

# JIS D0207 Sand Dust Test Chamber

IEC 60529 IP5X / IP6X Dust Ingress Tester

*Professional Technical Datasheet*



Standards: JIS D0207-F2 • IEC 60529 IP5X/IP6X • IEC 60068-2-68  
Manufacturer: KingPo Test Equipment Co., Ltd. | [www.dgkingpo.com](http://www.dgkingpo.com)

# Product Overview

The KingPo JIS D0207 Sand Dust Test Chamber is a precision environmental test system designed to evaluate dust ingress protection performance of automotive components, electrical enclosures, and sealed products under JIS D0207-F2 and IEC 60529 standards.

The chamber combines controlled talcum powder settling and blowing mechanisms with an optional vacuum system to simulate harsh dusty environments and accurately verify IP5X and IP6X ratings. It provides manufacturers and certification laboratories with a reliable, repeatable platform to validate dust-tight sealing, optimize enclosure designs, and ensure compliance for automotive, outdoor, and industrial applications.

## Key Advantages

- Multiple Chamber Sizes for Flexible Testing**

Engineering: Available in internal dimensions from 800×1000×1000 mm to 1200×1800×1200 mm to accommodate various specimen sizes.

Benefit: One system supports testing of small components to large automotive assemblies without compromise.

- Precise Talcum Powder Concentration Control**

Engineering: Maintains uniform 2–4 kg/m<sup>3</sup> talcum powder concentration with controlled settling and blowing circulation.

Benefit: Ensures highly repeatable and standards-compliant dust exposure for accurate IP5X/IP6X verification.

- Adjustable Airflow ≤2 m/s per IEC 60529**

Engineering: Precisely controlled airflow velocity maintained at ≤2 m/s with integrated fan cycle programming.

Benefit: Fully meets IEC 60529 and JIS D0207 requirements for realistic and compliant dust ingress simulation.

- Integrated Vacuum System for IP6X Testing**

Engineering: Built-in vacuum pump provides 0–30 kPa negative pressure to draw dust through seal gaps for accurate IP6X dust-tight verification.

Benefit: Enables precise simulation of real-world vacuum-assisted dust ingress conditions required for IP6X certification.

- Robust SUS304 Construction with Observation Door**

Engineering: Full SUS304 stainless steel interior with tempered glass observation door and temperature control up to +50°C.

Benefit: Provides excellent corrosion resistance, clear real-time monitoring, and stable dry dust conditions for long-term reliability.

- Advanced PLC Touchscreen Control**

Engineering: PLC with color touchscreen for programmable timing (0 s to 999 h), fan cycle control, and real-time monitoring.

Benefit: Intuitive operation, complete test traceability, and minimal operator intervention for consistent, auditable results.

## Technical Specifications

### 3.1 Performance Parameters

Parameter	Specification	Test Condition / Method
Dust Material	Talcum powder	Controlled concentration 2–4 kg/m <sup>3</sup>
Air Velocity	≤2 m/s (adjustable)	Per IEC 60529 & JIS D0207
Vacuum Range	0–30 kPa	Integrated pump for IP6X testing
Temperature Range	Ambient to +50°C	Independent heating for dry dust
Timing Range	0 s to 999 h 99 m 99 s	Programmable with auto stop
Specimen Capacity	≤100 kg	Suitable for large automotive parts

### 3.2 Mechanical Structure

Parameter	Specification	Notes
Internal Dimensions	800×1000×1000 mm to 1200×1800×1200 mm	Multiple models available
External Dimensions	1040×1450×1960 mm to 1500×2200×2160 mm	Floor-standing design
Chamber Material	SUS304 stainless steel	Corrosion-resistant interior

Observation Door	Tempered glass	Clear real-time monitoring
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### 3.3 Electrical & Control System

Parameter	Specification	Notes
Control System	PLC + color touchscreen	Programmable timing & fan cycle
Power Supply	AC 380 V 50 Hz, 3.0 kW	Three-phase industrial power
Safety Features	Overload, short-circuit, door interlock	Comprehensive laboratory protection

## Test Procedure (JIS D0207-F2 / IEC 60529 IP5X/IP6X)

Place the test specimen inside the chamber and secure it on the internal platform (up to 100 kg capacity).  
 Introduce talcum powder to achieve a controlled concentration of 2–4 kg/m<sup>3</sup>.  
 Activate the circulation system; the chamber maintains uniform dust settling and blowing with airflow velocity precisely controlled at ≤2 m/s.  
 For IP6X testing, engage the integrated vacuum system (0–30 kPa) to create negative pressure inside the specimen, drawing dust through any seal gaps.  
 Run the programmed test duration (0 s to 999 h) with automatic stop; monitor conditions in real time via the PLC touchscreen and observation door.  
 Upon completion, safely extract the specimen and inspect for dust ingress according to IP5X (limited ingress) or IP6X (no ingress) acceptance criteria.  
**Fully compliant with JIS D0207-F2, IEC 60529 IP5X/IP6X, IEC 60598-1, and IEC 60068-2-68 dust ingress protection testing requirements.**

## Typical Applications

- Automotive Components — IP5X and IP6X dust-proof testing for lights, instruments, steering systems, and door locks.
- Electrical Enclosures — Dust-tight verification for outdoor junction boxes, distribution cabinets, and control panels.
- Household Appliances — Dust resistance evaluation of motors, fans, and control units.
- Certification Laboratories — Compliance testing according to JIS D0207-F2 and IEC 60529 IP5X/IP6X.
- R&D Departments — Optimization of enclosure sealing design, materials, and dust protection strategies.

## Optional Modules & Models

### Optional Upgrades

- Custom internal dimensions and higher specimen weight capacity.
- Advanced data logging, remote monitoring, and automatic report generation.
- ISO/IEC 17025 accredited third-party calibration report.
- Integration with temperature/humidity control or additional environmental simulation.

### Standard Models

Model Code	Description	Standard Configuration
KP-SD-800	Standard Sand Dust Chamber (800×1000×1000 mm)	PLC touchscreen + vacuum system + talcum powder circulation + factory calibration
KP-SD-1200	Large Sand Dust Chamber (1200×1800×1200 mm)	Larger working volume + same core features for big assemblies

## Compliance & Manufacturer

This equipment is designed and manufactured in strict accordance with JIS D0207-F2, IEC 60529 (IP5X/IP6X), IEC 60598-1, and IEC 60068-2-68 for dust ingress protection testing.  
 KingPo is an ISO 9001, ISO 14001, ISO 45001, and CE certified manufacturer (also SGS, PSE, RoHS certified). Each unit undergoes rigorous calibration and is delivered with complete documentation, on-site installation guidance, a full one-year warranty, and lifetime technical support from our Dongguan facility.

**KingPo Test Equipment Co., Ltd.**

*Specialist in Precision Environmental, Ingress Protection & Reliability Test Systems*

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