

# **PILODIST® Bocle 5001 - 2016**



# PILODIST – BOCLE 5001

Fully Automatic Test Equipment for Measurement of Lubricity of Aviation Turbine Fuels by the Ball-on-Cylinder Lubricity Evaluator according to ASTM D-5001.

The BOCLE-equipment according to ASTM D-5001 measures the actual wear scar size with a test ball specimen. The wear scar is generated by the friction between the stationary ball and a rotating cylinder. A part of the rotating cylinder is immersed in the turbine fuel tank (50 mL) and covered with the turbine fuel. The temperature of the fuel tank is controlled, as well as the relative humidity of the air which is circulated into and above the test fluid – the air flow rate is controlled, too. The Test Ball is loaded by a constant weight for the test period 30 min. After the test the minor & major axis of the resultant wear scar are measured with a microscope. The wear scar defines the lubricity of the aviation turbine fuel or other liquids.

**No additional tools are required for an easy and convenient handling!**

## **Technical Data:**

Fluid Volume	: 50 ± 1.0 mL
Fluid Temperature	: 25 ± 1°C
Conditioned Air	: 10 ± 0.2% RH at 25 ± 1°C
Flow Rate	: 0.5 L/min. Through the fluid, 3.3 (3,8) L/min. Over the fluid,
Pre-treatment time	: 15 min.
Applied Load	: 1000 g
Cylinder Rotational Speed	: 240 ± 1 rpm
Test Duration	: 30 ± 0.1 min.
Total procedure duration:	: 45 min.
Net weight	: 60 kg

## **The unit consists of:**

- equipment for generating air flow with 10% RH, including flow meters and flow controllers, RH-sensor for RH-measurement & control, complete with lines + valves + temperature sensor
- Ring Mandrel Assembly, complete with Taper Body + Retainer Plate to hold the test ring
- Chuck to hold the ball
- Cup to hold fluid
- speed drive for 240 rpm
- loading system

- auto start & Stop
- Test Rings as per ASTM specification (5 pcs)
- Test Balls as per ASTM specification (10 pcs)
- Reference Fluid A & B , 1 lit each
- Control Device with digital displays of relative humidity (RH %) complete with RH-controller (including control valve),+Pressure gauge & controller +Temperature display, flow meters for air flow rate

Power Supply: 110 - 250 V, 50/60 Hz

### **Accessories:**

- \* Lighted Microscope, zooming effect 100 x magnification in graduations of 0.1 mm, with suitable micrometer, scale ruled in 0.01 mm divisions with camera and software
- \* Ultrasonic Cleaning Bath, made of SS, including cover, Basket, Timer and heater upto 80 °C,

### **Utility Requirements:**

- \* Zero air cylinder with pressure regulator, gauge and filter
- \* Stabilized power 110 - 250 V, 50/60 Hz.
- \* 1 X 6 amp. Plug point with suitable plugs
- \* Iso-Octane, acetone and isopropanol for cleaning
- \* Tissue papers for wiping
- \* PC with monitor