Fire Electronic Product Test Equipment

Shenzhen Taike Anbang Technology Co., Ltd.

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Company profile

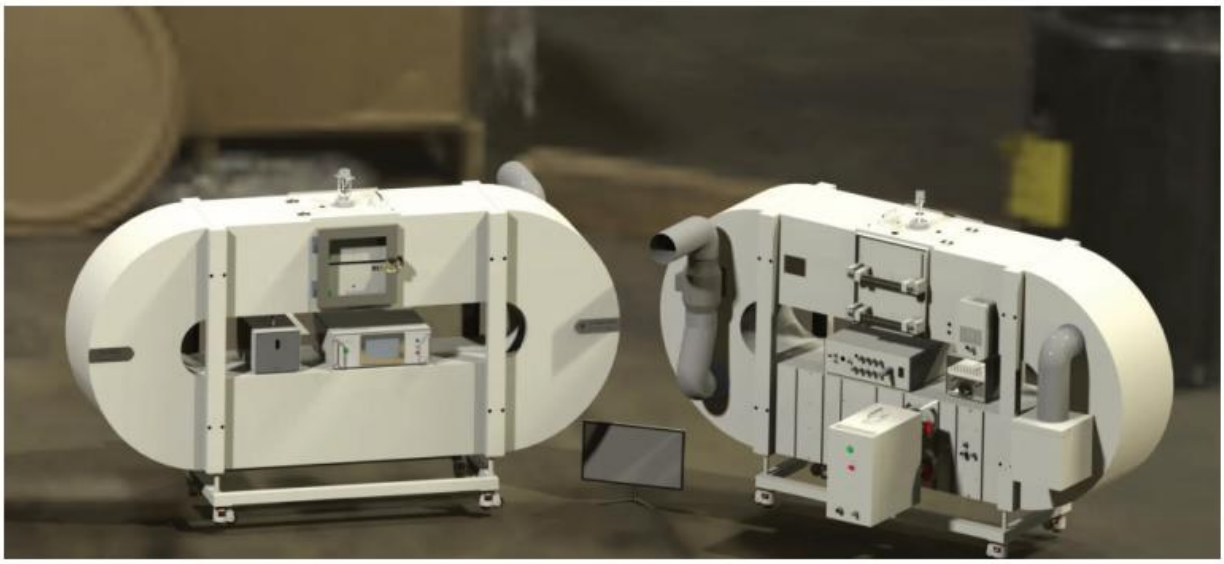
Shenzhen Taike Anbang Technology Co., Ltd. is a technology company specializing in the R&D, manufacturing, and sales of fire electronic products and fire test equipment. All the products are developed with independent intellectual property rights. Our vision is to provide high-quality, highly reliable, and technologically advanced products and solution services for fire safety.

We offer fire detection and test equipment that complies with national standards, European standards, and customized customer specifications as well as software and hardware customization and cooperative development services.

Standard smoke chamber

Product features

Modular design, high precision, high stability, and detection automation



◀ Application scope

Point-type and standalone smoke detector test, aspirating smoke fire detector

◀ Modular design

Standard component interfaces facilitate consequent upgrading, structural adjustment, and maintenance.

◀ High-precision smoke detection

Unique optical densitometer design with minimal temperature drift, high vibration resistance, long service life, and automatic calibration

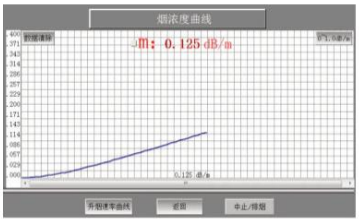
◀ Automated testing

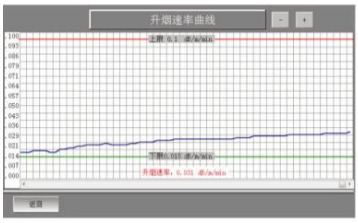
All test items required by national standards can be launched with one click, automatically completing the test and recording.

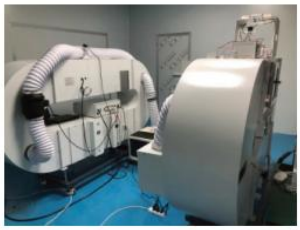
Technical parameters

- Overall dimension: L*W*H 2600*820*1640 (mm)
- Operating air speed: 0 m/s~1.3 m/s, continuously adjustable Preset standard air speeds: 0.2 m/s and 1 m/s
- Maximum operating temperature: 70°C, adjustable target temperature Within the 1400 mm test section, the temperature deviation across all areas of the cross-section is < ±0.2°C.
- Characteristics of optical densitometer: Measurement range 0-1.1 dB/m, resolution 0.001 dB/m Measurement error < m× 5% dB/m; zero-point cumulative drift within 4 hours in static non-compensated state < 0.003 dB/m. Wavelength 850 nm or 940 nm, equipped with a narrow band filter, optical measurement length 830 mm
- Characteristics of aerosol smoke generator: Closed-loop linkage type, using light paraffin oil as the smoke agent, with aerosol particle size mainly between 0.5 μm~1.0 μm

- Smoke rising rate: Range 0.002 dB/m-1~0.1 dB/m-1, minimum adjustment response precision 0.003 dB/m-1, continuously adjustable
- Smoke control:
  Smoke rising mode: Increase smoke concentration progressively at the preset smoke rising rate, with closed-loop correction during the process. Smoke rising rate fluctuation range is < 0.006 dB/m/min.
  Constant smoke mode: After reaching the preset concentration, it is changed into constant smoke concentration. The smoke fluctuation range under constant mode is < ±0.005 dB/m.
- Rated power of heating module: 3.5 kW (AC 220 V)
- Communication: Multiple digital input/output interfaces, RS485 and RS232 communication ports support MODBUS-RTU protocol, and provide open serial commands for data acquisition and equipment control.







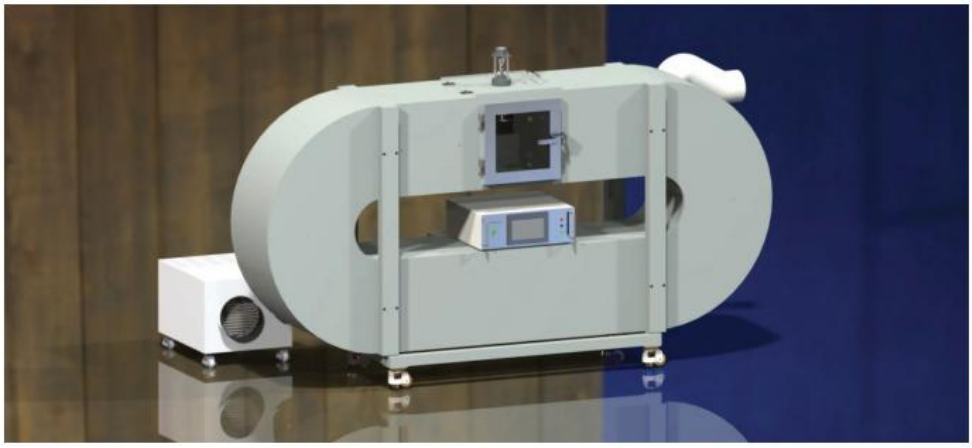
Test items

- Repeatability test: With one-click start, it automatically completes smoke generation, alarm identification, recording, and smoke discharge. There are totally six test cycles.
- Orientation test: With one-click start, it automatically completes azimuth rotation, smoke generation, alarm identification, recording, smoke discharge, and azimuth auto-reset. It automatically performs testing at 8 angles.
- Consistency test: With one-click start, it automatically completes azimuth rotation, smoke generation, alarm identification, recording, smoke discharge, and angle reset.
- Airflow test: With one-click start, it automatically completes rotation, smoke generation, alarm identification, recording, smoke discharge, automatic switching between 0.2 m/s and 1 m/s air speeds, and azimuth reset.
- Ambient light test: With one-click start, it automatically completes flashing light interference, smoke generation, alarm identification, recording, and smoke discharge. It automatically performs the test in two cycles.
- High-temperature test: With one-click start, it automatically completes normal-temperature threshold testing, heating, insulation, high-temperature threshold testing, alarm identification, and recording. Temperature curve can be viewed.
- Custom condition test: For R&D use only, this interface allows manual switching of air speed, manual heating, smoke rising rate adjustment, selection of alarm trigger mode, step smoke discharge, and fine adjustment of azimuth. It includes functions for smoke-holding and concentration-holding (constant smoke), displaying smoke concentration and smoke rising rate curves, with adjustable curve sampling interval. With one-click start, it automatically completes smoke generation, alarm identification, recording, and smoke discharge.

