The engine rests on its supports on a bed frame. The dynamometer can be either directly attached to the engine fly wheel or rests on its support and connected to the engine by a double universal joint with guard. Cooling of the engine and the dynamometer is by a cooling tower outside the engine room to minimize temperature rise. A thermo-static tank controls engine operating temperature. Engine throttle and dynamometer load control are by knobs.

Fuel tank and measuring instruments are in the engine room. Instrument panel indicators and control buttons are in the control room.

TYPICAL TESTS

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

TECHNICAL DATA

- Dynamometer :
  - Type : Water brake absorber.
  - Maximum torque : At 2500 rpm. over 3300 N-m.
  - Maximum speed : 7000 rpm.
- Cooling system :
  - Type : Cooling tower with circulating pumps.
  - Capacity : Depending on engine size.
- Thermostatic tank : Engine operating temperature control.
- Measuring instruments:
  - Sensors with digital display : Dynamometer torque, speed, fuel flow rate and power.
    : Temperatures of cooling water at engine outlet, dynamometer inlet and outlet and ambient air.
  - Fuel flow rate.
- Calibration devices
  - Torque : Arm with calibration weights.
  - Fuel flow rate : Graduated cylinder and stop watch.
- Safety features : Low oil pressure warning lamp, and pump operation lamp.
- Power supply : 380V 3 Ph 50 Hz. Other power supply is available on request.

OPTIONAL EQUIPMENT

- Air flow sensor and indicator.
- Air cooled, eddy current absorber instead of water brake absorber.
- Computer Control

  This includes throttle and load control, a computer interface unit and software for data display, analysis and control by a computer (separately supplied).

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