Labthink®

The Permeation Guide

KVALITEST INDUSTRIAL

OTR

3-Cell OTR TESTERS

C203H

C230H

C203H

- Equipped with ppb level coulometric cxygen sensor of Labthink.
- Super long service life, three times longer than traditional coulometric oxygen sensor.
- High precision instrument with automatic Humidity and flow-rate control.
- New drawer type test cell, one key automatic in-and-out with sound and light reminder.
- 12''Touch-screen tablet, with Windows™ 10 OS.

Test Range	0.02~200 cm³/(m²·day)
Resolution	0.01 cm³/(m²·day)
Repeatability	0.02 or 1% cm³/(m²·day)
Temperature (°C)	15 ~ 50 ±0.2
Humidity (RH)	0%, 10%~90% ±1%, 100%

- **Standards**

ASTM D3985, ASTM F1307, ASTM F1927, GB/T 19789, GB/T 31354, DIN 53380-3, JIS K7126-2-B, YBB 00082003-2015

Product Video   **Product Brochure**

C230H

- Patented integrated test block with advanced hydrodynamic and thermodynamic designs.
- High precision instrument with automatic humidity and flow-rate control.
- The internal temperature and humidity of the instrument are automatically adjusted with temperature and humidity sensors.
- Simplified operation by one button Mode.
- 12" Touch-Screen Tablet, with Windows" 10 OS.

Test Range	0.01~200 cm³/(m²·d)
Resolution	0.001 cm³/(m²·day)
Repeatability	0.01 or 2% cm³/(m²·day)
Temperature (°C)	10 ~ 55 ±0.2
Humidity (RH)	0%, 10%~90% ±1%, 100%

- **Standards**

ASTM D3985, ASTM F1307, ASTM F1927, GB/T 19789, GB/T 31354, DIN 53380-3, JIS K7126-2-B, YBB 00082003-2015

Product Video   **Product Brochure**

OTR

1-Cell OTR TESTERS
6-Cell OTR TESTERS

C201B

- Equipped with Labthink self-developed coulometric sensor conforming to ASTM D3985.
- Coulometric sensor requires no calibration.
- supports temperature control to satisfy tests under different conditions (optional).
- Built-in high-quality stainless steel test cell with better sealing performance.

Test Range	0.1~200 cm³/(m²·d)
Resolution	0.1 cm³/(m²·day)
Repeatability	0.01 or 2% cm³/(m²·day)
Temperature (°C)	15 ~ 50 ±0.2

- **Standards**

  ASTM D3985, ASTM F1307, ASTM F1927,
  GB/T 19789, GB/T 31354, DIN 53380-3,
  JIS K7126-2-B, YBB 00082003-2015

Product Video   Product Brochure

C206H

- Equipped with ppb level coulometric oxygen Sensor of Labthink.
- Super long service life, three times longer than traditional coulometric oxygen sensor.
- High precision instrument with automatic Humidity and Flow-Rate control.
- Six independent test cells with 50cm² testing area.
- 12''Touch-screen tablet, with Windows™ 10 OS.

Test Range	0.02~200 cm³/(m²·d)
Resolution	0.01 cm³/(m²·day)
Repeatability	0.02 or 1% cm³/(m²·day)
Temperature (°C)	15 ~ 50 ±0.2
Humidity (RH)	0%, 10%~90% ±1%, 100%

- **Standards**

  ASTM D3985, ASTM F1307, ASTM F1927,
  GB/T 19789, GB/T 31354, DIN 53380-3,
  JIS K7126-2-B, YBB 00082003-2015

Product Video   Product Brochure

WVTR

3-Cell WVTR TESTERS

C303H

C390H

C303H

- ◩ Equipped with Labthink patented Infrared moisture sensor which obtains significantly lower test limit.
- ◩ Designed according to ASTM F1249.
- ◩ Long service life, non-consumable sensor.
- ◩ Functions of over limit alarm and automatic protection.
- ◩ New drawer type test cell, one key automatic in-and-out with sound and light reminder.
- ◩ 12" Touch-screen tablet, with Windows-10 OS.

Test Range	0.02~40g/(m²·d)
Resolution	0.0001 g/(m²·day)
Repeatability	0.02 or 2% g/(m²·day)
Temperature (°C)	15 ~ 50 ±0.5
Humidity (RH)	5%~90% ±2%

◩ **Standards**

ASTM F1249, ISO 15106-2, GB/T 26253, JIS K7129, YBB00092003-2015

C390H

- ◩ New type infrared sensor for water vapor analysis with higher sensitivity. Designed according to ASTM F1249.
- ◩ Patented integrated test block with advanced hydrodynamic and thermodynamic design.
- ◩ Fast automatic testing process.
- ◩ Long service life, non-consumable sensor.
- ◩ 12"Touch-screen tablet, with Windows™ 10 OS.

