



KAYE

SUBSIDIARY OF AMPHENOL

Thermal Validation
Environmental Monitoring
Cold Chain

COMPANY BROCHURE

About Kaye

For more than 60 years, Kaye has been the leader in providing high-accuracy validation and measurement systems to the life sciences industry. For applications from thermal process validation and environmental monitoring to sensor calibration, Kaye technology has provided the most accurate, reliable, and user-friendly measuring systems available in the market today.

The systems are custom designed to meet the specific needs and regulatory requirements (21 CFR Part 11, Data Integrity, etc.) for validation and continuous monitoring.

Kaye equipment has become the standard for helping customers increase validation process efficiency and document the results. The Kaye product range is designed to meet the most demanding requirements for process improvement, thermal validation and reporting. Specializing in providing turnkey system solutions and supporting them with unmatched technical service, we offer a complete range of wired systems, wireless systems, RF-based real-time systems, temperature standards, baths, thermocouples and fittings, all designed to provide the most accurate process measurement available.

Founded **1959**

part of Amphenol since **2013**

170+ global employees

6 global operations

About Amphenol

Amphenol is one of the largest manufacturers of interconnect products in the world. The Company designs, manufactures and markets electrical, electronic and fiber optic connectors, coaxial and flat-ribbon cable, and interconnect systems. The primary end markets for the Company's products are communications and information processing markets, including cable television, cellular telephone and data communication and information processing systems; aerospace and military electronics; and automotive, rail and other transportation and industrial applications.

Founded **1932**

95.000+ global employees

About Amphenol Advanced Sensors

Amphenol Advanced Sensors is a leading innovator in advanced sensing technologies and innovative embedded measurement solutions customized for regulatory and industry driven applications, creating value by providing critical information for real-time decisions. Covering sensors technologies for pressure, temperature, level, speed, position, gas & air quality, moisture, vibration, concentration and ultrasonic. Serving transportation, medical, industrial and pharmaceutical applications.

Founded **2013**

7.000+ global employees

Kaye Products

VALIDATOR® AVS Wired Thermal Validation System

The Kaye Validator AVS (Advanced Validation System) is a state-of-the-art validation system designed to meet current regulatory requirements for Thermal Validation and Data Integrity.

The Validator AVS combines high accuracy measurements, automated sensor calibration, intuitive metro style user interface, and extensive reporting to simplify the complete validation process.

The Validator AVS is the successor of the widely recognized Kaye Validator 2000, the accepted standard in wired validations systems for over 20 years.

Features and Benefits

- Hardened, dedicated validation console
- Asset centric data management concept
- Intuitive metro-style user interface
- Portable validation console – pre-loaded software
- Dedicated to validation tasks
- Simplified compliance and easy validation
- Data Integrity and 21 CFR Part 11 compliant
- Direct connection via docking mechanism/ Wi-Fi and Ethernet
- Console can be used to interface with multiple AVS units
- Stand-alone operation
- Reliable data safety by smart redundancy concept
- Battery backup 3 hours
- Enhanced connectivity
- Increased scan speed



VALPROBE® RT Real Time Data Logger System

Kaye ValProbe RT (Real-Time) is a wire-free real-time process validation and monitoring system designed around the measurement and reporting requirements of the most intensely regulated industries.

It is a state-of-the-art validation system design that meets industry and regulatory (FDA/GAMP) requirements for thermal validation. The ValProbe RT system combines high accuracy measurements,

automated sensor verification, an intuitive metro style user interface, and extensive reporting to simplify the complete validation process.

Kaye ValProbe RT is the successor of the widely recognized Kaye ValProbe, the accepted standard in wireless validations systems for over 15 years. The ValProbe RT family of data loggers provide accurate, convenient, and reliable process measurement for a wide range of pharmaceutical and medical device applications. The wireless design greatly simplifies monitoring and validation of severe and hard-to-reach environments.



RF VALPROBE® II High Accuracy Measurement of Temperature and Humidity

The Kaye RF ValProbe II integrates breakthrough RF Mesh technology with enhanced technology thermal validation in situ loggers. The Kaye RF ValProbe II loggers operating range of -40°C to $+60^{\circ}\text{C}$ and temperature sensor range of -200°C to $+200^{\circ}\text{C}$ make them ideal for real-time RF validation and monitoring of environmental chambers, warehouses, freezers, refrigerators and steam-in-place (SIP) applications.

