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SEMI-AUTOMATED ABEL FLASH POINT ANALYZER

AZA1275

The AZA LAB Semi-Automated Abel Flash Point Analyzer – Model AZA1275 is a microcontroller-based, high-precision instrument designed for the determination of flash points of low-flash combustible liquids using the Abel Closed Cup method.

Fully compliant with IP 170, ISO 13736, and IS 1448 (Part 20), the AZA1275 delivers accurate, repeatable, and regulation-compliant results, making it ideal for petroleum laboratories, chemical industries, and QA/QC environments.

With a built-in Windows-based PC interface, automated ignition, and intelligent diagnostics, it provides semi-automated efficiency without the complexity of fully automated systems.

Applications

- Petroleum and refinery laboratories
- Fuel testing (gasoline, diesel, kerosene)
- Chemical and solvent industries
- Biodiesel and blending plants
- Hazard classification labs (UN / DOT)
- Research and academic institutions





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Technology & System Design

Semi-Automated Operation

- Microcontroller-controlled testing sequence
- Automated:
 - Heating
 - Ignition
 - Flash detection
 - Result calculation

Integrated PC System

- Built-in Windows-based interface
- Real-time monitoring and control
- Data logging and report generation

Precision Temperature Control

- PID-controlled heating system
- Accurate and stable temperature ramping

Key Features

Standards Compliance

- Conforms to IP 170
- Complies with ISO 13736
- Meets IS 1448 (Part 20)

High Accuracy & Repeatability

- Automated flash detection minimizes human error
- Consistent test conditions

Wide Temperature Range

- Standard: -30°C to 70°C
- Extendable up to 110°C



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Advanced Diagnostics

Real-time alerts for:

- Bath temperature faults
- Sample sensor errors
- Flash detector malfunction
- Igniter failure

Safety Systems

- Overheat protection
- Automatic cut-off
- Integrated fire detection
- Safety interlocks

Flexible Testing

- Search programs for unknown samples
- Automatic barometric pressure correction
- Selectable ignition (electric or gas)

Measurement & Control Parameters

Heating & Cooling

- Cartridge Heater: 300 W
- Optional Cryostat: Down to -30°C

Stirring System

- Stepper motor controlled
- Speed range: 5 – 100 RPM

Ignition System

- Motorized igniter (stepper-controlled)
- Ignition type: Electric or Gas (selectable)
- Dipping interval: 0.5°C to 5°C
- Brightness control: 7-step adjustment



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Arm Mechanism

- Automatic stepper motor swing arm
- Integrated components:
 - Cup cover
 - Stirrer
 - Temperature sensor
 - Flash detector
 - Fire detector
 - Igniter

Standard Supply

- AZA1275 Flash Point Analyzer
- Abel closed cup sample cup
- Electric ignition system
- Integrated PC with pre-installed software
- USB cable
- Test certificate

Optional Accessories

- External printer
- Cryostat cooling unit
- Additional probe sets
- Carrying case



UNIVERSE Technical Specifications System Specifications

Parameter	Specification
Model	AZA1275
Test Method	Abel Closed Cup (Semi-Automated)
Temperature Range	-30°C to 70°C (up to 110°C optional)
Operation	Microcontroller-based
Interface	Integrated PC (Windows-based)
Connectivity	USB (printer, export, peripherals)
Power Supply	230V AC, 50 Hz
Certification	CE Certified

Sensor & Detection System

Parameter	Specification
Sample Temperature	PT100 Class A, -100°C to 150°C
Bath Temperature	PT100 Class A, -100°C to 200°C
Flash Detection	Thermal sensor
Fire Detection	Thermal sensor
Ambient Pressure	700-1100 hPa (500-800 mmHg)
Calibration	Auto-calibration before each test