Test Range	0.005~40g/(m²·d)
Resolution	0.0001 g/(m²·day)
Repeatability	0.005 or 2% g/(m²·day)
Temperature (°C)	15 ~ 50 ±0.5
Humidity (RH)	5%~90% ±1%, 100%

◩ **Standards**

ASTM F1249, ISO 15106-2, GB/T 26253, JIS K7129, YBB00092003-2015

Product Video   Product Brochure

Product Video   Product Brochure

WVTR

1-Cell WVTR TESTERS
6-Cell WVTR TESTERS

C301B

C306H

☑ Equipped with Labthink patented infrared sensor, conforming to ASTM F1249, non-consumable type with ultra-long service life.

☑ Temperature control feature to test under different conditions.

☑ Built-in high-quality stainless steel test cell with better sealing performance.

☑ Adopts single-chip microcomputer control and can run independently (micro-printer option).

Test Range	0.1~40g/(m²·d)
Resolution	0.1 g/(m²·day)
Repeatability	0.1 or 2% g/(m²·day)
Temperature (°C)	15 ~ 50 ±0.5
Humidity (RH)	4%~100% ±2%

☑ **Standards**

ASTM F1249, ISO 15106-2, GB/T 26253, JIS K7129, YBB00092003-2015

☑ Equipped with Labthink patented Infrared moisture sensor which obtains significantly lower test limit.

☑ Designed according to ASTM F1249.

☑ Long service life, non-consumable Sensor.

☑ Six independent test cells with 50cm² testing area.

☑ 12" Touch-screen tablet, with Windows™ 10 OS.

Test Range	0.02~40g/(m²·d)
Resolution	0.0001 g/(m²·day)
Repeatability	0.02 or 2% g/(m²·day)
Temperature (°C)	15 ~ 50 ±0.5
Humidity (RH)	5%~90% ±2%

☑ **Standards**

ASTM F1249, ISO 15106-2, GB/T 26253, JIS K7129, YBB00092003-2015

Product Video   **Product Brochure**

Product Video   **Product Brochure**

WVTR

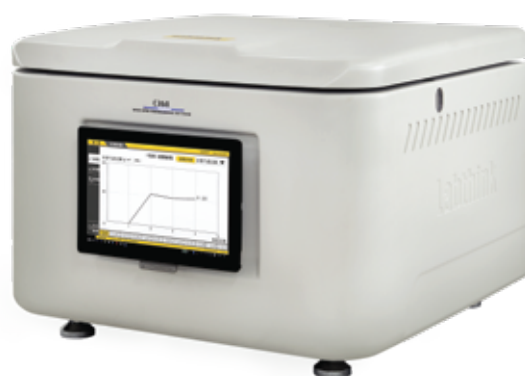## HIGH_EFFICENCY GRAVIMETRIC TESTERS
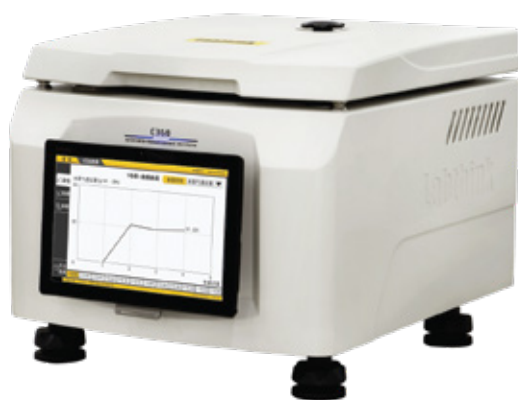
C360M

- 6-Cups high precision instrument with automatic humidity and Flow-Rate control.
- Simplified operation by one button Mode.
- Labor Saving operation.
- High-efficiency water vapor generator.
- 12" Touch-screen tablet, with Windows-10 OS.

Test Range	
Water Method	0,01—10.000g/(m²·day)
Desiccant Method	0,01 g—1.200g/(m²·day)per pc.
Test Temperature (°C)	20 ~ 55 ±0.2
Test Humidity (RH)	10%~ 90% ±1%

Standards

ASTM E96, ASTM D1653, ISO 2528, TAPPI T464, DIN 53122-1, GB/T 1037, GB/T 16928, YBB 00092003-2015

Product Video   **Product Brochure**

C360H

- 12-Cups high precision instrument with automatic humidity and flow-rate control.
- Simplified Operation by one button Mode.
- Labor Saving operation.
- High-efficiency water vapor generator.
- 12" Touch-screen tablet, with Windows™ 10 OS.