Standard temperature chamber

Product features

Modular design, high precision, high thermal response speed, and detection automation



◀ Application scope

Point-type heat detector, standalone heat detector, and heat detection cable test

◀ Large capacity and low power consumption.

Large cross-section testing space with efficient insulation and heating modes for energy saving and consumption reduction

◀ High-response temperature collection

Miniature, low-thermal-inertia heat detection probe with quick response.

◀ Detection automation

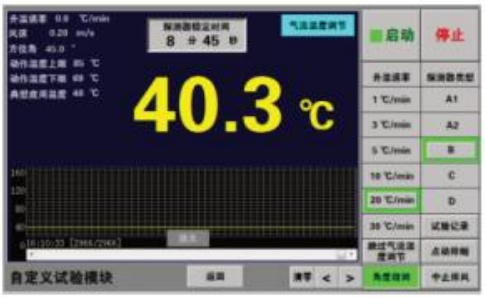
All test items required by national standards can be launched with one click, automatically completing test and recording.

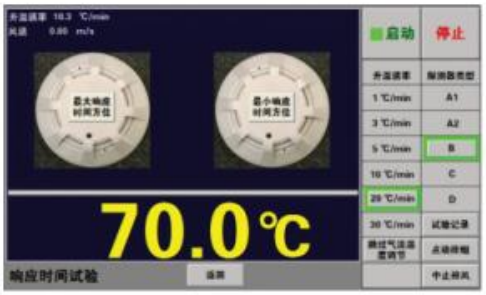
Technical parameters

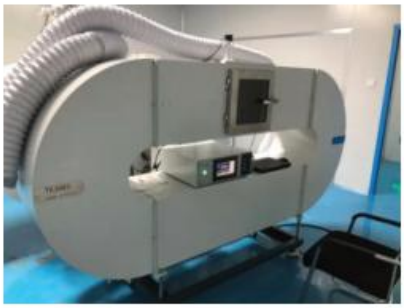
- Overall dimension: L*W*H 2600*820*1640 (mm)
- Operating air speed: 0.15 m/s~1.3 m/s, continuously adjustable Preset standard air speed: 0.8 m/s.
- Maximum working temperature: 130°C
- Heating rates: 0.2°C/min, 1°C/min, 3°C/min, 5°C/min, 10°C/min, 20°C/min, 30°C/min
- Temperature rising uniformity: Within the 1400 mm test section, the temperature deviation across all areas of the cross-section is < 0.2°C.
- Heater power: 12 kW
- Refrigeration unit power: 2 kW
- Power supply: AC 220 V, AC 380 V

Test items

- Orientation test: With one-click start, it automatically completes heating, alarm identification, ventilation cooling,
- recording, and sample rotation, testing eight angles in cycle.
- Action temperature test: One-click start, automatic angle positioning, alarm identification, heating rate switching, recording, and ventilation cooling
- Response time test: One-click start, automatic angle positioning, alarm identification, recording, and ventilation cooling Test response time under heating rates of 1°C/min, 3°C/min, 5°C/min, 10°C/min, 20°C/min, and 30°C/min, respectively.
- 25°C initial response time test: One-click start, automatic angle positioning, alarm identification, recording, and ventilation cooling. Test response time under heating rates of 3°C/min and 20°C/min, respectively.
- High-temperature response test: One-click start, heating, holding. Test response time under heating rates of 3°C/min and 20°C/min, respectively.
- Power parameter fluctuation test: After setting power parameters, one-click start, test response time under heating rates of 3°C/min and 20°C/min, respectively.
- Pre-environmental test response time test: One-click start, test response time under heating rates of 3°C/min and 20°C/min, respectively.
- Custom test: For R&D use, fine adjustment of azimuth, and custom combination tests of heating rates (1°C/min, 3°C/min, 5°C/min, 10°C/min, 20°C/min, and 30°C/min) and detector types







Combined smoke and temperature test chamber

Meets the test requirements of GB 4715 and GB 4716.
Test range includes point-type smoke fire detectors, standalone smoke fire detectors, point-type heat fire detectors, standalone heat fire detectors, and heat detection cables.

Product features

Advanced combinations

It can accommodate a reasonable combination of smoke and heat detection product test, enabling a single device to perform a wider range of product test tasks.

Good compatibility

Test conditions for both smoke and temperature detectors comply with national standards for test equipment.

Easy use

User-friendly interface with clear project layout and distinct test module divisions for orderly operation.

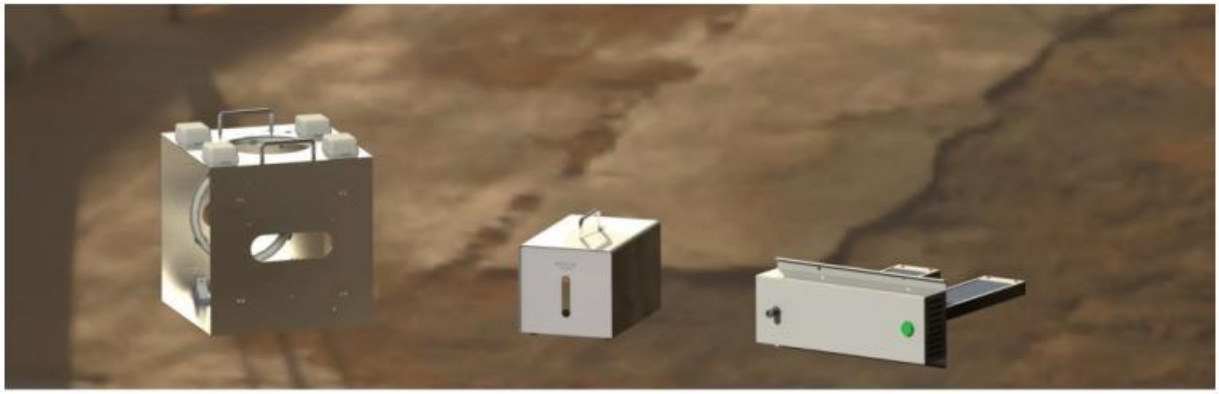
Test data output

Test data are stored on the controller touchscreen and the upper computer for backup. Curve data and test results can be output and printed.

Technical parameters

- Overall dimension: L*W*H 2600*920*1700 (mm)
- Operating air speed: 0 m/s~1.3 m/s, continuously adjustable Preset standard air speeds of 0.2 m/s, 0.8 m/s, and 1 m/s, automatically switched according to the test item.

- Maximum working temperature: 70°C in smoke test mode, 160°C in heat test mode, adjustable target temperature Within the 1400 mm test section, the temperature deviation across all areas of the cross-section is < 0.2°C.
- Characteristics of optical densitometer: Measurement range 0-1.1 dB/m, resolution 0.001 dB/m Measurement error < m× 5% dB/m; zero-point cumulative drift within 4 hours in static non-compensated state < 0.003 dB/m. Wavelength 850 nm or 940 nm, equipped with a narrow band filter, optical measurement length 830 mm
- Aerosol smoke generator: Closed-loop linkage type, using light paraffin oil as the smoke agent, with aerosol particle size mainly between 0.5 μm~1.0 μm.
- Smoke rising rate: Range 0.002 dB/m-1~0.1 dB/m-1, minimum adjustment response precision 0.003 dB/m-1, continuously adjustable
- Smoke control:
  - Smoke rising mode: Increase smoke concentration progressively at the preset smoke rising rate, with closed-loop correction during the process. Smoke rising rate fluctuation range is < 0.006 dB/m/min.
- Constant smoke mode: After reaching the preset concentration, it is changed into constant smoke concentration. The smoke fluctuation range under constant mode is < ±0.005 dB/m.
- Heating rates: 0.2°C/min, 1°C/min, 3°C/min, 5°C/min, 10°C/min, 20°C/min, 30°C/min
- Temperature rising uniformity: Within the 1400 mm test section, the temperature deviation across all areas of the cross-section is < ±0.2°C.
- Heater power: 12 kW
- Refrigeration unit power: 2 kW
- Power supply: AC 220 V, AC 380 V
- Communication: Multiple digital input/output interfaces, RS485 and RS232 communication ports support MODBUS-RTU protocol, and provide open serial commands for data acquisition and equipment control.



