

Comprehensive Airtightness Tester Precision Air Leak And Waterproof Testing System

Item Number: DS10



Introduction

Discover high-precision airtightness and waterproof leak testing with our comprehensive test system. Engineered for IPX rating verification, fast non-destructive air pressure sensing, and seamless production line automation with superior 0.2% FS measurement accuracy across wide pressure ranges.

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Application	Description	Key Benefit
Battery Cell & Pack Enclosures	Verifies the hermetic weld integrity and seal reliability of prismatic battery casings, cylindrical cells, pouch cell tabs, and pack-level cooling jackets.	Prevents hazardous electrolyte leakage, moisture ingress, and thermal runaway risks in energy storage systems.
IPX Waterproof Rating Certification	Evaluates consumer electronics, wearable devices, outdoor telecommunication housings, and acoustic components for IPX4 through IPX8 waterproof compliance.	Replaces messy water submersion with clean, rapid, and repeatable quantitative pressure decay data.
Automotive Component Testing	Inspects engine management sensors, electronic control unit (ECU) housings, fuel system connectors, fluid reservoirs, and lighting assemblies.	Ensures long-term resistance against harsh weather, automotive fluids, and severe operational vibration.
Medical Device Manufacturing	Validates fluidic integrity and hermetic isolation in IV sets, blood collection tubes, catheter connectors, and sterile surgical device packaging.	Eliminates bio-contamination hazards through dry, ultra-clean non-destructive micro-leak testing.
Die-Cast & Machined Housings	Detects porosity, blowholes, and sealing gasket imperfections in aluminum motor housings, pump bodies, and hydraulic valve blocks.	Identifies casting flaws early in the production line before costly downstream assembly and finishing.
Precision Valves & Fluid Fittings	Assesses seating tightness and stem seal integrity in pneumatic actuators, industrial valves, quick-disconnect couplers, and gas regulators.	Ensures zero fugitive emissions and maintains precise pressure containment in critical fluid circuits.
Home Appliance Modules	Conducts high-speed inline quality testing on steam iron water chambers, electric kettle heating bases, water purifier filters, and washing machine valves.	Minimizes end-user warranty returns and prevents internal electrical short circuits caused by moisture seepage.

Parameter	Specification
System Base Identifier	DS10
Sensor Measurement Accuracy	0.2% Full Scale (FS)
Digital Test Timer Range	1 s to 999 s (Fully Adjustable)
Required Supply Air Source	0.4 MPa to 1.0 MPa (Clean, Dry Compressed Air)
Standard Automation I/O Interface	Start, Stop, Pass (OK), Fail (NG), 1# Drive, 2# Drive Signal Outputs
Operating Power Supply	AC 220 V $\pm$ 10% / 50 Hz
External Dimensions (L $\times$ W $\times$ H)	350 mm $\times$ 400 mm $\times$ 180 mm
Net Equipment Weight	Approximately 10 kg
Detection Medium	Clean, dry compressed air (non-destructive, zero secondary pollution)
Supported Test Methodologies	Direct Positive Pressure, Direct Negative Pressure (Vacuum), Quantitative Volumetric

Model Identifier	Test Pressure Range	Standard Display Resolution	High-Precision Resolution
DS10-ZY-20	5 kPa to 20 kPa	1 Pa	1 Pa
DS10-ZY-50	5 kPa to 50 kPa	10 Pa	1 Pa
DS10-ZY-100	5 kPa to 100 kPa	10 Pa	1 Pa
DS10-ZY-200	5 kPa to 100 kPa	50 Pa	1 Pa
DS10-ZY-600	5 kPa to 100 kPa	50 Pa	1 Pa
DS10-ZY-1000	10 kPa to 800 kPa	100 Pa	1 Pa

Model Identifier	Test Pressure Range	Standard Display Resolution	High-Precision Resolution
DS10-FY-50	5 kPa to 50 kPa (Vacuum)	10 Pa	1 Pa
DS10-FY-100	5 kPa to 80 kPa (Vacuum)	10 Pa	1 Pa

Model Identifier	Test Pressure Range	Display Resolution
DS10-DL-100	5 kPa to 100 kPa	1 Pa
DS10-DL-200	5 kPa to 100 kPa	1 Pa
DS10-DL-500	10 kPa to 500 kPa	1 Pa
DS10-DL-1000	10 kPa to 800 kPa	1 Pa