DWYEROMEGA™

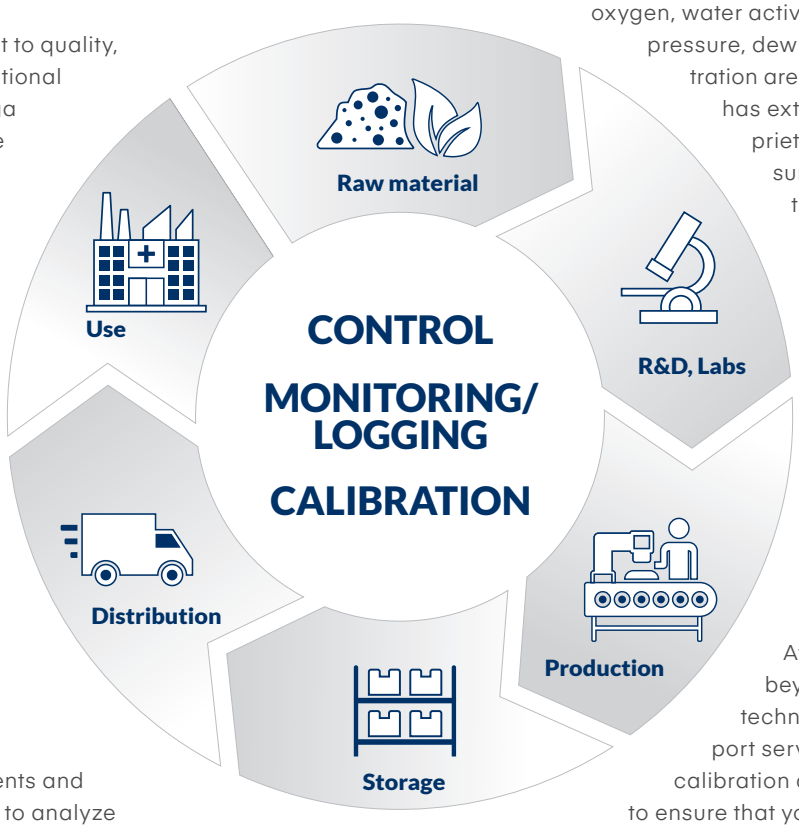
Advanced Instrumentation for Pharma, Cosmetic and Healthcare Industry

Customized tailored measurement solutions for every product lifecycle step – regulatory compliance guaranteed

Precision Solutions for Pharmaceutical and Cosmeceutical Excellence

In the dynamic and demanding landscape of pharmaceutical and cosmeceutical industries, precision is not just a preference; it's a necessity. At DwyerOmega, we recognize this imperative, which is why we are proud to present our advanced instrumentation solutions tailored specifically for these industries.

With a firm commitment to quality, compliance, and operational efficiency, DwyerOmega offers a comprehensive range of measurement solutions designed to seamlessly integrate into your processes and building management systems. Our expertise extends to providing complete environmental monitoring solutions and services, developed closely with leading pharmaceutical businesses to meet the stringent requirements of the pharmaceutical sector.



Our advanced instruments and solutions empower you to analyze and control your manufacturing processes with unparalleled accuracy. Through measurements at different stages, from raw materials to final product, logistics and storage, our instrumentation provides crucial insights into critical quality and safety attributes. Whether it's in-line, on-line, at-line, or off-line monitoring, DwyerOmega ensures that you have the information you need to uphold the highest standards of product quality.

Key parameters such as relative humidity, moisture, oxygen, water activity, temperature, differential pressure, dew point, flow and CO_2 concentration are all parameters DwyerOmega has extensive experience and proprietary technologies for measuring. Our instruments ensure these key parameters are monitored and controlled to guarantee first-class product quality and compliance. In cleanroom environments crucial for production processes, our instrumentation enables precise control of ambient air conditions, including humidity, temperature, and airborne particle levels.

At DwyerOmega, we go beyond providing cutting-edge technology; we offer expert support services, including ISO 17025 calibration and system qualification, to ensure that your operations consistently meet regulatory standards. Our goal is to not only safeguard product integrity but also to optimize operational efficiency, driving success in the competitive pharmaceutical and cosmeceutical industries.

Explore our range of instrumentation and solutions and discover how DwyerOmega can elevate your manufacturing processes to the next level of excellence. With our commitment to innovation and customer satisfaction, we stand ready to be your trusted partner in achieving your goals.

Featured DwyerOmega Brands

MICHELL Instruments

rotronic MEASUREMENT SOLUTIONS

NTRON Gas Measurement

Analytical Industries Inc

Sensoscientific

Humidity and Temperature Measurement

Maintaining the required humidity and temperature in the different stages of the production is key to ensure the safety and potency of the product. Therefore, measuring humidity and temperature in production, storage and while transporting goods is compulsory and highly regulated.

