TORONTECH

AUTOMATIC REID VAPOR PRESSURE BATH

Automatic Reid Vapor Pressure Bath TT-323Z

Automatic Reid Vapor Pressure Bath TT-323Z conforms to the ASTM D323 Standard Test Method for Vapor Pressure of Petroleum Products (Reid Method).

Automatic Reid Vapor Pressure Bath TT-323Z is utilized for testing the vapor pressure, providing an absolute pressure measurement in kilopascals (pounds-force per square inch) at 37.8°C (100°F). This is achieved by counteracting the external atmospheric pressure with the initial atmospheric pressure present in the vapor chamber.

APPLICATIONS

The primary application of this apparatus is to test the vapor pressure of petroleum products in compliance with the ASTM D323 standard (Reid Method).

It is specifically used to determine the absolute vapor pressure of a sample at 37.8°C (100°F).

FEATURES

1. Standards-Based Vapor Pressure Testing
The bath measures the vapor pressure of gasoline and volatile petroleum products at 37.8 C (100 F), in line with ASTM D323.

2. Precise Temperature Control
The bath holds the test temperature within tight limits, because vapor pressure changes quickly with temperature and accuracy depends on a stable bath.

3. Multiple Test Positions
Several chambers let the operator condition and test more than one sample at a time, which raises throughput in busy fuel laboratories.

4. Uniform Heating
Stirred liquid or controlled circulation keeps the temperature even across all positions for consistent results.

5. Compatibility With Standard Cylinders
The bath accepts the standard vapor and liquid chambers used in the Reid method, so it fits established laboratory procedures.

6. Reliable, Repeatable Readings
Stable conditions and accurate temperature control deliver dependable vapor pressure data for fuel quality control and specification testing.

THEORY & METHOD

1. In the vapor pressure apparatus, the liquid chamber is filled with the chilled sample and connected to the vapor chamber, which is heated to 37.8°C (100°F) within a bath. The assembled apparatus is then submerged in a bath at the same temperature until a constant pressure is reached. The recorded pressure, appropriately adjusted, is reported as the Reid vapor pressure.
2. All four procedures involve the use of liquid and vapor chambers with identical internal volumes. Procedure B uses a semi-automatic apparatus submerged in a horizontal bath, rotating until equilibrium is achieved. This procedure allows for the use of either a Bourdon gauge or a pressure transducer. Procedure C utilizes a liquid chamber with two valved openings. Procedure D imposes stricter limits on the ratio of the liquid and vapor chambers.

TECHNICAL SPECIFICATIONS

1. Rated voltage: AC 220V ± 10% (110V also available)
2. Power consumption: ≤1200W
3. Test bomb: Two
4. Bath temperature: 37.8°C
5. Accuracy: ±0.1°C
6. Heating power: 2000W
7. Stirring angle: 350 degrees
8. Pressure range: 0~200 kPa

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