SEMI-AUTOMATED ATMOSPHERIC DISTILLATION ANALYZER AZA1285

The AZA1285 Semi-Automated Atmospheric Distillation Analyzer is a precision-engineered laboratory instrument designed for determining the distillation characteristics of petroleum products, fuels, solvents, and volatile organic liquids under atmospheric conditions. Developed for accurate boiling-range profiling and dependable laboratory performance, the AZA1285 combines manual operational flexibility with intelligent thermal regulation for highly repeatable and standards-compliant testing.

The system features a low-voltage manually adjustable heater integrated with PID-controlled condenser and receiver sections, ensuring stable distillation rates and accurate thermal management throughout the test cycle. A closed-loop, CFC-free refrigeration system provides efficient condensation without requiring external cooling water, while an integrated inert gas purge system enhances operator safety and minimizes oxidation risks during testing.

Advantages of AZA1285

- Accurate boiling-range profiling of fuels and solvents
- Semi-automated precision with manual operational flexibility
- Laboratory-grade temperature and pressure compensation
- Closed-loop eco-friendly refrigeration system
- Excellent repeatability and thermal stability
- Robust operator and laboratory safety features
- Broad compliance with global distillation standards

Semi-Automated Precision Operation

The AZA1285 offers an optimal balance between manual operator control and automated thermal stabilization.

System Highlights

- Low-voltage 24 V heating system
- Precision ten-turn potentiometer for manual heat adjustment
- PID-controlled condenser temperature regulation
- PID-controlled receiver chamber temperature regulation
- Stable distillation rate control
- Improved repeatability and operator consistency

Advanced Cooling & Condensation System

A fully integrated refrigeration system ensures efficient condensation and uninterrupted operation.

Cooling Features

- Closed-loop cooling circuit
- CFC-free environmentally responsible refrigeration
- No external cooling water required
- Stainless steel condenser with coolant jacket
- Stable condenser temperature control from 0 °C to 80 °C

Receiver Temperature Control

The receiver chamber is engineered for stable sample collection and precise recovery measurement.

Receiver Features

- Closed non-corrosive chamber
- PID-controlled receiver temperature
- Operating range: 10 °C to 40 °C
- Improved condensate stability and measurement accuracy

Enhanced Laboratory Safety

The AZA1285 incorporates multiple safety mechanisms for safe operation in petroleum and solvent laboratories.

Safety Systems

- Emergency heater shutdown system
- Integrated nitrogen / inert gas purge compatibility
- CO_2 purge capability
- Manual fire-extinguisher access port
- Controlled low-voltage heating design
- Reduced oxidation and vapor ignition risk

Flexible & Upgradeable Configuration

The analyzer can be configured to meet different laboratory requirements and testing capacities.

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Technical Specifications

Parameter	Specification
Model	AZA1285
Distillation Method	Atmospheric
Applicable Standards	ASTM D86, D850, D1078, ISO 3405, IP 123, IP 195
Operation Mode	Semi-Automated
Heating System	24 V low-voltage heater
Heater Control	Ten-turn precision potentiometer
Support Plate	Ceran support plate with flask lift
Cooling System	Closed-loop, CFC-free refrigeration
Condenser Type	Stainless steel condenser with coolant jacket
Condenser Temperature Range	0 °C to 80 °C (PID controlled)
Receiver Chamber	Closed non-corrosive chamber
Receiver Temperature Range	10 °C to 40 °C (PID controlled)

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Technical Specifications

Parameter	Specification
Safety Features	Emergency shutdown, N_2/CO_2 purge, fire-extinguisher port
Sample Types	Gasoline, naphtha, kerosene, diesel, solvents, aromatics
Power Supply	230 VAC, 50 Hz
Power Consumption	1.4 – 2.5 kW
Dimensions	480/900 (W) × 590 (D) × 650–690 (H) mm
Weight	Approx. 80–120 kg
Installation Type	Desktop / Benchtop