Test Range	
Water Method	0,01—10.000/n(1-6)g/(m²·day)
Desiccant Method	0,01 g—1.200g/(m²·day)per pc.
Test Temperature (°C)	20 ~ 55 ±0.2
Test Humidity (RH)	10%~ 90% ±1%

Standards

ASTM E96, ASTM D1653, ISO 2528, TAPPI T464, DIN 53122-1, GB/T 1037, GB/T 16928, YBB 00092003-2015

Product Video   **Product Brochure**

WVTR

INVERTED CUPS TESTER
ELECTROLYTIC TESTERS

W3-031

- ◪ 3-Cups high precision instrument with automatic humidity and flow-rate control.
- ◪ Inverted cups Testing Method, Water & Desiccant Testing method.
- ◪ Wide range of automatic temperature and humidity control to support various combinations of non-standard test conditions.

Test Range	0,1—10.000g/(m²·day)
Test Accuracy	0,01 g/(m²·day)
Test Temperature (°C)	15 ~ 55 ±0.1
Test Humidity (RH)	10%~ 98% ±1%

◪ **Standards**

ASTM E96, ASTM D1653, ISO 2528, TAPPI T464, DIN 53122-1, GB/T 1037, GB/T 16928, YBB 00092003-2015

Product Video   Product Brochure

C330H

- ◪ New electrolytic sensor for higher sensitivity.
- ◪ Test block with advanced hydrodynamic and thermodynamic design.
- ◪ Temperature and humidity sensor for independent monitoring of test cells.
- ◪ 12" Touch-screen pad powered by Windows™ 10 OS.

Test Range	0.00005~5g/(m²·d)
Resolution	0.00001 g/(m²·day)
Repeatability	0.00005 or 2% g/(m²·day)
Temperature (°C)	10 ~ 55 ±0.2
Humidity (RH)	0%,10%~90% ±1%, 100%

◪ **Standards**

ISO 15106-3, ASTM F3299, GB/T 21529, YBB00092003-2015

Product Video   Product Brochure

GTR

3-Cell WVTR TESTERS

C130H

VAC-V2

C130H

- High precision vacuum sensor for tests of ultra-high barrier materials with high accuracy and repeatability.
- High precision vacuum pump to generate vacuum up to 0.2Pa.
- Functions of over limit alarm and automatic protection.
- New drawer type test cell, one key automatic in-and-out with sound and light reminder.
- 12" Touch-Screen Tablet, with Windows-10 opsys.

Test Range	0.01~50,000 cm³/(m²·d)
Vacuum Resolution	0.01 Pa
Repeatability	0.01 or 2% cm³/(m²·d)
Temperature (°C)	15 ~ 50 ±0.05
Pressure	10.0KPa~210.0KPa

Standards

ISO 2556, ISO 15105-1, GB/T 1038-2000,
ASTM D1434, JIS K7126-1, YBB 00082003

VAC-V2

- High precision vacuum sensor for tests of ultra-high barrier materials with high accuracy and repeatability.
- Instrument is appropriate to test poisonous, inflammable, and explosive gases (customization required).
- For the determination of gas transmission rate (GTR),solubility coefficient, diffusion coefficient and permea-bility coefficient, in one, single operation.
- The instrument comes with two test modes: proportional mode and standard mode.

Test Range	0.05~50,000 cm³/(m²·d)
Vacuum Resolution	0.1Pa
Repeatability	0.01 or 2% cm³/(m²·d)
Temperature (°C)	5 ~ 95 ±0.1
RH	0%,2% ~ 98.5%, 100%

Standards

ISO 2556, ISO 15105-1, GB/T 1038-2000,
ASTM D1434, JIS K7126-1, YBB 00082003

Product Video   Product Brochure   Product Video   Product Brochure

GTR

1-Cell WVTR TESTERS
6-Cell WVTR TESTERS

C101B

C106H

- High precision vacuum sensor for tests of ultra-high barrier materials with high accuracy and repeatability.
- Instrument is appropriate to test poisonous, inflammable, and explosive gases (customization required).
- For the determination of gas transmission rate (GTR), solubility coefficient, diffusion coefficient and permeability coefficient, in one, single operation.
- The instrument comes with two test modes: proportional mode and standard mode.