Industrial Humidity Probe – Rotronic HygroClip2 advanced HC2A-IC/IM

Wide range of highly accurate probes measuring humidity and temperature.
For demanding environments and applications.

- Wide temperature ranges from -100...200 °C
- High accuracy ±0.5...±0.8 %rh and excellent long-term stability <1 %rh/year
- Compatible with HF5, HF8, PF4/5, HP32

Robust for demanding applications

Digital Temperature Probe – Rotronic RMS-TCD-S-001

Designed for all temperature monitoring and control applications where accuracy and interchangeability are crucial.

- Hot swap possibility, ensuring little to no downtime
- Wide temperature range from -200...200 °C
- Compatible with RMS data loggers, RMS software and HF5A transmitter

2m cable for flexibility during calibration

Advanced Humidity and Temperature Transmitter – Rotronic HF5A

The HF5A-transmitter series are compatible with HygroClip2 and HygroClip2 advanced and RMS probes.

- Range of application electronics -40...70 °C / 0...100 %rh
- Freely programmable and scalable analog outputs via NFC-Interface
- Current output monitoring in accordance with NAMUR NE43, ensuring reliable fault detection and operation

With nearfield (NFC) technology

Handheld Humidity Meters – Rotronic HygroPalm HP32

Handheld device compatible with all HC2A and HC2 Rotronic probes, for spot measurements and logging over longer periods of time.

- Measures relative humidity, temperature and psychrometric parameters
- Graphical display for graphs and up to 4 values
- 64,000 data points memory for time programmable interval logging

Versatile and handy

Data Logger – Rotronic HygroLog HL-1D

The HL-1D is a compact, low cost data logger capable of ±3.0 %rh and ±3 °C accuracy.

- 3 types available to cover hPa, °Cdp, %rh, °C
- Programmable start and stop time with free HygroSoft software
- Compact design with a high IP protection

Compact and inexpensive

Cold-Chain Temperature Logger – Rotronic TL-CC1

Single use logger for monitoring and recording the temperature of sensitive goods during transportation and at exchange points.

- Conforms to GDP, EN 12830 and FDA 21 CFR Part 11 / GAMP 5 requirements
- Automatic PDF report generation, clear alarm identification and manipulation-proof

Quick and easy to use

Differential Pressure Measurements

Differential pressure is measured and monitored where even minor differences in pressure can have a big effect. The fields of use therefore range from cleanrooms, operating theatres and laboratories to applications in research, technology and the heating, ventilation and air-conditioning (HVAC) processes.

Differential Pressure Transmitter – Rotronic PF4/5

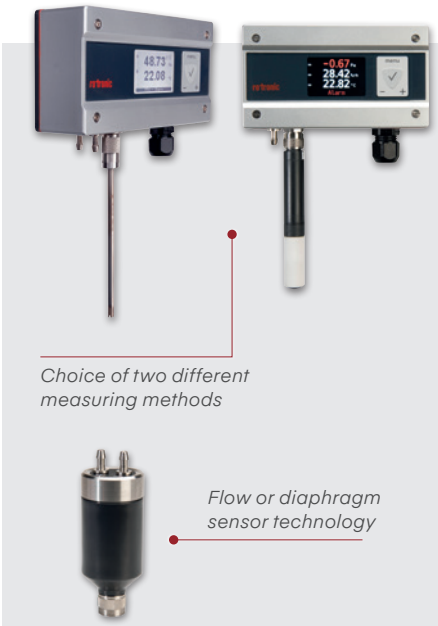
The differential pressure transmitters PF4 and PF5 with two different sensor technologies (PF4: thermal measuring method, PF5: diaphragm sensor) consistently produce perfect measurement results thanks to an integrated ambient pressure sensor.

- Measures up to 3 parameters beside differential pressure it can measure humidity and temperature
- 1–3 analog outputs, 1 analog input
- Network-compatible (Ethernet)

Differential Pressure Probe – Rotronic RMS PCD-S

Ideal probe for clean rooms, operating theaters and applications where even minor differences in pressure can have a big effect.

- Compatible with RMS data loggers, RMS software and HF5A transmitter
- High-precision measurement and long-term stability
- With ambient pressure compensation and large overload range



CO_2 Measurement

CO_2 Measurement is critical for certain applications such as incubators and for safety when using dry ice. However, CO_2 is also an important parameter to ensure indoor air quality (for human safety or optimum plant growth e.g. for industrial medical cannabis production).

Handheld CO_2, Humidity and Temperature Meter – Rotronic CP11

Economical multiple parameter portable device for indoor air monitoring.

- Measures and logs CO_2, %rh and °C
- Calculates dew point and wet bulb temperature

Probe with NDIR Technology – Rotronic CCA and CCD probe

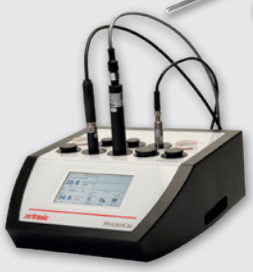
Set with analog probe with NDIR technology for incubators.