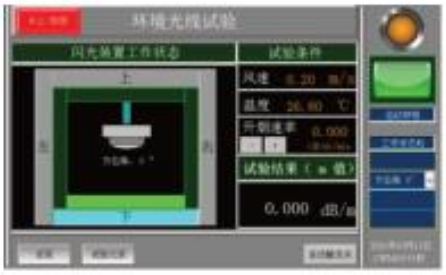
Smoke test items

- Repeatability test: With one-click start, it automatically completes smoke generation, alarm identification, recording, and smoke discharge. There are totally six test cycles.
- Orientation test: With one-click start, it automatically completes azimuth rotation, smoke generation, alarm identification, recording, smoke discharge, and azimuth auto-reset. It automatically performs testing at 8 angles.
- Consistency test: With one-click start, it automatically completes azimuth rotation, smoke generation, alarm identification, recording, smoke discharge, and angle reset.
- Airflow test: With one-click start, it automatically completes rotation, smoke generation, alarm identification, recording, smoke discharge, automatic switching between 0.2 m/s and 1 m/s air speeds, and azimuth reset.

- Ambient light test: With one-click start, it automatically completes flashing light interference, smoke generation, alarm identification, recording, and smoke discharge. It automatically performs the test in two cycles.
- High-temperature test: With one-click start, it automatically completes normal-temperature threshold testing, heating, insulation, high-temperature threshold testing, alarm identification, and recording. Temperature curve can be viewed.

- Custom condition test: For R&D use only, this interface allows manual switching of air speed, manual heating, smoke rising rate adjustment, selection of alarm trigger mode, step smoke discharge, and fine adjustment of azimuth. It includes functions for smoke-holding and concentration-holding (constant smoke), displaying smoke concentration and smoke rising rate curves, with adjustable curve sampling interval. With one-click start, it automatically completes smoke generation, alarm identification, recording, and smoke discharge.

Smoke test items



- Orientation test: With one-click start, it automatically completes heating, alarm identification, ventilation cooling,
- recording, and sample rotation, testing eight angles in cycle.
- Action temperature test: One-click start, automatic angle positioning, alarm identification, heating rate switching, recording, and ventilation cooling
- Response time test: One-click start, automatic angle positioning, alarm identification, recording, and ventilation cooling Test response time under heating rates of 1°C/min, 3°C/min, 5°C/min, 10°C/min, 20°C/min, and 30°C/min, respectively.
- 25°C initial response time test: One-click start, automatic angle positioning, alarm identification, recording, and ventilation cooling. Test response time under heating rates of 3°C/min and 20°C/min, respectively.
- High-temperature response test: One-click start, heating, holding. Test response time under heating rates of 3°C/min and 20°C/min, respectively.
- Power parameter fluctuation test: After setting power parameters, one-click start, test response time under heating rates of 3°C/min and 20°C/min, respectively.
- Pre-environmental test response time test: One-click start, test response time under heating rates of 3°C/min and 20°C/min, respectively.
- Custom test: For R&D use, fine adjustment of azimuth, and custom combination tests of heating rates (1°C/min, 3°C/min, 5°C/min, 10°C/min, 20°C/min, and 30°C/min) and detector types

Mobile small smoke chamber

Product features

Compact design, powered by battery or AC220V, high precision, convenient movement, and detection automation

◄ Application scope

It is used in laboratories or construction sites to test point-type or standalone smoke detectors.

◄ Complete functions

Repeatability test, orientation test, consistency test, airflow test, and custom test

◄ Detection automation

All test items can be started with one click, automatically completing test and recording.

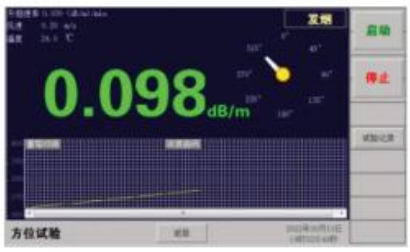
Technical parameters

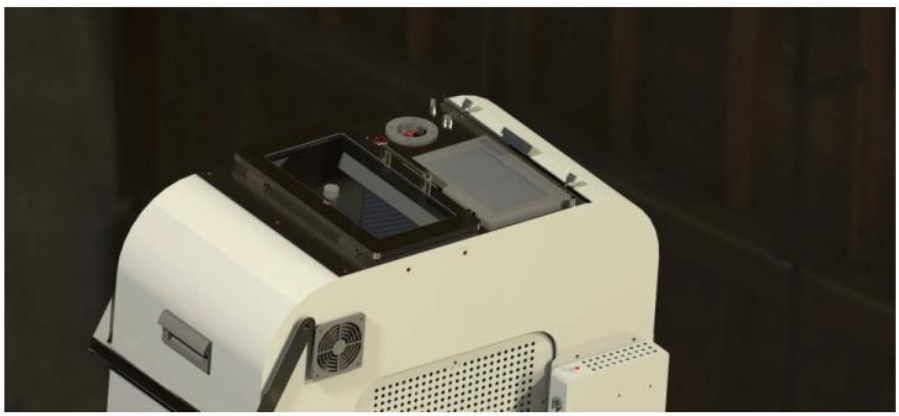
- Overall dimension: 700 mm*455 mm*715 mm (L*W*H)
- Weight: 30 kg
- Operating air speed: 0 m/s~1.3 m/s, continuously adjustable Preset standard air speeds: 0.2 m/s and 1 m/s
- Characteristics of optical densitometer: Measurement range 0-1.1 dB/m, resolution 0.001 dB/m Measurement error < m× 5% dB/m; zero-point cumulative drift within 4 hours in static non-compensated state < 0.003 dB/m. Wavelength 850 nm or 940 nm, equipped with a narrow band filter, optical measurement length 630 mm
- Aerosol smoke generator: Closed-loop linkage type, using light paraffin oil as the smoke agent, with aerosol particle size mainly between 0.5 μm~1.0 μm.

- Smoke rising rate: Range 0.002 dB/m-1~0.1 dB/m-1, minimum adjustment response precision 0.003 dB/m-1, continuously adjustable
- Alarm identification: Switching value triggering (bus-type heat detector or non-coding heat detector) or sound triggering .
- Communication: Multiple digital input/output interfaces, RS485 and RS232 communication ports support MODBUS-RTU protocol, and provide open serial commands for data acquisition and equipment control.

Test items

- Repeatability test: With one-click start, it automatically completes smoke generation, alarm identification, recording, and smoke discharge. There are totally six test cycles.
- Orientation test: With one-click start, it automatically completes azimuth rotation, smoke generation, alarm identification, recording, smoke discharge, and azimuth auto-reset. It automatically performs testing at 8 angles.
- Consistency test: With one-click start, it automatically completes azimuth rotation, smoke generation, alarm identification, recording, smoke discharge, and angle reset.
- Airflow test: With one-click start, it automatically completes rotation, smoke generation, alarm identification, recording, smoke discharge, automatic switching between 0.2 m/s and 1 m/s air speeds, and azimuth reset.
- Custom condition test: For R&D use only, this interface allows manual switching of air speed, manual heating, smoke rising rate adjustment, selection of alarm trigger mode, step smoke discharge, and fine adjustment of azimuth. It includes functions for smoke-holding and concentration-holding (constant smoke), displaying smoke concentration and smoke rising rate curves, with adjustable curve sampling interval. With one-click start, it automatically completes smoke generation, alarm identification, recording, and smoke discharge.





Mobile small temperature chamber

Product features

Compact design, high precision, convenient movement, and detection automation

◄ Application scope

It is used in laboratories or construction sites to test point-type heat detectors, standalone heat detectors, and heat detection cables.

◄ Complete functions

Orientation test, action temperature test, response time test, and custom test

◄ Detection automation

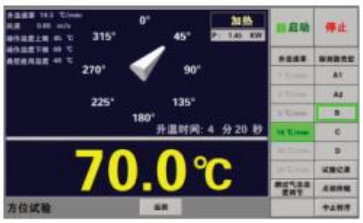
All test items can be started with one click, automatically completing test and recording.