Test Range	0.1~5,000 cm³/(m²·d)
Vacuum Resolution	1.0Pa
Repeatability	0.01 or 2% cm³/(m²·d)
Temperature (°C)	15 ~ 50 ±0.05

- Standards

ISO 2556, ISO 15105-1, GB/T 1038-2000,
ASTM D1434, JIS K7126-1, YBB 00082003

- Six independent test cells with 50cm'testing area.
- High precision vacuum sensor for tests of ultra-high barrier materials with high accuracy and repeatability.
- High precision vacuum pump to generate vacuum up to 0.2Pa.
- 12" Touch-Screen Tablet, with Windows-10 opsys.
- Test of hazardous gases such as H₂, CH₄(customization required).

Test Range	0.01~50,000 cm³/(m²·d)
Vacuum Resolution	0.01 Pa
Repeatability	0.01 or 2% cm³/(m²·d)
Temperature (°C)	15 ~ 50 ±0.15
RH	0%, 5~90% ±2%

- Standards

ISO 2556, ISO 15105-1, GB/T 1038-2000,
ASTM D1434, JIS K7126-1, YBB 00082003

Product Video   Product Brochure   Product Video   Product Brochure

Labthink Technology

Labthink Permeation Sensors

Coulometric Sensor

- ◩ Equipped with Labthink latest technology ppb-level coulometric sensor featuring a wider test range.
- ◩ Designed conforming to ASTM D3985, intrinsic standard and no calibration is required.

Infrared sensor

- ◩ Equipped with Labthink patented infrared sensor, featuring a wider test range.
- ◩ Designed conforming to ASTM F1249.
- ◩ Ultra-long service life, non-consumable type.
- ◩ Embedded with over-range warning and automatic protection function.

Vacuum Sensor

- ◩ High-precision vacuum sensor can accurately test high barrier materials with $0.01{\sim}0.09cm^3/m^3{\cdot}24h{\cdot}0.1MPa$ test range.
- ◩ The vacuum pump can reach 0.2Pa extreme pressure with increased vacuum rate.
- ◩ The pneumatic control system has a low failure rate and an ultra-long service life, ensuring good overall system air tightness and high test accuracy.
- ◩ The vacuum pump is controlled automatically by the system without manual opening and closing for increased efficiency.

Electrolytic Sensor

- ◩ Labthink's proprietary electrolytic sensor for water vapor analysis, has Lexcellent precision, repeatability Tend service life.
- ◩ As a coulometric electrolytic sensor, its signal follows the Faraday principle and has a very high sensitivity.

Labthink Technology

Superior Design - High Efficiency

Superior Design

- ◪ Brand new design of test-chamber and 360° air circulation constant temperature technology ensures better temperature stability.

- ◪ The test chamber is equipped with a high-precision humidity sensor to monitor and record humidity changes in real time.

- ◪ The control of velocity, temperature and relative humidity is automated to realize higher accuracy.

High Efficiency

- ◪ Six, three or single independent test cells with a standard area of 50cm², to serve any laboratory needs:

- ◪ Up to Six specimens can be tested simultaneously under the same testing condition, delivering independent test results.

- ◪ Automatic specimen clamping saves time and effort for C130H,C106H,C203H, C206H &C303H. The clamping force is consistent, resulting in better air tightness.

Intelligent control

- ◪ 12" touch-screen tablet powered by Windows™ 10 operating system makes testing function simple and convenient.

- ◪ Automatictest mode requires only inputting temperature and humidity, one click startup, the test is fully automated.

- ◪ Intelligent test chamber hood automatically opens and closes with sound and light alert.

Safe and reliable

- ◪ System security-Labthink's unique built-in high-end industrial computer prevents system failures caused by computer viruses, ensures operational reliability and data storage security.

- ◪ Operation safety-Equipped with various intelligent sensors which give sound and light alerts to ensure safe operation.

Performance reliability

- ◪ The instruments adopts components of global renowned brands, to ensure stable and reliable performance.
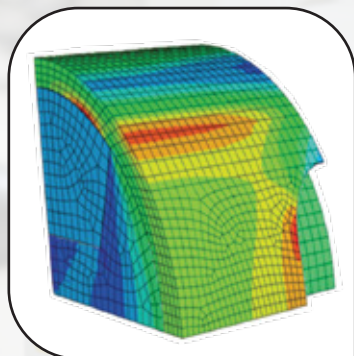
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