

i-Hydro 7400 Water Vapor Transmission Rate Tester

- ❖ Online Data Management System for Packaging Testing - The ultimate cloud computing technology for test data processing and management
- ❖ Designed with embedded computer control system and intelligent operating software
- ❖ Can be used for films, sheets, paper, foils, solar back-sheets, and many other materials
- ❖ Conforms to ASTM, ISO, JIS, and other international standards



Online data management system for packaging testing

Comes with two versions to meet distinct needs of our clients:

The Cloud Version

- Consist of 6 functional modules: Test Management, Target Management, Instrument Management, File Management, Settings, and Online Support
- Cloud services: storage, calculation, and analysis of mass test data
- Automatically upload original test data to the cloud server to guarantee data security
- Intelligent statistical analysis of test results
- Easily accessible through the internet on PCs, laptops, mobile phones, and other devices anywhere and anytime, to check and review real time test results and historical test reports, as well as analytical graphs and statistical information

The Intranet Version

- Featured with storage space for vast data, correlation analysis, trend analysis, and statistical analysis of test data, as well as report printing and data export functions
- Easily accessible via computers through Intranets
- “One Click Upgrade” to the powerful “Cloud Version”

Functionality

- Based on dynamic relative humidity method (ASTM E398) and strictly conforms to testing standards
- Three independent test cells for testing three pieces of identical or distinct samples in each test
- Automatic and bidirectional temperature control, and constant humidity to support various non-standard test conditions
- Equipped with fast-access calibration port for convenient operation
- Reference film for fast and accurate calibration

Design

- Patented design of three integrated test cells improves the test efficiency and reduces the space occupancy of the instrument
- Embedded computer control system provides safer and more reliable data management as well as test operation
- The instrument can be easily operated with a mouse, a keyboard, and a monitor, without requiring a PC.
- The instrument is equipped with four USB ports and dual Internet ports for convenient data transmission.
- Sophisticated energy consumption and test environment monitoring and analysis functions for better test accuracy and reliability. (Relevant sensors are needed. For more information, please refer to the configuration in Technical Specifications.)
- Universal power input for easy access

Software

- **Interface:** Windows-based operating interface
- **Statistics:** easy calculation for historical results, instrument usage, energy consumption, and large statistical information
- **Data Comparison:** by presetting target value and range, the system automatically generates data comparison after each test and intelligently judges whether the specimen passes or fails the test
- **Test Report:** can provide detailed test reports in various customized patterns
- **Energy Consumption and Test Status Monitoring (Additional Sensors Required):** the system monitors and displays real-time voltage, current, energy consumption of instrument as well as ambient temperature and relative humidity during the test, which serves to evaluate test data reliability
- **User Management:** multi-level account management for better data management and protection
- **Operation Log:** system automatically records all the operations by the user, which is easy to review

Test Principle

- ❖ Clamp the specimen in between the dry and humid constant-temperature chambers, the sensor in the testing cell detects the humidity change and traces the time spent from the preset upper limit data to the preset lower limit data. With constant and repeated measurement as well as systematic analysis, water vapor transmission rate and water vapor permeability coefficient can be obtained.

- ❖ This instrument conforms to the following standards:
ASTM E398, ISO 15106-1, TAPPI T523, JIS K7129

Applications

This instrument can be used to measure water vapor transmission rate of:

Basic Applications	Films	Including plastic films, plastic composite films, paper-plastic composite films, coextruded films, aluminized films, aluminum foils, aluminum composite films, and many others
	Sheeting	Including engineering plastics, rubber, and building materials, e.g. PP, PVC, PVDC, and nylon
	Paper and Paper Board	Including paper and paper board
	Textiles and Nonwovens	Including textiles and non-woven materials
	Aseptic Wound Protection Films and Face Masks	Including aseptic wound protection films, and face masks
Extended Applications	Solar Back-sheets	Including solar back-sheets
	LCD Monitor Films	Including LCD monitor films

Technical Specifications

Test Specs	Test Range	0.05 ~ 1000 g/m ² ·24h
	Resolution	0.01 g/m ² ·24h
	Test Temperature	15 °C ~ 55 °C (room temperature 23 °C)
	Accuracy	±0.1 °C
	Test Humidity	0~100% RH
	Test Area	50 cm ²
	Number of Specimens	3 pieces (with independent test results)
	Specimen Thickness	≤3 mm
	Specimen Size	108 x 108 mm
		Gas Supply
Environment Monitoring Specs (Optional)	Voltage Monitoring Range	AC 0 ~ 250 V, with ±0.5% accuracy
	Current Monitoring Range	0 ~ 15 A, with ±0.5% accuracy
	Energy Analysis Accuracy	±0.5%
	Environmental Temperature Monitoring Range	-10 °C ~ 55 °C, with ±0.1 °C accuracy
	Environmental Humidity Monitoring Range	0 ~ 100% RH, with ±2% RH accuracy
Other Specs	Port Size	Φ6 mm PU Tubing
	Power Supply	AC (85~264) V (47 ~ 63) Hz
	Instrument Dimension	690 mm (L) x 350 mm (W) x 360 mm (H)
	Net Weight	55 kg
Configurations	Standard	Mainframe (including Wireless Data Interface), Professional

	Software, LCD Monitor, Keyboard, Mouse, Vacuum Grease, Square Sampling Template, Valve Set
Optional	Environment Monitoring Sensors (including voltage, current, temperature, and humidity sensors), Reference Films, Vacuum Grease, Sample Cutter, Printer (compatible with PCL3)
Online Data Management System for Packaging Testing	Wireless Data Transfer Module, High Gain Antenna

Note: 1. The gas supply port of the instrument is $\Phi 6$ mm PU Tubing;
2. Customers will need to provide gas supply and distilled water;
3. The given temperature and humidity control ranges are independently valid.

Please Note:

- ❖ Pictures used are for illustration purposes only and may differ from the actual product received.
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