



EIE

Touchless Automatic Pensky Martens Flash Point Tester

EIE-FP93-3

Touchless Automatic Pensky Martens Flash Point Tester



- ASTM D93-2010, ISO 2719, GB/T 261-2008
- **One-Button Start:** Enables fully automated operation, including ignition, heating, stirring, flash point detection, pressure correction, printing, and cooling—streamlining the entire testing process.
- **Advanced Hardware:** Equipped with a powerful 32-bit ARM processor, a high-precision platinum resistance sensor, and a 24-bit analog-to-digital converter for accurate and reliable performance.
- **Innovative Stirring Technology:** the first non-contact stirring method.
- **Integrated Atmospheric Pressure Sensor.**

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Introduction:

The **Touchless Automatic Pensky-Martens Flash Point Tester**, developed by **Canada Etech International Enterprises Inc. (EIE)**, incorporates cutting-edge international design concepts and testing methodologies. This advanced system significantly enhances the automation of flash point testing, ensures high measurement accuracy, and minimizes the risk of operator-related errors.

Under specified testing conditions, the test flame ignites the sample vapor, allowing the flame to spread across the surface of the liquid. The lowest temperature at which this occurs—corrected to a standard atmospheric pressure of 101.3 kPa—is recorded as the **flash point**. The flash point serves as a critical **safety and volatility index** for flammable liquids. It plays a vital role in ensuring safety during the **production, transportation, storage, and usage** of these substances.

This tester is designed for **closed cup flash point measurements** of liquids as specified in **ASTM D93**. When operated in strict accordance with standard testing procedures, it fully meets the **accuracy and reliability requirements** outlined by the method.

With its advanced automation and high-precision performance, the tester is widely applicable across a range of industries, including **petroleum, electric power, railways, aviation, marine transportation, scientific research**, and more.

Technical Features:

- 1. Advanced Processing Architecture**
Equipped with a high-performance **32-bit ARM processor**, the tester is built using a cutting-edge and well-balanced design that seamlessly integrates optical, mechanical, and electrical systems.
- 2. High-Precision Measurement**
Utilizes a **high-precision platinum resistor** and a **24-bit analog-to-digital converter**, ensuring accurate and reliable measurement results.
- 3. Real-Time Atmospheric Pressure Compensation**
Integrated **atmospheric pressure sensor** measures pressure in real-time and **automatically adjusts the flash point** to a standard pressure of **101.3 kPa**, ensuring result consistency.
- 4. Advanced Temperature Control**
Implements a sophisticated **temperature control algorithm** to maintain a stable heating rate, providing **high measurement repeatability**.
- 5. Fully Automated Testing with One-Button Operation**
With a single button press, the instrument can **automatically perform ignition, heating, stirring, detection, pressure correction, printing, and cooling**, offering convenience and efficiency.



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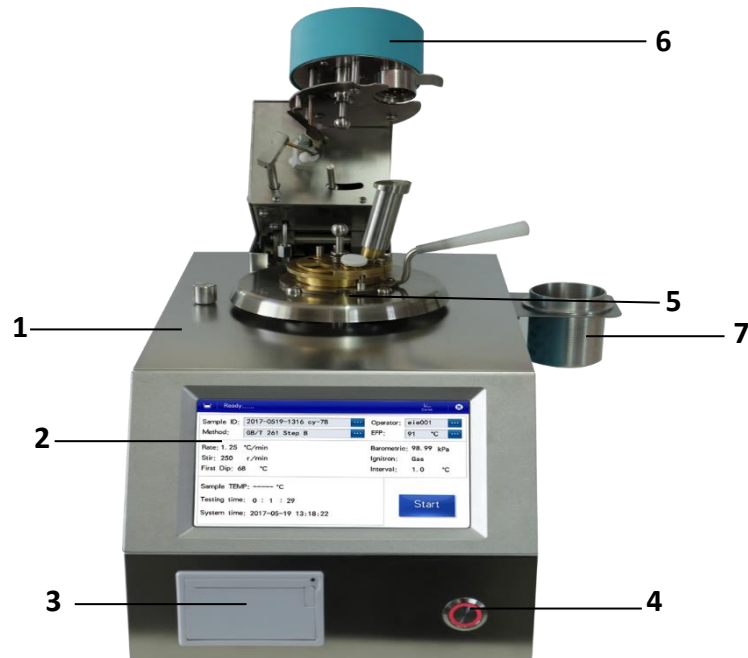
6. **Safe and Reliable Ignition System**
Features **automatic flame detection and ignition**, enhancing operational safety and reducing manual intervention.
7. **Integrated Thermal Printer & Data Export**
Built-in **thermal printer** supports auto/manual printing. Measurement data can also be **exported to LIMS systems** for seamless data integration.
8. **End-of-Test Notification**
A **buzzer alarm** sounds for one minute at the end of the test, prompting timely operator attention.
9. **Patented Non-Contact Stirring Technology**
Employs **magnet-based non-contact stirring**, reducing mechanical wear and ensuring consistent stirring performance.
10. **Smart Control System with Built-In Software**
Integrated **microcomputer and analysis software** includes standard test plans, user-defined options, and a built-in **database storing up to 500 reports**, enabling full data traceability.
11. **Comprehensive Safety Protection**
Includes **automatic heating cut-off** in abnormal conditions to ensure operational safety throughout the test process.
12. **Multi-Level User Access Control**
Distinct access levels for **operators, technicians, and maintenance personnel** via **password protection**, enhancing security and traceability.
13. **Automatic Fire Extinguishing System**
Built-in **automatic fire suppression system** provides an extra layer of protection for personnel and property.



