# RING AND BALL APPARATUS (ELECTRICAL) AZA0933

The AZA0933 Ring & Ball Apparatus (Electrical) from Azalab is a precision laboratory instrument designed for the accurate and repeatable determination of the softening point of bitumen, asphalt binders, and related materials. This test is essential for evaluating the temperature susceptibility and high-temperature performance of bituminous binders, directly influencing pavement resistance to rutting and deformation. By incorporating electrically controlled heating, the AZA0933 ensures uniform heating rates, enhanced safety, and superior repeatability, making it ideal for modern quality control and research laboratories.

**Electrical Heating – Accuracy, Uniformity & Safety**

Compared to manual systems, the AZA0933 offers significant operational advantages:

**Key Electrical Features**

- Digitally controlled heating rate (5.0 ± 0.5 °C/min)
- Real-time temperature monitoring via digital controller/display
- Integrated magnetic stirrer for uniform bath temperature
- Elimination of open flame → enhanced laboratory safety
- Improved repeatability and reproducibility

**Note: Ball drop detection remains manual, in full compliance with standard test procedures.**

AZA LAB UNIVERSE

## TECHNICAL SPECIFICATION

| Parameter | Specification |
|---|---|
| Model | AZA0933 |
| Operation | Electrical |
| Test Method | Ring & Ball Softening Point |
| Application | Bitumen and binders |
| Temperature Range | Ambient to ~150°C |
| Heating Control | Digital electrical controller |
| Heating Rate | 5.0 ± 0.5 °C/min |
| Temperature Display | Digital LED/LCD |
| Temperature Sensor | RTD (PT100 or equivalent) |
| Stirring System | Magnetic stirrer |
| Observation | Manual |
| Power Supply | 230V AC, 50/60 Hz |
| Design | Compact benchtop |
| Standards | ASTM D36, EN 1427, IS 1205 |

### Standards Compliance

- ASTM D36 – Ring & Ball Softening Point
- EN 1427 – Bituminous binders
- AASHTO T53 – Softening Point Test
- IP 58 – Petroleum Testing
- IS 1205 – Softening Point of Bitumen