

IEC 60529 IPX2 Inclined Drip Test Chamber

Professional Technical Datasheet

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Standard: IEC 60529 IPX2 (Inclined Dripping Water up to 15°)

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1. Product Overview

The KingPo IPX2 Inclined Drip Test Chamber is a specialized testing system engineered to evaluate the protection of enclosures against dripping water when the enclosure is tilted at an angle of up to 15° from the vertical, in accordance with IEC 60529 IPX2. It provides manufacturers and testing laboratories with a reliable and repeatable platform to assess waterproof performance under angled water exposure conditions.

This chamber is essential for verifying that products can withstand light rain or condensation when installed at a slight angle. It helps manufacturers identify sealing vulnerabilities early, support international compliance, reduce field failures, and accelerate product development and certification timelines.

2. Key Advantages

● Precision Inclined Drip System

Φ0.4 mm precision needle nozzles with 3 mm/min drip rate arranged in a uniform 20 mm grid. Benefit: Delivers highly consistent droplet distribution exactly as required by the IEC 60529 IPX2 inclined test method.

● 15° Inclined Support Platform

Adjustable 15° inclined support platform with motorized height adjustment. Benefit: Accurately simulates real-world angled water exposure conditions with precise and repeatable tilt angle control.

● Motorized Drip Box Adjustment

Smooth motorized screw-driven lifting mechanism for stable height positioning. Benefit: Significantly reduces operator workload while improving test consistency and safety.

● Advanced PLC Control System

Mitsubishi PLC with 7-inch color touchscreen for intuitive operation, real-time monitoring, and data logging. Benefit: User-friendly interface suitable for laboratory and quality assurance environments.

● Integrated Water Filtration

Built-in clean water filtration system prevents nozzle clogging. Benefit: Ensures long-term test accuracy and minimizes maintenance requirements.

● Robust SUS304 Construction

High-quality SUS304 stainless steel chamber throughout. Benefit: Excellent corrosion resistance and long-term durability for continuous laboratory use.

3. Technical Specifications

3.1 Performance Parameters

Parameter	Specification	Test Condition / Method
Applicable Standard	IEC 60529 IPX2	Inclined dripping water (up to 15°)
Drip Rate	3 mm/min (±0.5 mm/min)	For IPX2 testing

Drip Height	200 mm (adjustable)	Above highest point of specimen
Drip Hole Diameter	Φ0.4 mm	Precision needle nozzles
Hole Grid Spacing	20 mm × 20 mm	Uniform distribution
Tilt Angle	15°	Fixed inclined support platform
Test Duration	10 minutes (4 × 2.5 min)	Standard IPX2 procedure (4 positions)

3.2 Mechanical Structure

Parameter	Specification	Notes
Chamber Material	SUS304 Stainless Steel	Excellent corrosion resistance
Drip Area	1000 × 600 mm (customizable)	Effective testing area
Inclined Support Platform	15° fixed tilt angle	Motorized height adjustment
Turntable (Optional)	Φ600 mm (customizable)	For uniform exposure
Drip Box Adjustment	Motorized screw-driven system	Smooth and precise positioning
Water Filtration	Integrated clean water filtration	Prevents nozzle clogging

3.3 Control & Electrical System

Parameter	Specification	Notes
Control System	PLC + 7-inch color touchscreen	Intuitive operation and monitoring
Power Supply	AC 220V, 50/60 Hz	Standard laboratory power
Water Supply	Clean filtered water	Recommended for consistent results
Test Duration Control	PLC timer (standard 10 min)	Fully automatic cycle

All specifications are subject to continuous improvement. KingPo reserves the right to modify technical details without prior notice.

4. Test Procedure (IEC 60529 IPX2)

- Mount the specimen securely on the 15° inclined support platform in the first test position.
- Adjust the drip box so that the nozzles are approximately 200 mm above the highest point of the specimen.
- Set the drip rate to 3 mm/min (±0.5 mm/min) and confirm uniform droplet distribution.
- Start the automatic test cycle. Expose the specimen for 2.5 minutes in each of the four mutually perpendicular planes (total 10 minutes).
- After testing, inspect the specimen for water ingress. The product passes if no water has entered in a quantity that could interfere with safe operation or create a safety hazard.

Fully compliant with IEC 60529 IPX2 inclined dripping water test requirements.

5. Typical Applications

- Household Appliances — Enclosures and control panels under angled water exposure
- Lighting & Luminaires — Indoor and outdoor lighting products requiring IPX2 compliance
- Electrical Equipment — Small industrial products and control cabinets
- Third-Party Laboratories — IEC 60529 IPX2 formal compliance and type approval testing
- R&D and Quality Control — Angled waterproof validation during product development

6. Optional Modules & Models

Optional Upgrades:

- Customizable drip area and inclined platform sizes
- Integration with other IP testing equipment
- Larger turntable options for uniform exposure
- ISO/IEC 17025 accredited calibration report

Standard Model: KP-IPX2 (Base configuration with 15° inclined support, motorized drip box, PLC control, and factory calibration certificate)

7. Compliance & Manufacturer

This equipment is engineered and manufactured in strict accordance with IEC 60529 for IPX2 inclined dripping water testing (enclosure tilted up to 15° from vertical). Each unit is delivered with a comprehensive traceable factory calibration certificate. ISO/IEC 17025 accredited third-party calibration is available upon request.

Manufactured under ISO 9001 / ISO 14001 / ISO 45001 quality management systems.

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