The RF ValProbe II system utilizes a 2.4 GHz RF Mesh network and redundant data storage to provide ultra-reliable and robust communications and storage of critical data. Additional safeguards guarantee data integrity, storage and compliance with regulatory requirements.

The RF ValProbe II system is comprised of RF wireless loggers, a base station and software. The loggers provide high accuracy measurement of temperature, humidity, and any 4 to 20mA or 0 to 10V output.



IRTD-400 High-Accuracy Traceable Temperature Standard

The Kaye IRTD is a high accuracy traceable temperature standard used with Kaye Validation systems while calibrating sensors. The broad temperature range from -196°C to 420°C , with an accuracy of $\pm 0.025^{\circ}\text{C}$, enables it to be used for accurate, precise calibration of your validation thermocouples or loggers. The IRTD is an integral part of Kaye's automated sensor calibration system and communicates directly with all Kaye Validation systems. With the Kaye calibration interface box and IRTD Win Console software, it can also be used as a stand-alone, high-end temperature reference system.

Features and Benefits

- Temperature Range -196°C to 420°C
- Accuracy $\pm 0.025^{\circ}\text{C}$ /Resolution 0.001°C
- NVLAB/DAkkS calibration certificate



DRY BLOCK CALIBRATORS

LTR-150, HTR-420, LTR-90

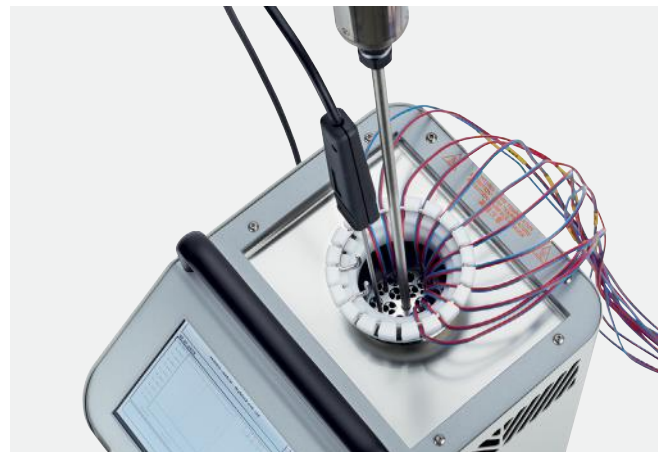
Kaye has a full line of calibrators that can fit nearly any application in the pharmaceutical or biotech industry. Our dry block calibrators, liquid baths, and IRTD temperature standards give the most precise accuracy on the market, guaranteeing that you can rely on Kaye's trusted instruments. Kaye validation systems also offer software which directly communicates to the liquid bath calibrators and dry block calibrators, as well as the IRTD, offering completely automated calibration process. This eliminates human interaction and provides accurate and repeatable calibration of your validation sensors. Simple and easy-to-use menus allow the user to specify calibration setpoints, stability and deviation criteria. Concise and detailed reports are then available to document the calibration process.

The advanced systems, like the LTR-150 and HTR-420 dry block calibrators, can perform automatic

sensor calibration or be used stand-alone via their easy-to-use touchscreen display. Kaye's line of dry block calibrators have a wide range of temperatures, from the ultra-cool LTR-90 to the high temperature HTR-420 model. This allows metrology laboratories and validation professionals to choose from an entire fleet of dry block calibrators when looking for the right solutions for their facilities.

The Kaye LTR-150 isn't just a dry block calibrator, but rather is an all-in-one, multi-purpose calibrator that can also work as a liquid calibrator and surface temperature calibrator. The multi-purpose temperature calibrator is also ideal for calibrating RTD's as well as a range of other process sensors. This makes it ideal for the calibration lab as well as for your validation needs.

The HTR-420 is the most advanced high temperature calibrator designed specifically for thermal validation. Our drywells calibrate up to 48 thermocouples at one time, saving hours of time during a validation.