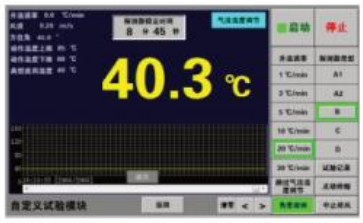
Technical parameters

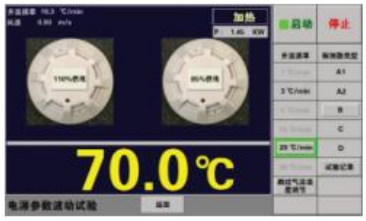
- Overall dimension: 700 mm*455 mm*715 mm (L*W*H)
- Weight: 28 kg
- Operating air speed: 0.15 m/s~1.3 m/s, continuously adjustable Preset standard air speed: 0.8 m/s.
- Maximum working temperature: 130°C
- Heating rates: 0.2°C/min, 1°C/min, 3°C/min, 5°C/min, 10°C/min, 20°C/min, 30°C/min
- Temperature rising uniformity: Within the test section, the temperature deviation across all areas of the cross-section is < ±0.2°C.
- Heater power: 12 kW
- Power supply: AC 220 V
- Alarm identification: Switching value triggering (bus-type heat detector or non-coding heat detector) or sound triggering

Test items

- Orientation test: With one-click start, it automatically completes heating, alarm identification, ventilation cooling,
- recording, and sample rotation, testing eight angles in cycle.
- Action temperature test: One-click start, automatic angle positioning, alarm identification, heating rate switching, recording, and ventilation cooling
- Response time test: One-click start, automatic angle positioning, alarm identification, recording, and ventilation cooling Test response time under heating rates of 1°C/min, 3°C/min, 5°C/min, 10°C/min, 20°C/min, and 30°C/min, respectively.
- Custom test: Fine adjustment of azimuth and custom combination tests of heating rates (1°C/min, 3°C/min, 5°C/min, 10°C/min, 20°C/min, and 30°C/min) with detector types







Smoke chamber for underground coal mine smoke detector testing

Meet the test requirements of GB 4715-2005, MT 382-2011, and JJF (Jin) 61-2022.
Test range includes underground coal mine smoke fire detectors, point-type smoke fire detectors, and standalone smoke fire detectors.

Product features

Professional

Specialized test equipment designed for the unique requirements of underground smoke fire detectors.

Good compatibility

Meet the testing requirements for underground smoke detectors and standard point-type smoke detectors.

Dual smoke sources

It is equipped with automatic cotton rope smoke generator and aerosol smoke generator, meeting the requirements of different standards.

Test data output

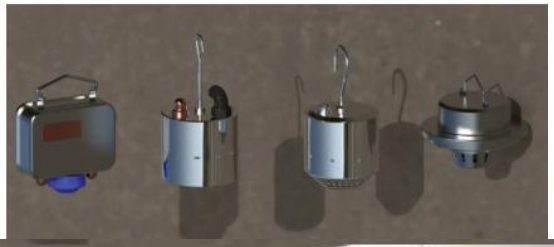
Test data are stored on the controller touchscreen and the upper computer for backup. Curve data and test results can be output and printed.

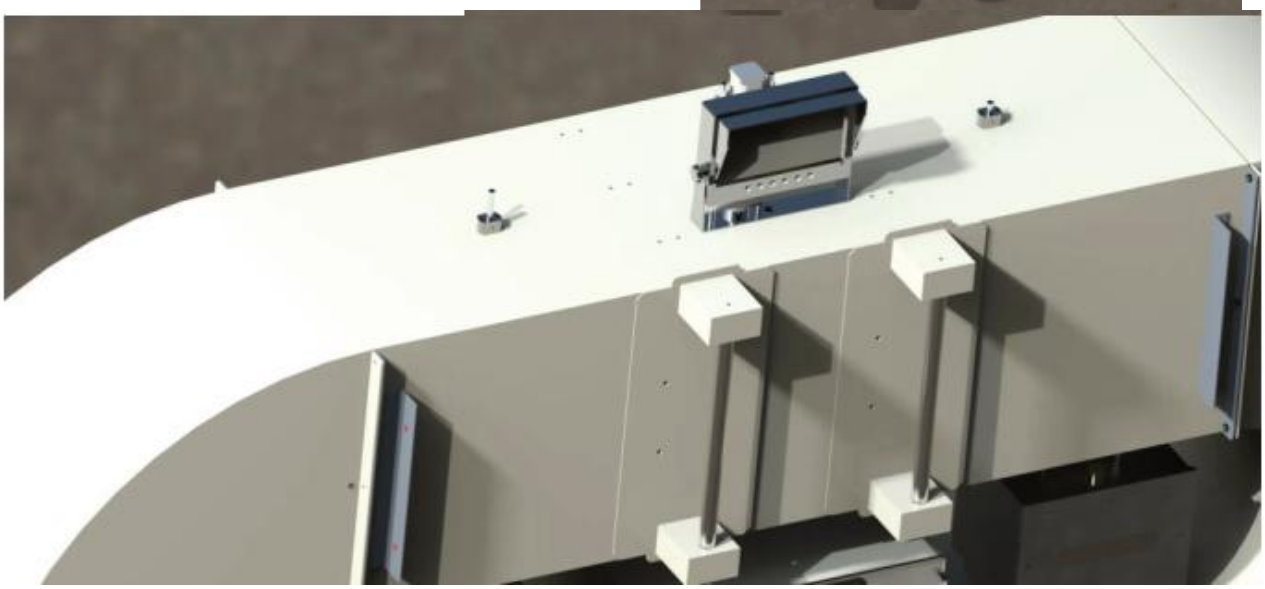
Technical parameters

- Overall dimension: L*W*H 2600*920*1700 (mm)
- Operating air speed: 0 m/s~1.3 m/s, continuously adjustable Preset standard air speeds of 0.2 m/s and 1 m/s, automatically switched.

- Maximum operating temperature: 70°C, adjustable target temperature Within the 1400 mm test section, the temperature deviation across all areas of the cross-section is <0.2°C.

- Characteristics of optical densitometer: measurement range 0-25% obs/m, resolution 0.005% obs/m Measurement error <m×5% obs/m; cumulative zero-point drift for 4 hours in static non-compensated state <0.0684% obs/m Wavelength 850 nm or 940 nm, equipped with a narrow band filter, optical measurement length 830 mm
- Aerosol smoke generator: Closed-loop linkage type, using light paraffin oil as the smoke agent, with aerosol particle size mainly between 0.5 μm~1.0 μm.
- Characteristics of cotton rope smoke generator: Closed-loop linkage type, using 6-10 mm pure cotton rope, with aerosol particle size mainly between 0.5 μm~1.0 μm Automatic ignition, feeding, and extinguishing
- Smoke rising rate: range 0.04% obs/min~2.28% obs/min, minimum adjustment response precision 0.003 dB/m, continuously adjustable
- Smoke control:
  Smoke rising mode: Increase smoke concentration progressively at the preset smoke rising rate, with closed-loop correction during the process. Smoke rising rate fluctuation range is < 0.136% obs/m/min.
  Constant smoke mode: After reaching the preset concentration, it is changed into constant smoke concentration. The smoke fluctuation range under constant mode is < ±0.114% obs/m.
- Rated power of heating module: 3.5 kW (AC 220 V)
- Communication: Multiple digital input/output interfaces, RS485 and RS232 communication ports support MODBUS-RTU protocol, and provide open serial commands for data acquisition and equipment control.

