

# PCS Instruments ABS - Automated Jet Fuel Lubricity Testing



PCS Instruments is pleased to announce the launch of a new instrument – the Automated BOCLE System, or ABS.

In response to requests from our customers we have designed the ABS to meet the need for a simple to use, low cost, compact, automatic instrument to perform the ASTM D5001 test method for “Measurement of Lubricity of Aviation Turbine Fuels by the Ball-on-Cylinder Lubricity Evaluator”.

This test uses a standard ball on rotating ring test geometry and the method calls for the precise control of the humidity and temperature of a conditioned air stream used to pre-condition the fuel sample to be tested. Previously this control had to be performed by the operator, with frequent adjustments to the instrument during the test. The ABS incorporates a microprocessor controller that controls all aspects of the test. The operator simply has to fit cleaned specimens in the instrument, add the fuel sample to be tested and then press the “Start” button. The rest of the test sequence including humidity and temperature control, pre-conditioning of the fuel, load application and test timing are all carried out without further intervention from the operator. All specified test parameters are monitored and controlled

during the test. Several internal measurements are also made alerting the user to conditions such as low air pressure, low water level etc.

The ABS comprises a single, compact, bench top mounted unit. The only external services required are compressed air to the specification in ASTM D5001 and 100-230V mains power. The internal de-ionised water reservoir requires refilling after approximately 1000 tests. As a future option an air cleaner/dryer will be available which will clean and de-humidify normal laboratory or shop air to meet the requirements of the standard.

The instrument is pre-configured to carry out the ASTM D5001 test method. An optional PC based data logging and control application allows user defined test sequences to be created and downloaded to the instrument. This application also allows all test parameters (motor speed, test duration, fuel temperature, air temperature and humidity) to be recorded during the test and a summary printed out confirming that all parameters were within the specified limits.

An optional x100 microscope is available with an adaptor to accept the ABS ball holder. Users who already have a PCS Instruments HFR2 microscope can purchase just the adaptor for use with their microscope.

Spares, accessories, test specimens and reference fuels are available from PCS Instruments.

For further information and prices, please contact your local distributor or PCS Instruments direct.

PCS Instruments is the world leader in lubricity test equipment with over 300 High Frequency Reciprocating Rigs (the HFR2 system) in use in 36 countries worldwide. The HFR2 is used for measuring the lubricity of low-sulphur diesel fuel and is specified in ASTM, ISO, JIS and CEC standard test methods.



<b>Features</b>	<b>Benefits</b>
Microprocessor control of all instrument functions	Simple user interface. Instrument functions can be upgraded by downloading new firmware
Standard ASTM D5001 test sequence pre-loaded into microprocessor controller	Operator simply has to fit cleaned test specimens, add the fuel sample and press "Start"
Automatic control of whole test sequence	No operator-induced variability in test results
Automatic flow controllers for moist and dry air	No operator input needed to set the humidity and flow rate of the conditioned air.
Optional PC-based control and data logging software	Allows alternative test programmes to be downloaded into instrument, and test parameters to be recorded as a permanent record.
Interchangeable humidity and temperature probes	Humidity and temperature measurement does not need to be re-calibrated - simply replace the combined RH and temperature probe with an exchange pre-calibrated unit.

**PCS Instruments**

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