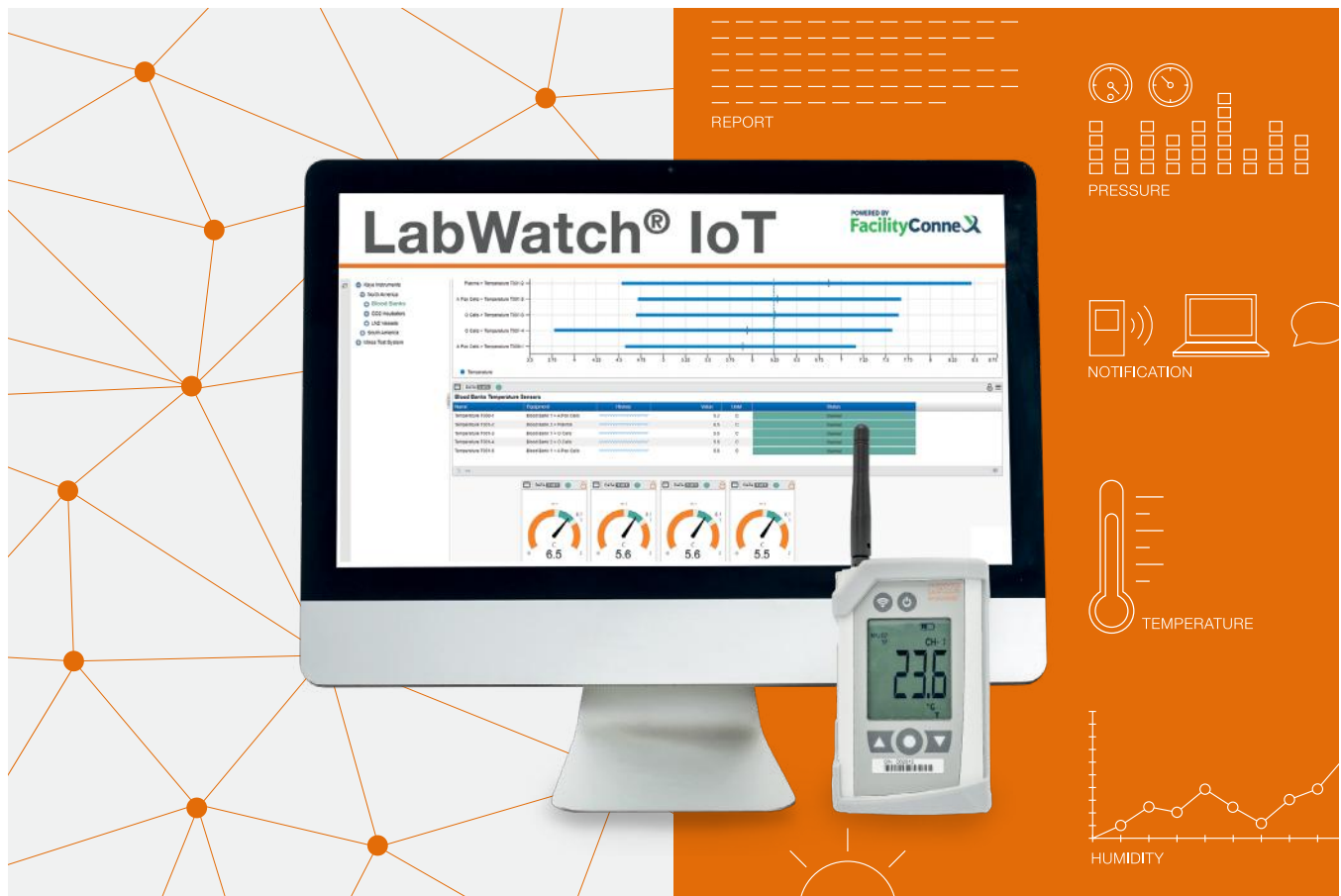
LABWATCH® IOT Centralized Monitoring, Alarming, and Reporting System

The LabWatch IoT is a cloud-based continuous monitoring and alarming system designed to ensure that your critical products are maintained within a defined tolerance. Know the status of your products 24 hours a day, 7 days a week. LabWatch IoT brings smart asset monitoring, advanced predictive intelligence, intelligent alarming/notification, reporting, and secure and reliable data storage through a hosted cloud environment.

Without expensive servers, or running IT costs, LabWatch IoT takes away the headache of implementing operating system software patches, data backups and installation of local monitoring software. Add to the point that all access to the LabWatch IoT can be performed through any standard web browser, on any platform – either

desktop or mobile, you will find that the new LabWatch IoT monitoring system works for you. Integrating high quality sensors, latest wireless and wired technologies for communication, redundancy and networking abilities into an easy-to-use Data Management Solution. LabWatch IoT combines precision monitoring with effective alarming, flexible web-based reporting and secure data archiving using AWS cloud management.

