



SEMI AUTOMATIC CONE PENETROMETER AZA0852

The AZA0852 Semi-Automatic Cone Penetrometer is a precision-engineered instrument designed for determining the liquid limit and consistency characteristics of fine-grained soils using the cone penetration method.

Equipped with a semi-automatic clutch-based release mechanism, the system ensures uniform cone drop and consistent penetration time, significantly reducing operator-dependent errors. This results in highly repeatable and reliable test outcomes, making it ideal for geotechnical laboratories, civil engineering applications, and field testing environments.

The apparatus complies with IS 2720 (Part 5) and BS 1377, ensuring globally accepted and standardized testing.



Purpose & Importance

The liquid limit represents the moisture content at which soil transitions from a plastic to a liquid state.

Engineering Significance

- Soil classification (Atterberg Limits)
- Determination of plasticity index
- Evaluation of soil consistency and strength
- Foundation and pavement design
- Settlement and bearing capacity analysis

Standards Compliance

- IS 2720 (Part 5) – Methods of Test for Soils
- BS 1377 – Methods of Test for Soils for Civil Engineering Purposes



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Key Features & Benefits

- Semi-Automatic Operation

Clutch-based release ensures uniform and repeatable cone penetration

- High Accuracy Measurement

Precision dial gauge with fine resolution for accurate readings

- Operator-Independent Testing

Minimizes human error and improves repeatability

- Robust Construction

Heavy-duty cast iron base ensures excellent stability

- No Power Requirement

Fully mechanical operation suitable for all environments

- Portable & Durable

Compact design for both laboratory and field applications

Applications

- Liquid limit determination of soils
- Atterberg limits testing
- Geotechnical site investigations
- Foundation and pavement design
- Settlement and bearing capacity studies
- Civil engineering laboratories
- Academic and research institutions

Scope of Supply

- Semi-automatic cone penetrometer frame
- Stainless steel penetration cone (standard)
- Additional weights: 50 g & 100 g
- Preset timer / counter mechanism
- Measuring cup



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TECHNICAL SPECIFICATION

Parameter	Details
Operation	Semi-Automatic (Clutch-Based)
Test Type	Liquid Limit (Cone Method)
Applicable Standards	IS 2720 (Part 5), BS 1377
Penetration Range	0 – 25 mm
Least Count	0.01 mm
Cone Angle	30°
Cone Weight	148 g
Weights	50 g & 100 g
Drop Time	5 seconds (preset)
Dial Gauge	Mechanical, 0.01 mm resolution
Base	Cast Iron with Anti-Slip Feet
Power Requirement	Not Required
Application	Soil consistency & liquid limit testing