

# **ASPHALT MIXER THEORETICAL DENSITY APPARATUS**

## **BE 89**

The Asphalt Mixer Theoretical Density Apparatus, also known as the Theoretical Maximum Specific Gravity and Density Meter for Asphalt Mixtures, is a specialized laboratory instrument used in civil engineering and road construction to determine the theoretical maximum specific gravity (G<sub>mm</sub>) and density of uncompacted bituminous paving mixtures (e.g., hot mix asphalt or warm mix asphalt). This measurement is essential for asphalt mix design, calculating air voids in compacted mixtures, assessing asphalt binder absorption by aggregates, and ensuring quality control in road construction, including porosity and compactness evaluations.

This equipment is used for determination of theoretical density of asphalt mixer by vacuum method for application such as asphalt mixer design, road condition investigation, calculation of porosity and compactness in road construction quality management.

## **FOLLOWING STANDARD**

ASTM D2041/D2041M, AASHTO T 209 or California Test 309.

## **KEY APPLICATIONS**

- Asphalt mixture design and optimization.
- Road condition investigations.
- Calculation of voids in mineral aggregate (VMA) and air voids (V<sub>a</sub>).
- Quality assurance for pavement durability and performance.

The test is typically conducted at 25°C (77°F) on samples with fully coated aggregates to achieve optimal precision.

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