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LABORATORY CEMENT AUTOCLAVE AZA0797

The Laboratory Cement Autoclave AZA0797 is a precision-engineered instrument designed to determine the soundness of cement by subjecting specimens to high-pressure saturated steam conditions. This accelerated testing method evaluates expansion caused by excess free lime or magnesia in cement. The unit is widely used in cement manufacturing plants, quality control laboratories, research institutions, and civil engineering facilities to ensure compliance with international standards and long-term structural stability.



Key Features

- High-pressure steam generation system for accelerated testing
- Digital PID controller for precise temperature and pressure control
- Heavy-duty stainless steel pressure chamber
- Integrated safety mechanisms (pressure relief valve, auto cut-off)
- Built-in timer function for automated test cycles
- Compact and robust design suitable for laboratory environments

Applications

- Cement manufacturing quality control
- Construction material testing laboratories
- Research & development centers
- Civil engineering academic institutions



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Working Principle

The autoclave determines cement soundness by measuring expansion under high-pressure steam conditions.

Procedure:

1. Prepare cement specimen using standard mould.
2. Place the specimen inside the autoclave chamber.
3. Seal the chamber and initiate the heating cycle.
4. Raise temperature and pressure to specified levels.
5. Maintain conditions for a defined duration.
6. Cool the system and measure specimen expansion.

Standards & Compliance

- ASTM C151 – Autoclave Expansion of Hydraulic Cement
- IS 4031 (Part 3) – Determination of Soundness by Autoclave Method

Advantages

- Accelerated testing compared to conventional methods
- High accuracy and repeatability
- Automated control reduces operator dependency
- Ensures compliance with international standards
- Enhances reliability of cement quality assessment



TECHNICAL SPECIFICATION

Parameter	Specification
Model	AZA0797
Application	Cement Soundness Testing
Working Pressure	Up to 21 kg/cm ² (300 psi)
Working Temperature	Up to 215°C ± 2°C
Chamber Material	Stainless Steel
Chamber Capacity	Suitable for Le Chatelier mould specimen
Heating System	Electric heater with thermal cut-off
Control System	Digital PID controller with timer
Timer Range	0 – 999 minutes



TECHNICAL SPECIFICATION

Pressure Display	Analog / Digital (variant dependent)
Power Supply	220V \pm 10%, 50 Hz, Single Phase
Body Construction	Powder-coated mild steel
Dimensions (Approx.)	450 mm (H) \times 250 mm (Dia)
Weight	Approx. 20 – 25 kg
Standards Compliance	ASTM C151, IS 4031 (Part 3)

Standard Supply

- Cement Autoclave Unit
- Le Chatelier Mould
- Thermometer
- Measuring Scale
- Power Cable
- User Manual