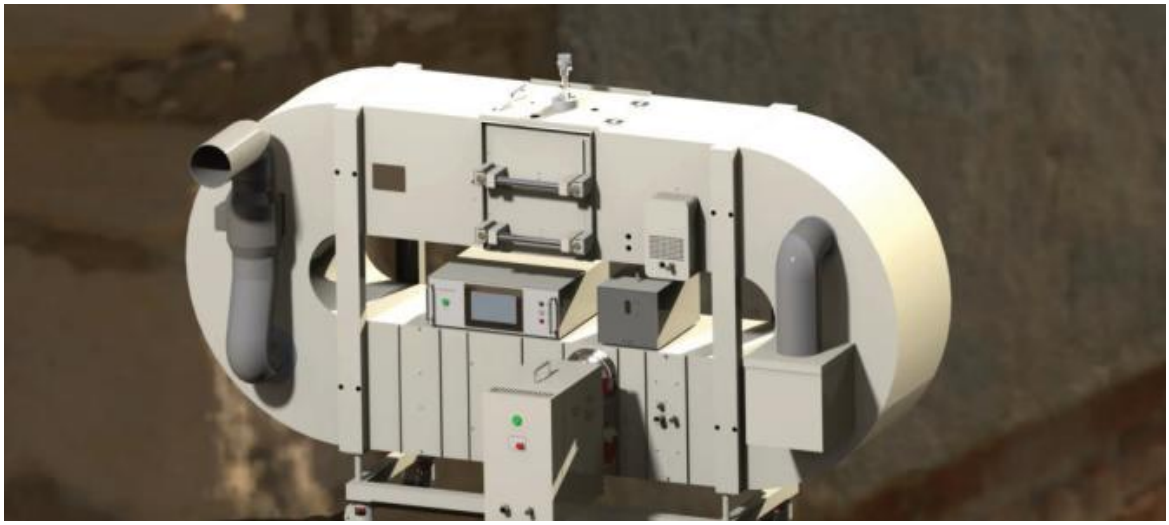




Smoke chamber for power lithium battery smoke sensor testing

Product features

Modular design, high precision, high stability, and detection automation



◀ Application scope

Detection of thermal failure smoke in lithium batteries for electric vehicles and energy storage stations, and point-type smoke detector testing.

◀ Modular design

The standard modular interface allows convenient switching between R&D and mass production state.

◀ High-precision smoke detection

Self-calibrating optical densitometer is resistant to temperature drift.

◀ Automated testing

It automatically maintains constant smoke concentration in stages according to the requirement of sensor calibration.

Technical parameters

- Overall dimension: L*W*H 2600*920*1740 (mm)
- Operating air speed: 0 m/s~1.3 m/s, continuously adjustable Preset standard air speeds: 0.2 m/s and 1 m/s
- Maximum operating temperature: 90°C, adjustable target temperature Within the 1400 mm test section, the temperature deviation across all areas of the cross-section is < 0.2°C.
- Characteristics of optical densitometer: measurement range 0~1.1 dB/m, 0~40000 μg/m³; resolution 0.001 dB/m, 20 μg/m³. Measurement error < m× 5% dB/m; zero-point cumulative drift within 4 hours in static non-compensated state < 0.003 dB/m. Wavelength 850 nm or 940 nm, equipped with a narrow band filter, optical measurement length 830 mm
- Aerosol smoke generator: Closed-loop linkage type, using light paraffin oil as the smoke agent, with aerosol particle size mainly between 0.5 μm~1.0 μm.

- Smoke rising rate: Range 0.002 dB/m-1~0.1 dB/m-1, minimum adjustment response precision 0.003 dB/m-1, continuously adjustable
- Smoke control:
  Smoke rising mode: Increase smoke concentration progressively at the preset smoke rising rate, with closed-loop correction during the process. Smoke rising rate fluctuation range is < 0.006 dB/m/min.
  Constant smoke mode: After reaching the preset concentration, it is changed into constant smoke concentration. The smoke fluctuation range under constant mode is < ±200 μg/m³.
- Rated power of heating module: 4.5 kW (AC 220 V)
- Communication: Multiple digital input/output interfaces, RS485 and RS232 communication ports support MODBUS-RTU protocol, and provide open serial commands for data acquisition and equipment control.

Lithium battery aerosol sensor test items

- Custom test: Output concentration unit in μg/m³, adjustable smoke rising rate, and maintaining arbitrary concentration
- Batch calibration: One-click start, automatic constant smoke by stage, coordinated with the upper computer to complete calibration at 0 μg/m³, 5000 μg/m³, and 10000 μg/m³ Calibration points can be customized.

Point-type smoke detector test items

- Repeatability test
- Orientation test
- Consistency test
- Airflow test
- Ambient light test
- High-temperature test
- Custom condition test

Cross-line production smoke chamber

Meet the mass production needs of point-type and standalone smoke fire detectors.

Product features

01

Unique detection mode

Use a dual smoke chamber with high and low constant smoke concentrations to quickly screen out and eliminate the smoke detectors that produce false alarms or fail to alarm.

02

Accurate constant smoke control

Use a reflective long optical path concentration acquisition system with constant smoke fluctuation error < ±5%.

03

Low cost and high stability

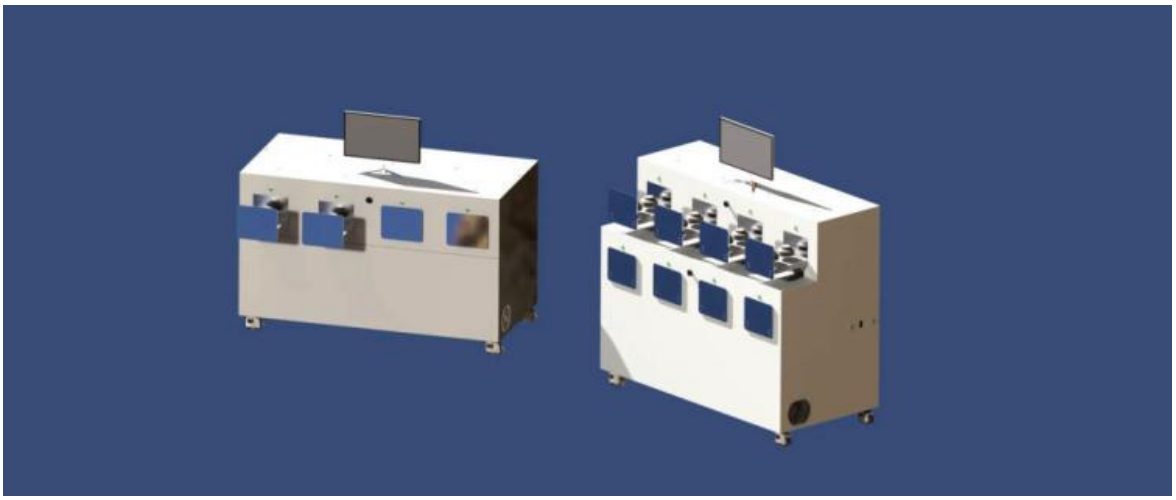
The smoke agent is medical paraffin oil, which is inexpensive and safe. The smoke generator features a long-life and low-attenuation design.

- Overall dimension: 1500mm*500mm*800mm (L*W*H)

16-position automatic calibration smoke chamber

Product features

Modular design, high-precision threshold calibration, high stability, calibration automation, loading and unloading material manipulator.



◄ Application scope

Point-type and standalone smoke fire detectors as well as detection of thermal failure smoke in lithium batteries for electric vehicles and energy storage stations.

◄ Modular design

Dual-layer and single-layer combination is available to suit different production capacities. It can be matched with a manipulator.

◄ High-precision calibration environment

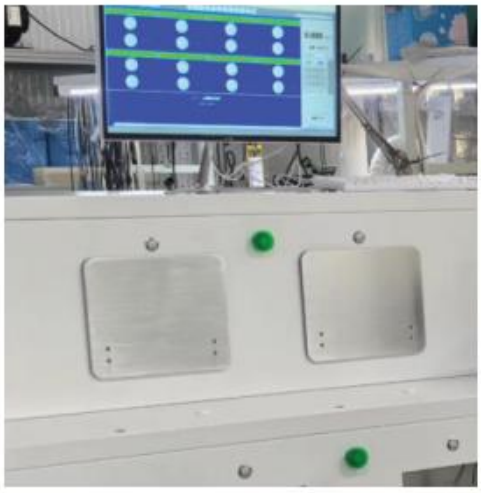
Unique smoke channels ensure no airflow obstruction between detectors, guaranteeing consistent calibration.

◄ Automated calibration process

Pneumatic drawers feature multiple motion mode combinations, enabling flexible testing plans and improving production test efficiency.

