

Automated BOCLE Tester

test method

Determines the wear aspects of the boundary lubrication properties of aviation turbine fuels on rubbing steel surfaces.

automated BOCLE tester

- Simple to use interface –digitally computer control of all instrument functions
- Standard ASTM D 5001 test sequence pre-loaded into ABT microprocessor controller – operator fits cleaned specimens, adds fuel sample & presses the 'Start Test' button.
- Automatic control of test sequence-no operator-included variability in test results.
- Automatic flow controllers for moist and dry air-no operator input required to control the humidity and flow rate of the conditioned air.
- PC based data logging of Motor speed, test duration, fuel temperature, air temperature, humidity recorded during the test & a summary printed out confirming that all parameters were within the specified limits.
- Interchangeable humidity & temperature probes-humidity and temperature measurement does not need to be re-calibrated- simply replace the combined relative humidity and temperature probe with an exchange pre-calibrated unit.
- Heating & Cooling System through Peltier Heating & Cooling System
- Digital Microscope with Image Acquisition System & software
- PC based data acquisition & analyze system of motor speed, test duration, fuel temperature, air temperature, humidity.
- Ultrasonic Cleaner

The Automated BOCLE Tester is a digitally controlled Ball-on-Cylinder wear test system which provides a fast, repeatable assessment of the performance of jet fuels that fully conforms to the ASTM D 5001 test method for "Measurement of Lubricity of Aviation Turbine Fuels by the Ball-on-Cylinder Lubricity Evaluator".

The Computer controlled Automated BOCLE Tester is a single, compact, bench top mounted unit. The only external services required are compressed air to the specification in ASTM D 5001 and 230VAC 16Amps, 1 Phase power. The internal de-ionized water reservoir requires refilling after approximately 1000 tests. An air cleaner/dryer is available which can clean and de-humidify normal laboratory or shop air to meet the requirements of the ASTM standard (Greater than 0.1 ppm hydrocarbon).

ordering information

catalog no.	description
K94100	Automated BOCLE Tester, 115V 60Hz
K94190	Automated BOCLE Tester, 230V 50/60Hz



K94100 Automated BOCLE Tester

specifications

Fluid Volume: 50 ± 1.0 mL
Fluid Temperature: 25 ± 1°C
Fluid Ambient Temperature: + 5.0 to +35.0°C
Conditioned Air: 10 ± 0.2% relative humidity at 25±1°C
Flow rate through Fluid 0.5l/min
Flow rate over the fluid 3.3l/min
Fluid Conditioning Time: 15 min
Fluid Test Conditions: 3.8 L/min flowing over the fluid
Applied Load: 1000 g (500g weight) (±1g)
Cylinder Rotational Speed: 240 ± 0.5 rpm
Test Duration: 30 ± 0.1 min
Data Acquisition & Analyze - Motor speed, Fuel temperature, air temperature, humidity & test duration.
Test Ring - Dia 49.25 to 49.10, Thk 13.11 to 13 (SAE 8720 Steel, Hardness 58 to 62 Rc, surface finish Rq 0.51 to 0.71 micron).
Test Ball: 12.7mm (0.5 inch) (AISI 52100 Steel, Hardness 64 to 66 Rc)
Utilities: Compressed Air – 1.5 to 2.0 bar inlet
Power: 230V AC, Single Phase, 5 Amps.
Dimensions: 600 mm W x 750 mm D x 750 mm H

Included Accessories

Basic Test Rig with PC Based Controller
PC Based Data Acquisition Software for RPM
Motor & Fuel Temperature
100x Digital Microscope with Image Acquisition System & Software
Test Rings and Balls
Tool Kit