CLOUD & POUR POINT TEST APPARATUS – REFRIGERATED FOUR COMPARTMENT – AZA1345

The AZA1345 Cloud & Pour Point Test Apparatus is a precision-engineered, refrigerated four-compartment testing system designed for the determination of cloud point and pour point of petroleum products, lubricating oils, and related materials. The apparatus provides controlled cooling at four different temperature levels, allowing multiple samples to be tested simultaneously under standardized laboratory conditions.

The AZA1345 is designed for petroleum testing laboratories, lubricant manufacturers, oil refineries, quality control laboratories, research institutions, and educational facilities requiring reliable low-temperature testing of petroleum products.

STANDARD COMPLIANCE:

The AZA1345 conforms to the following standards:

- ASTM D97
- ASTM D2500
- ASTM D5853
- ASTM D6074
- ASTM D6158
- IP 15
- IP 219
- ISO 3015
- ISO 3016
- DIN 51597
- FTM 791-201
- NF T 60-105

TEMPERATURE RANGE

Compartment	Maximum Temperature Range
Compartment 1	0°C
Compartment 2	–17°C
Compartment 3	–34°C
Compartment 4	–51°C

TEMPERATURE PERFORMANCE

Parameter	Specification
Temperature Accuracy	±2°C
Temperature Readability	±0.1°C
Bath Type	Mechanically refrigerated cooled
Cooling Stage	Double-stage cascade refrigeration
Compressor System	Double cascade compressor
Refrigerant	CFC-Free

The cascade refrigeration system enables the apparatus to achieve and maintain the required low temperatures for cloud and pour point testing.

CONSTRUCTION – GMP MODEL

The AZA1345 features a robust double-walled construction designed for effective thermal insulation and long-term laboratory use.

OUTER BODY

- Double-walled construction
- GI outer body
- Powder-coated finish

INNER CHAMBER

- Stainless Steel 304
- Matt finish

INSULATION

- Dense PU/Puff insulation between inner and outer walls
- Polyurethane sheet insulation at the top

ADDITIONAL CONSTRUCTION FEATURES

- Drain valve
- Overflow provision
- Fill valve
- Bakelite top lid
- PP lid mounted over the top
- Borosilicate glass pour point tubes

TEMPERATURE SENSOR

BATH SENSOR

A calibrated RTD-type temperature sensor is provided, capable of measuring temperatures down to –100°C, with an accuracy of ±0.1°C.

SAMPLE TEMPERATURE

Calibrated IP 1C and IP 2C thermometers are supplied for sample temperature measurement, with calibration traceable to NPL.

COMPARTMENT & CHAMBER CONFIGURATION

COMPARTMENT

- Single integrated unit

CHAMBERS

- 4 refrigerated chambers
- Copper chambers immersed fully in the cooling medium
- Total capacity: 16 sample positions

Each chamber accommodates 4 samples simultaneously.

CHAMBER COVER

The chamber covers are constructed from PP material and fitted with a Bakelite knob with a central hole for convenient sample observation and handling.

TEMPERATURE CONTROLLER

The AZA1345 is equipped with a microprocessor-based PID temperature controller for precise temperature regulation.

CONTROLLER FEATURES

- Microprocessor-based PID control
- Dual digital display
- Display of present and set temperatures
- Contactor-based compressor/heater switching
- Reliable temperature regulation

CAPACITY

Parameter	Specification
Samples per Chamber	4
Total Sample Capacity	16
Bath Volume per Chamber	8 L
Total Bath Volume	32 L
Number of Chambers	4

MODEL & MOBILITY

MODEL

- Floor-mounted design

MOVABILITY

The unit is mounted on four castor wheels, with brakes provided on the two front wheels for convenient movement and secure positioning.

DISPLAY & INDICATION

The AZA1345 incorporates multiple display and indication systems for convenient monitoring.

- Digital display for present and set temperatures
- Analogue display for cascade compressor load
- Analogue display for main compressor load
- Fuse protection for overload protection
- Main ON/OFF switch indicator

SAFETY FEATURES

The system incorporates multiple safety provisions for reliable laboratory operation:

- Overload safety cut-off
- Protection against input power fluctuations
- Single-phase indication lamp
- Emergency OFF switch
- Fuse-based electrical protection

STANDARD ACCESSORIES SUPPLIED

Accessory	Quantity
Pour Point Tube	16 Nos.
Bar Cork	16 Nos.
Silicon Bush	16 Nos.
Cork Sheet	16 Nos.
IP 1C Thermometer with Calibration Certificate	4 Nos.
PP Top Cover	16 Nos.
IP 2C Thermometer with Calibration Certificate	4 Nos.
Fuse	8 Nos.

UTILITIES / PRE-INSTALLATION REQUIREMENTS AT BUYER'S SCOPE:

- IPA – 32 L
- Sample – 800 ml
- Washing solvent
- Power supply – 230 V AC, 50/60 Hz, 15 A

POWER SUPPLY

Parameter	Specification
Power Supply	230 V AC
Current Requirement	15 A
Frequency	50/60 Hz

SPARES FOR 5-YEAR TROUBLE-FREE OPERATION

Spare	Quantity
Pour Point Tube	50 Nos.
IP 1C Thermometer	8 Nos.
IP 2C Thermometer	8 Nos.
Silicon Bush	10 Nos.
Cork Sheet	10 Nos.
Drain Valve	1 No.
Pt. 100 Sensor	1 No.
Digital Temperature Controller	1 No.

**AVAILABLE AT EXTRA COST AND NOT INCLUDED IN THE INSTRUMENT PRICE.*

DIMENSIONS & NET WEIGHT

Parameter	Specification
Dimensions (W × D × H)	20 × 51 × 41 in
Dimensions (Approx.)	51 × 130 × 105 cm
Net Weight	285 lbs / Approx. 129 kg

SHIPPING INFORMATION

Parameter	Specification
Shipping Weight	353 lbs / Approx. 160 kg
Shipping Volume	52 Cu. Ft.

DOCUMENTS SUPPLIED

The following documentation is supplied along with the instrument:

- NPL-traceable calibration certificate for temperature controller
- IP 1C calibration certificate traceable to NPL
- IP 2C calibration certificate traceable to NPL
- SD, IQ, OQ & PQ documentation
- Electrical wiring diagram
- Maintenance manual
- Warranty certificate