Technical parameters

- Overall dimension of single-layer calibration smoke chamber: L*W*H 1700*818*1050 (mm)
- Overall dimension of dual-layer calibration smoke chamber: L*W*H 1700*1430*1050 (mm)
- There are 8 test drawers, each drawer tests two detectors simultaneously, and there are totally 16 detectors.
- Anti-contamination optical densitometer greatly reduces accumulated detection error under long-term operation.
- Programmable control allows dual-layer synchronous testing, single-drawer operation, and alternate dual-layer motion.
- A 0.8 m^3 smoke buffer tank effectively suppresses smoke fluctuation during drawer movement.
- Each drawer has an independent smoke supply loop to ensure uniform calibration concentration for all detectors.
- Aerosol smoke generator: Closed-loop linkage type, using light paraffin oil as the smoke agent, with aerosol particle size mainly between 0.5 μm~1.0 μm.
- The interactive interface displays drawer position, concentration, smoke curve, drawer mode, temperature, alarm threshold, and pass/fail.



Multi-smoke-source test chamber

Meet the testing requirements of GB 4715-2024 and GB 20517-2006.
Test range includes point-type smoke fire detectors, standalone smoke fire detectors, and other types of smoke fire detectors.
The smoke generation device paired with the smoke chamber uses smoke-generating materials including but not limited to cotton rope, beech wood, n-heptane, polyurethane, lithium battery materials, leaves, and weeds.
With automatic ignition and extinguishing, it is combined with a unique smoke delivery mechanism to provide controllable smoke rising rate and constant smoke.

Smoke source materials

Cotton rope

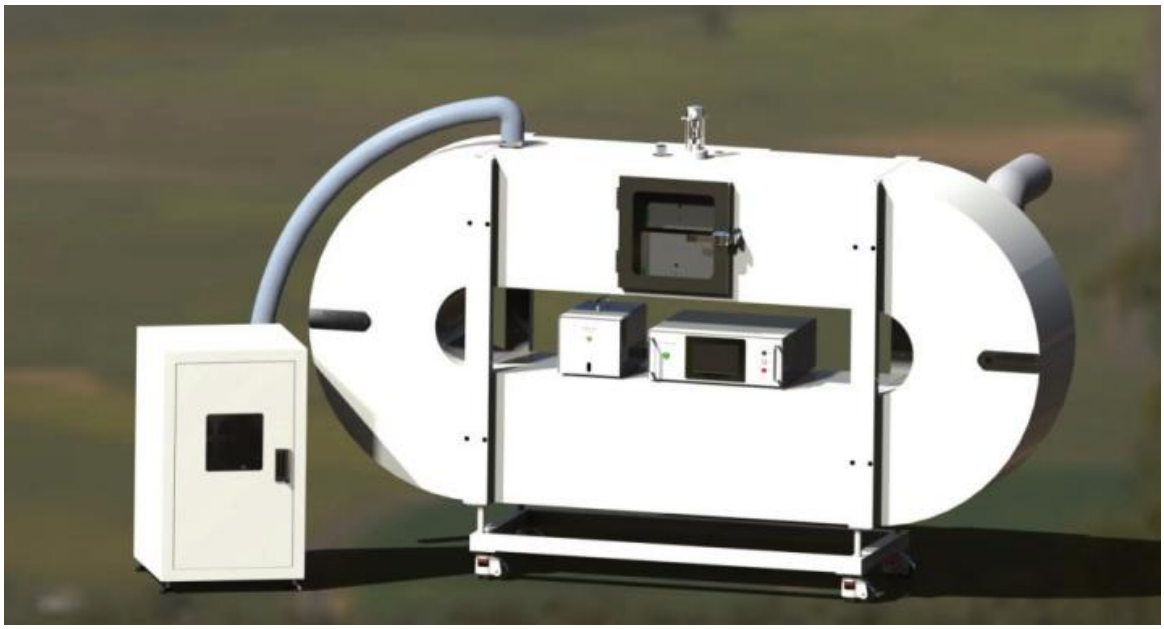
Beech wood

n-Heptane

Polyurethane

Technical parameters

- Overall dimension: Smoke chamber: L*W*H 2600*920*1700 (mm); smoke generation device: L*W*H 500*500*950 (mm)
- Operating air speed: 0 m/s~1.3 m/s, continuously adjustable Preset standard air speeds of 0.2 m/s, 0.8 m/s, and 1 m/s, automatically switched according to the test item.



Dust environment simulation test chamber

Product features

Meet GB4715-2024 requirements for dust environment simulation test chambers.

◄ Application scope

For smoke-type fire detectors, and other detector types requiring specific dust test environments for product testing. .

◄ Advanced plan

A unique smoke and dust channel ensures uniform concentration across all points in the test area.

◄ Testing automation

One-click start for fully automatic test process

Technical parameters

- Overall dimension: 1000mm*820mm*1560mm
- Weight: 150kg
- Operating air speed: 0.4 m/s, continuously adjustable
- Test dust: Fine Arizona test dust, meeting ISO 12103-1 A2 standard.
- Precision micro-feed powder mechanism ensures a constant dust concentration environment.
- It is equipped with a dust recovery device that automatically collects dust upon completion of the test.
- Optional motorized mounting tray allows rotation to any preset azimuth angle.
- Optional heater enables temperature adjustment within the environmental chamber.
- It is equipped with a dedicated dust-proof optical densitometer for real-time monitoring of dust concentration.

Collision tester

Product features

Meet the requirements for collision test equipment in GB4715-2024 and GB20517-2006.

◄ Application scope

Point-type and standalone smoke fire detectors, manual alarm buttons, and other products requiring collision testing.

◄ Advanced plan

With unique exterior design, it is concise and beautiful.

◄ Electric/manual release

Fast release without obstruction

Technical parameters

- Overall dimension: 1000mm*820mm*1560mm
- Weight: 100 kg
- Operating power: 12 V, 1 A

Combustible gas ring test chamber

Product features

1. Standards: GB15322.1-2019, GB15322.2-2019, GB15322.3-2019
2. Scope of application: Point-type combustible gas detectors for industrial and commercial use, household combustible gas detectors, and standalone portable combustible gas detectors for industrial and commercial use.

Equipment composition

1. Ring-shaped chamber with effective internal cross-section dimension of 300*300 mm and a working segment length of 800 mm

2. Operating controller, industrial controller with a full touchscreen interface, 7-inch screen, 800*600 resolution, used for controlling temperature, humidity, and air speed as well as recording test results.

3. Circulating air module with multiple brushless motor fans, PWM speed control for precise regulation of air speed.

4. Mixing module for efficient homogenization of test gases.

5. Airflow fence for airflow regulation in the test section.

5. The standard detector mounting tray can accommodate detectors with different mounting hole positions. Its rotation is controlled by a servo motor, which automatically adjusts the detector’ s azimuth angle according to the standard test procedure.

6. There are 4 test gas input interfaces to introduce gases into the ring chamber.

7. The air exchange module includes high-flow duct fan, electric check valve, and exhaust pipe.

8. Acoustic vibration sensing module includes sensor, recognition circuit, and transmission pipe for detecting detector alarm sounds.

9. Circuit trigger interface is used for monitoring the alarm status of bus-type and switch-type detectors.

10. High-precision duct-type anemometer is used for calibrating internal airflow. Calibrate the internal air speed of the smoke chamber.

11. Control software: V3.6.2.0 universal system control software

12. Body material: Main cold-rolled panels with powder coating, inner layer of the test chamber lined with stainless steel.

13. Overall dimension: L*W*H 1700*550*1300 (mm)

Combustible gas online batch calibration test chamber

Application scope

Batch calibration of industrial and commercial point-type combustible gas detectors.

Innovative and safe design

Test drawers with anti-gas-leak outlet structure, large-capacity buffer tank, equipped with explosion-proof design.

Stable dynamic calibration environment

Unique purge loop, no mutual obstruction between detectors, uniform gas concentration for each detector, and ensuring calibration consistency.

Automated calibration

It is matched with the software of upper computer to achieve automatic calibration.

Technical parameters

Overall dimension: L*W*H 2300*1400*1400 (mm)

There are 4 test drawers, and each drawer simultaneously tests 3~4 detectors.