LabWatch IoT detects system excursions and can alarm personnel wherever they are, using email/SMS, web message boards on mobile based platforms. It documents all critical parameters of your facilities and processes without needing to generate stacks of paper. The cloud-based system creates a secure audit trail of events and alarms, actions taken by relevant personnel and provides ready access to the historical data. All user interactions are logged using electronic signatures, with the ability to have either sign only, or sign and verify confirmation on every validated entry.



Kaye Service Solutions

OFFERING VALUE-ADDED SERVICES THAT ENHANCE YOUR PRODUCTIVITY

As a professional who works in validation, quality control/quality assurance, you understand how important risk assessment is. Every day you work to ensure that your products are functioning properly, and you rely on Kaye equipment to assist you in those efforts. So why trust anyone else to provide you with service on those products?

Working directly with the manufacturer guarantees that maintenance, repair, and calibrations of your products are being done properly and upgraded with the latest enhancements and always in compliance with current

regulatory guidelines. We take great pride in our line of equipment and are extremely meticulous about how each individual product is built and serviced. When you work straight with the manufacturer, you're getting the highest trained expert knowledge on Kaye products.

From our calibration technicians and field service engineers, to our account managers and customer care representatives, each person at Kaye is trained on the products, culture, and expectations of our customers to ensure we continue to deliver the quality, reliability and support customers have continued to associate with the name "Kaye".





ISO ACCREDITATION

Kaye's Germany, China, and US laboratories hold DIN ISO 17025:2018 Accreditation, a prestigious distinction that indicates our labs demonstrate the highest standards and competency in generating valid results across the entire Kaye product line. This guarantees you receive the high-quality standard of accuracy in temperature, pressure, and humidity calibration.

SERVICE AGREEMENTS

Kaye offers a range of various Service Agreements to meet your critical calibration and maintenance needs. Our Maintenance Agreement programs go beyond normal calibration procedures offered by other third-party calibration houses and offer additional value, such as extended warranty coverage. The Service Agreements can be customized to meet your specific needs in regards to products, calibration/maintenance intervals, and period of coverage.

Please contact a Kaye representative for more information on specific services available in your area.

Key Benefits

- High accuracy laboratory accreditation according to ISO/IEC 17025
- Customized plan offers annual or semi-annual calibrations with on-site or factory services
- Factory-trained and certified technicians perform all calibrations and repairs
- Ability to lock in pricing on long term contracts (up to 3 years)
- Simplified RMA process and delivery prioritization

Kaye Rental Solutions

Kaye offers and maintains a large fleet of rental validation equipment to meet your peak rental needs. We've designed our rental programs to be flexible and customizable. Whether you need one data logger or an entire validation system, we've got you covered.

We provide customizable and affordable options, including:

- Monthly and weekly rental options
- No upfront deposit or minimum commitment/contract
- Rentals invoiced monthly and can be shortened or extended easily
- Large rental fleet gives customers options to serve their needs quickly
- Backed by expertise and service only the manufacturer can provide
- Products are maintained with latest software/firmware versions
- Global company with ability to serve customers anywhere
- When rental is completed, each system is verified at factory and customer receives "As Found" report
- Systems are reset and data cleaned to ensure customer data integrity and privacy is maintained
- Customizable solutions with flexible, cost-effective contract terms
- Option to have Validator AVS and ValProbe RT systems qualified and prepared with IQ/OQ supporting documents

Contact your local account manager to find out why customers have put their trust in Kaye for their critical validation and monitoring needs.



Validator AVS

IRTD

ValProbe RT

V2K

Visit our website:

Kaye representative contact:

Request a demo:

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Warranty and disclaimer: The information mentioned on documents are based on our current tests, knowledge and experience. Because of the effect of possible influences in an application of the product, they do not exempt the user from their own tests, checks and trials. A guarantee of certain properties or a guarantee for the proper suitability of the product for a specific, especially permanent application can not be derived from our data. Liability is therefore excluded to that extent permitted by law. Any proprietary rights of third parties as well as existing laws and regulations must be observed by the recipient of the product on his own responsibility.

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