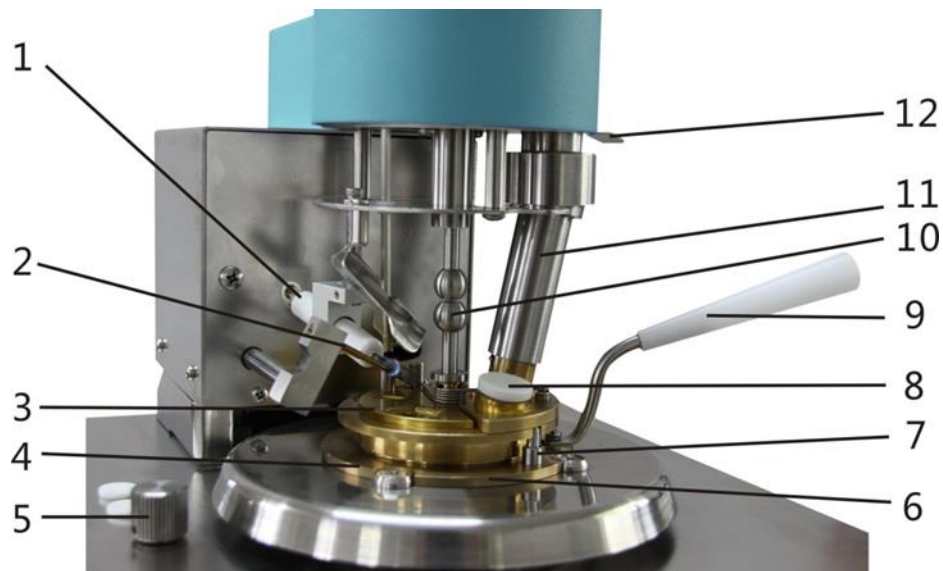
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1. Chassis 2. Touch screen 3. Micro printer 4. Power switch
5. Heating furnace 6. Rotating detector 7. Sample cup holder



1. Electric igniter 2. Gas supply igniter 3. Slide 4. Test cup cover 5. Gas supply throttle
6. Test cup 7. Test cup cover fix pin 8. Glass thermometer socket plug
9. Test cup handle 10. Stirrer 11. Integrated sensor 12. Detector handle

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SPECIFICATIONS

Standards	
ASTM D93-2010, ISO 2719, GB/T 261-2008	
Technical Details	
Measurement range	0 - 410°C
Display resolution	0.1°C
Measurement accuracy	±0.2°C
Repeatability	0.025X (X is the average of two consecutive test results)
Heating system	It can quickly heat up so that the sample has fluidity and is convenient for testing
Heating rate	0.5 - 12°C /min adjustable
Stirring rate	0 - 300 RPM adjustable
Data record	1000 groups or as required
Cooling method	Built-in forced air cooling
Safety	Automatic fire extinguishing system
Flash point detection system	Integrated flash point detector can cover all types of flash points
Ignition mode	electric ignition or flame ignition
Ignition temperature interval	0.5 - 5°C adjustable
Voltage	AC 110V-220V ±10%, 50/60 Hz
Total power	600W
Dimensions	435mm × 230mm × 380mm (L x W x H)
Overall weight	15 KG
Operating Environment	
Operating temperature	5 - 35 °C
Storage temperature	-10 - 55 °C
Relative humidity	< 85%
Operating place	Indoor