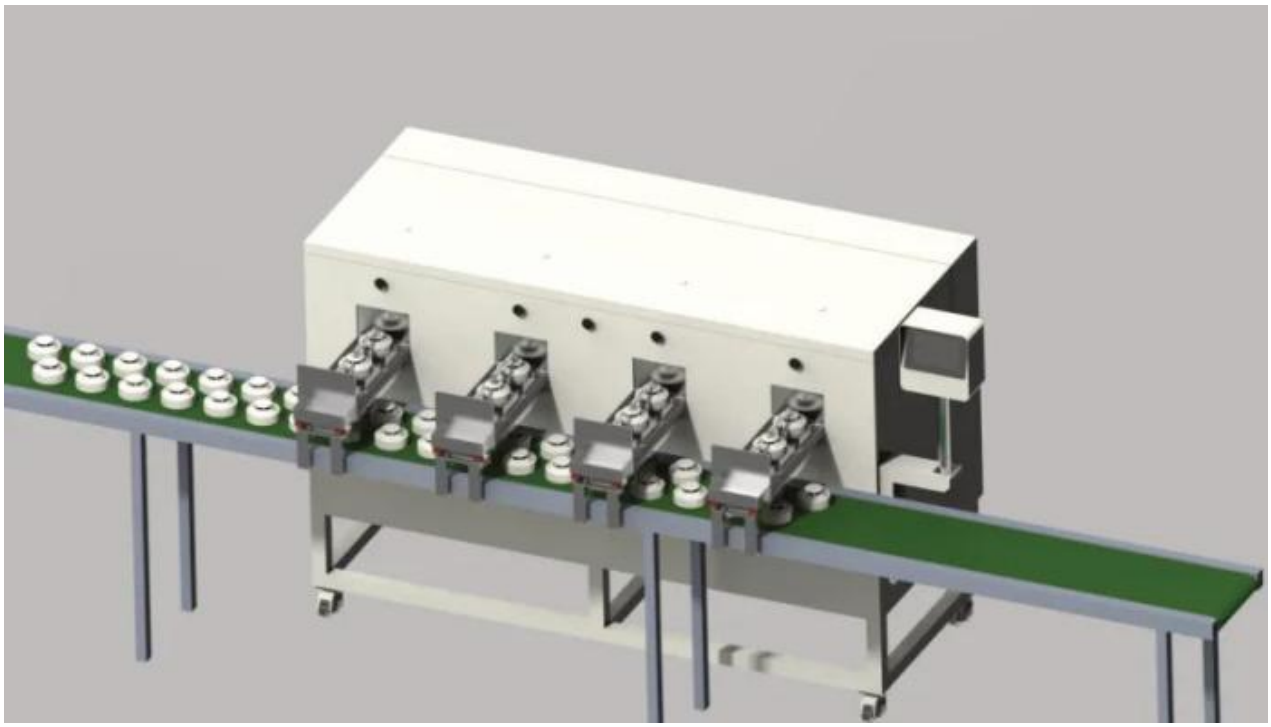
485 communication interface, MODBUS RTU communication protocol

Measurement range: CH4: 0-5%, CO: 0-30%, CO2: 0-30%, H2: 0-10%, O2: 0-25%

Smoke detector online calibration smoke chamber

Product type

Online calibration and testing for point-type smoke fire detectors and independent smoke fire detectors (hereinafter referred to as “smoke detectors”)



◄ Application scope

Point-type and standalone smoke fire detectors, manual alarm buttons, and other products requiring collision testing.

◄ Advanced plan

With unique exterior design, it is concise and beautiful.

◄ Electric/manual release

Fast release without obstruction

Technical parameters

Air speed at smoke outlet: 0~1.5 m/s, air speed fluctuation < ±0.1 m/s

Smoke concentration range (measurement range): 0-1.2 dB/m (optional larger range)

Continuous operating time: 4~24 h (recommended)

Constant smoke concentration fluctuation: < ±0.004 dB/m; smoke outlet fluctuation time when the test drawer enters: <1.5s;

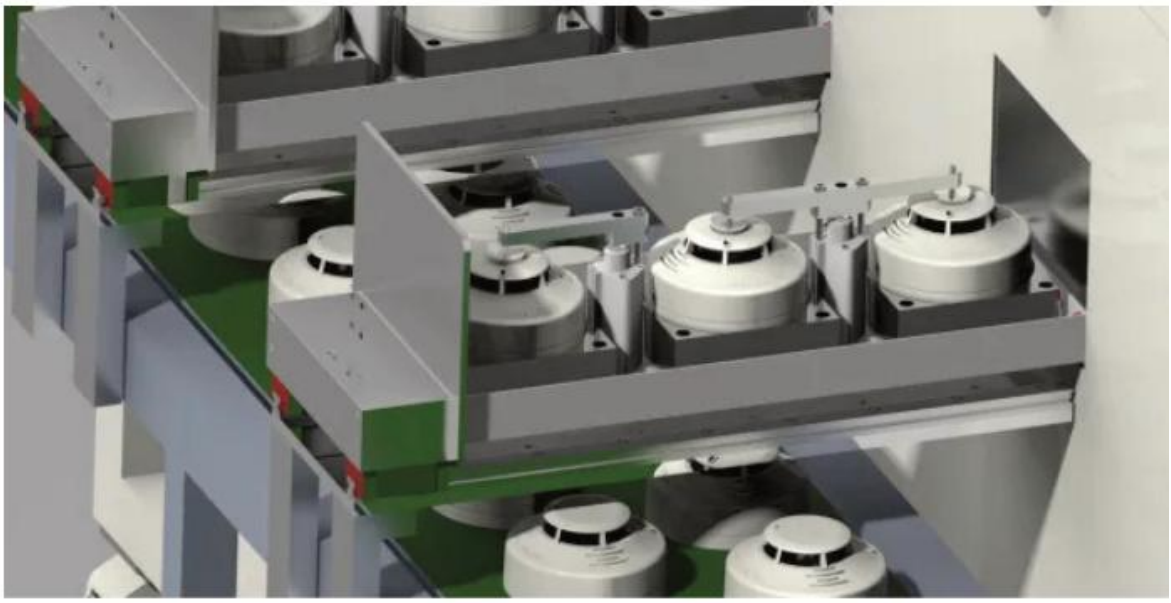
Concentration measurement mode: through-beam optical densitometer, resolution 0.001 dB/m;

Smoke concentration monitoring system: PLC and touch screen display real-time concentration curve, preset constant smoke concentration, smoke rising rate setting, calibration timer setting, etc. (customizable to user requirements)

Smoke rising rate: 0~1.5dBm-1min-1 (continuously adjustable)

Aerosol generator: Cold-type, using medical paraffin oil as the smoke agent, equipped with aerosol particle filter (reduce particle adhesion inside the smoke chamber and prevent oil stains)

Test drawer: Dimension 448*157 (mm), maximum smoke detector diameter 130 mm, height 70 mm



Temperature sensor: NTC 10K

Recommended operating environment: Temperature -5-40℃, humidity 20-90% (non-condensing)

