

## **REFLUX EXTRACTOR 400 GMS**

### **BE 101**

You're referring to a simpler apparatus that operates on the same principle as the Reflux Extractor 4000 GMS, which is used for bitumen content determination in asphalt mixtures through solvent reflux extraction. The simplified version you described includes a cylindrical glass jar, two metal cones made of stainless steel cloth, a metal condenser, 100 filter papers, a wire gauge, and a hot plate. Below is a concise explanation of this apparatus and its operation

### **FOOLOWING STANDARD**

ASTM D2172, AASHTO T164

### **APPARATUS DESCRIPTION**

- **Cylindrical Glass Jar:** Typically made of borosilicate glass (3-4 liter capacity) to withstand heat and allow observation of the extraction process.
- **Two Metal Cones:** Stainless steel wire mesh cones (e.g., 2000 g capacity each) lined with filter paper to hold the asphalt mixture sample.
- **Metal Condenser:** Sits atop the jar with water inlet/outlet for cooling solvent vapors, enabling reflux (condensation and recycling of solvent).
- **Filter Papers (100 included):** Used to line the cones, preventing fine particles from escaping during extraction.
- **Wire Gauge:** Placed between the hot plate and jar to diffuse heat and prevent direct contact, ensuring uniform heating.
- **Hot Plate:** Provides controlled heating to boil the solvent (e.g., trichloroethylene or toluene), typically without advanced thermostatic controls in simpler models.

### **APPLICATIONS**

- **Asphalt Quality Testing:** Determining binder content in hot-mix asphalt for road paving.
- **Pavement Analysis:** Evaluating existing road samples for maintenance or forensic studies.
- **Research and Compliance:** Used in labs for R&D in bituminous materials and regulatory testing.

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