AUOTFLASH AUTOMATED ABEL FLASH POINT ANALYZER AZA1277

The AutoFlash-1277 (Model AZA1277) is a fully automated, microcontroller-based Abel Closed Cup Flash Point Analyzer designed for precise determination of flash points of combustible liquids at low temperatures. Engineered for accuracy, safety, and repeatability, the system complies with leading international standards and is ideal for petroleum laboratories, petrochemical industries, fuel testing facilities, and regulatory environments.

Measurement Capability

- Flash Point Range: –30°C to 70°C (extendable up to 110°C)
- Method: Abel Closed Cup
- Detection: Automatic thermal flash detection

Applications

- Petroleum product testing
- Fuel and solvent flash point determination
- Refinery and petrochemical quality control
- Regulatory compliance and inspection agencies
- Research & development laboratories

Standards Compliance

- IP 170
- ISO 13736
- IS 1448 (Part 20)

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Technical Specifications

Parameter	Specification
Test Method	Abel Closed Cup
Flash Point Range	–30°C to 70°C (extendable up to 110°C)
Flash Detection	Thermal sensor
Auto Calibration	Automatic before every run
Sample Temperature Sensor	PT100 Class A, SS sheath (–100°C to 150°C)
Bath Temperature Sensor	PT100 Class A, disk type (–100°C to 200°C)
Ambient Pressure Sensor	Built-in
Pressure Range	700–1100 hPa / 500–800 mmHg
Ignition System	Gas / Electric
Operation	Fully automatic, microcontroller-based
User Interface	Touchscreen with inbuilt PC
Safety Features	Interlocks, enclosed chamber, auto shutdown

Functional & Control Specifications

Function	Specification
Heating / Cooling	Cartridge heater (300 W); optional cryostat cooling down to –30°C
Stirring System	Stepper motor controlled; adjustable 5–100 RPM
Ignition Source	Electric / Gas igniter with 7-step intensity control; dip interval: 0.5°C to 5°C
Arm Mechanism	Stepper motor-driven swing arm integrating cup cover, stirrer, sensors, and igniter
Flash Detection	High-sensitivity thermal sensor
Flame Extinguishing	Automatic flame cut-off upon flash or fire detection

Safety Monitoring & Fault Detection System

Condition Detected	System Response
Sample / Bath temperature sensor failure	Immediate test abort with alarm
Flash detection sensor fault	System halt with diagnostic alert
Igniter failure (blown electric igniter)	Ignition disabled; error notification
Arm positioning error	Test cycle stopped; repositioning required
Flash point exceeds selected limit / maximum threshold	Automatic shutdown to prevent overheating
Fire detection (sustained combustion)	Alarm activation + automatic system shutdown
General abnormal condition	Fail-safe shutdown with error indication