Power supply: AC220V, 16A

Compressed air input: 0.7 MPa

Communication: RS485-to-USB interface, MODBUS RTU or MODBUS TCP protocol

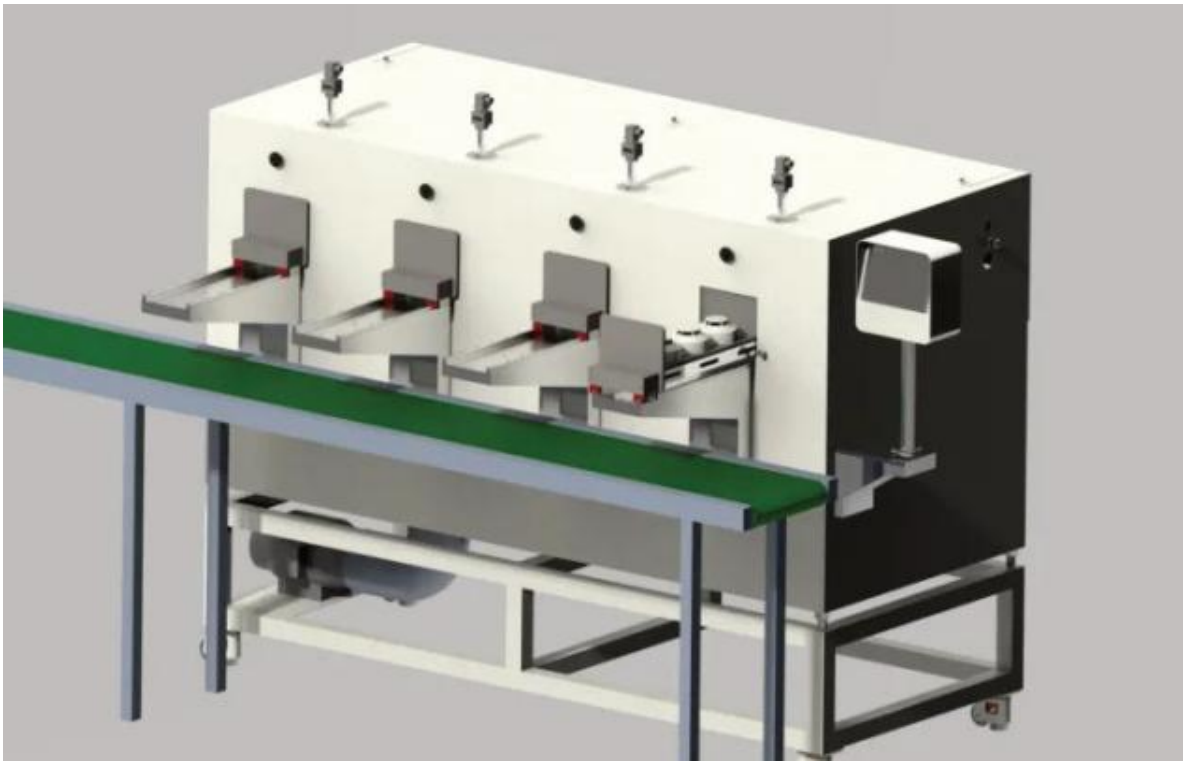
Air purifier filter element: Xiaomi PM2.5

Online calibration temperature chamber

Product features

Online calibration and testing for point-type smoke fire detectors and independent smoke fire detectors (hereinafter referred to as “thermal detectors”)

Compared with traditional annular chamber structures, thermal detector calibration provides better consistency and higher calibration efficiency.



Technical parameters

Air speed at loop outlet: 0~1.5 m/s (adjustable), air speed fluctuation < ±0.1 m/s

Operating temperature: 120℃ (maximum)

Continuous operating time: Long-term operation supported

Smoke concentration monitoring system: PLC and touch screen display real-time temperature curve and preset constant temperature target value.

Detection drawer: Dimension 448*157 (mm), maximum heat detector diameter 130 mm, height 70 mm

Temperature sensor: NTC 10K

Recommended operating environment: Temperature -5-40℃, humidity 20-90% (non-condensing)

Power supply: AC380V, 25A

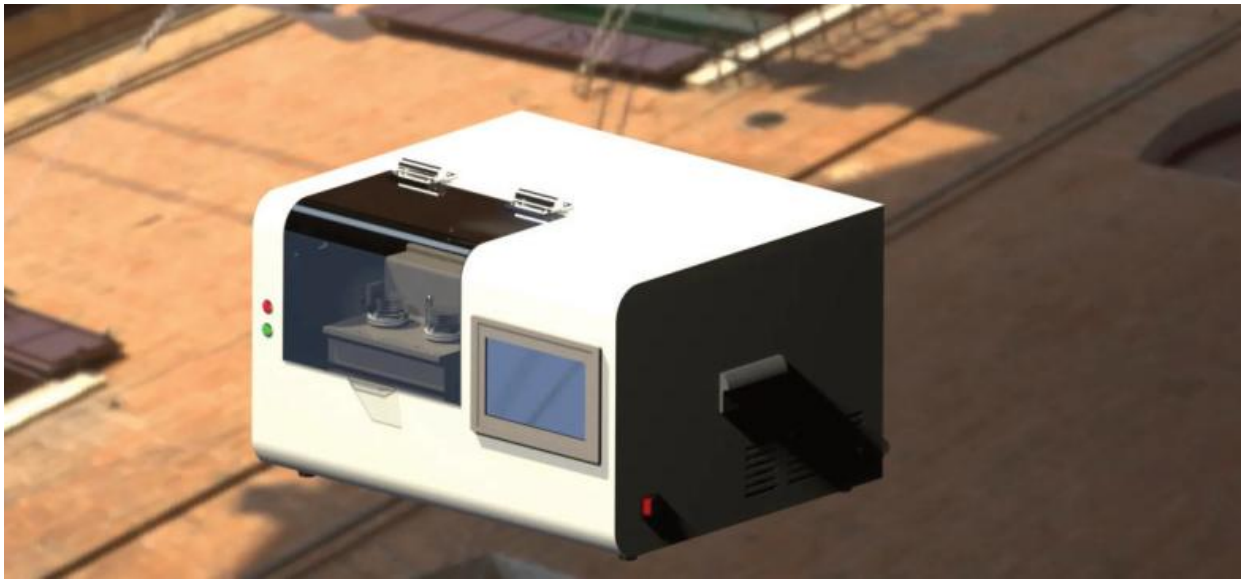
Compressed air input: 0.7 MPa

Communication: RS485-to-USB interface, MODBUS RTU or MODBUS TCP protocol

Temperature difference energy acquisition sensor calibration equipment

Product features

The temperature difference energy-harvesting sensor testing device is a kind of specialized equipment used to test thermoelectric sensors. By creating different temperatures at both ends of the sensor, the device measures the sensor's power generation performance under various temperature difference conditions.



Technical parameters

1. The testing device has two product testing positions. The hot end at each test position has independent temperature control, which can automatically perform heating and cooling, or maintain constant temperature according to the preset target temperature difference.

2. The hot end uses aerogel insulation materials, providing excellent heat resistance and flame retardation.

3. PTC heating plates are used, with copper heat-conducting blocks adopted for quick heat transfer and large thermal inertia, reducing temperature fluctuations when replacing detectors.

4. Temperature acquisition uses three K-type thermocouples, featuring high linearity and high sensitivity.

5. The controller uses an industrial-grade touch screen, and device operation is controlled by the program. It is equipped with 485 communication port and USB upgrade port for easy program update and external device communication.

6. Maximum hot end temperature: 200℃

7. Minimum cold end temperature: -10℃

8. Sensor hot end-cold end temperature difference range: 0~205℃

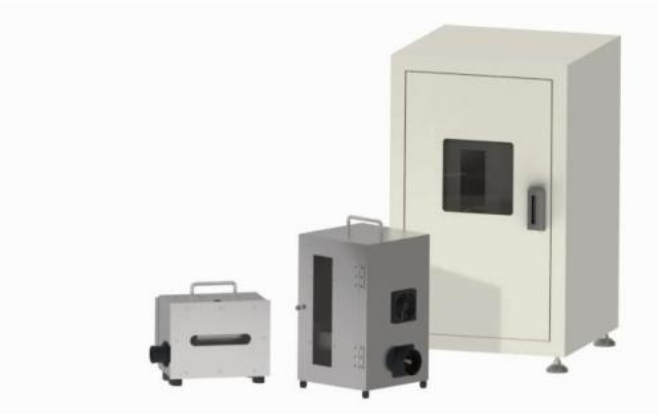
9. Temperature fluctuation in constant temperature mode: < ±0.4℃

10. Temperature sensor resolution: 0.1℃

11. Device weight: 10 kg

Multi-material smoke generator

Product features



Automatic cotton rope smoke generator

Automatic ignition, automatic feeding, automatic extinguishing, 3~6mm cotton rope smoldering smoke generator,

semi-automatic cotton rope smoke generator

manual ignition, automatic feeding, manual extinguishing, 3~10mm cotton rope smoldering smoke,

multi-material combustion smoke

generator, wood, cotton rope smoldering smoke (white smoke), n-heptane, polyurethane combustion smoke, black smoke

aerosol smoke generator

PA0O-4 oil and light paraffin oil are used as smoke agent. With cold smoke generation, aerosol particle size distribution is close to cotton rope smoldering smoke.

If you have any questions or need consulting services, please feel free to contact us.
Our contact information:

Company Name: Shenzhen Taike Anbang Technology Co., Ltd.
Address: Building 3E, Ruibang Industrial Building, Third Industrial Zone, Tangtou, Shiyan Street, Bao'an District, Shenzhen
Tel: 0755-23303642 13352808315
Website: http://www.taike.biz/

We sincerely hope that our products and services can bring greater value and contributions to the fire electronics industry.
Thank you for your reading and support, and we look forward to cooperating with you.