- Measures from 0 to 20 %CO_2
- Suitable for incubators: 37 °C, 95...98 %rh and 5 %CO_2
- Interchangeable probes
- ±0.1 °C accuracy in measurement range

Dew-Point Measurements

Low dew-point and trace moisture measurement plays a key role in monitoring industrial dryers for efficiency and to ensure product quality.

Small and transportable



Portable and self-contained

Accuracy ±2 °C dew-point

Lightweight, rugged and easy to use

Industrial Grade Chilled Mirror Hygrometer – Michell Optidew 401

Fast-responding chilled mirror hygrometer for precision laboratory and a reference hygrometer for temperature and humidity calibrators.

- New chilled mirror hybrid sensor gives fast dynamic response to changes in humidity
- Accurate to ±0.15 °C dew point, ±0.1 °C temperature

Humidity Generator – Rotronic HygroCal100 Advanced

- Portable device with optional battery pack and hard carry case
- Intuitive UI makes simple automating probe verification
- Validate 7 probes simultaneously
- Automated validation procedures for complete hands-off probe verification

Dew-Point Transmitter – Michell Easidew EA2

Simple to install and maintain, the trace humidity transmitter measures dew-point and moisture content across a broad humidity range.

- Measurement range from -110 to +20 °C dew point 0-3000 ppm_V
- Intrinsically safe version for hazardous area use
- Wide range of process connections for easy installation
- Polymer sensor option for fast response

Compressed Gas Dew Point Meter – Easidew PDP Dryer Portable

- Air-quality compliance to ISO 8573-1 Class 1–4
- Pressure dew-point monitoring to 20 bar
- Multi-parameter datalogging/downloading
- Touchscreen user-friendly interface

Oxygen Measurements

Oxygen analysis plays an important role in ensuring the safety of pharmaceutical production. Wherever powders and solvents are used in large quantities there is a risk of explosion and many pharmaceutical processes use an inert blanketing gas such as nitrogen to remove oxygen, for eliminating this risk.

Compact SIL2 Capable Oxygen Analyzer – Ntron SIL-O2

SIL2 Capable Analyzer has been developed for the measurement of oxygen in safety-critical process in API manufacturing in applications such as; centrifuges, reaction vessels and milling applications.

- Safety Integrity Level in accordance with IEC61508/ IEC61511 (SIL Capable)
- Zirconia or Electrochemical sensors developed to withstand harsh environments
- 3 configurable alarm outputs

3 configurable alarm outputs

In-Line Process Oxygen Analyzer – Ntron OxyExtract

Range of IECEx/ATEX approved retractable in-line oxygen sensors.
- Ability to measure Oxygen concentration directly in the process gas stream
- Available in 316 stainless steel and hastelloy C22
- Tri-Clamp and flanged process connections

Manual or automatic actuation

Oxygen Analyzer – Michell XTP601

Robust, stable and linear percentage level oxygen analyzer for inert gas blanketing in chemical reactors.
- EXd enclosure with flame arrestors and touch screen display
- Calibration intervals up to 6 months and no consumable parts
- Alarm contacts that conform to NAMUR NE44 standard

Touchscreen operation

Trace Oxygen Analyzer – All GPR-1500/2500 PPM

Ppm/percent oxygen analyzer with optional hazardous area certification for oxygen monitoring of centrifuges during drying processes.
- Measuring range of 0 to 10 ppm up to 0 to 25 %
- Loop powered and intrinsically safe in Nema 4 (IP65) enclosure
- Minimal maintenance: up to 32 months sensor lifespan

Can measure in pure CO_2 with XLT sensor

Intrinsically Safe Compact Oxygen Transmitter – Ntron Minox-i

Highly reliable Hazardous Area approved and cost-effective two-wire, loop-powered transmitters.
- Trace or percent measurement ranges available
- Electrochemical sensor technology
- Industry standard 4–20 mA output
- ATEX, UKEX, IECEx, cQPSus approved for hazardous area gas & dust groups

2 configurable alarm outputs

Water Activity Measurements

Too much free water in a product increases the risk of microbial growth and water migration. This can lead to clumping, changes in consistency and reduced shelf-life. FDA regulations require proof that the water activity of a product has been reduced sufficiently so that bacteria can't grow.

Exchangeable measuring head

Temperature-Stabilized Water Activity Analyzer – Rotronic AW-Therm

User-friendly, professional high-end laboratory desk top unit for temperature-stabilized measurement of water activity.
- Highest precision through exact stabilization of temperature
- Reference probe exchangeable for calibration or cleaning
- Quickest measurements with the AwQuick function

Scan for white-paper water activity.

Easy and intuitive to use

Benchtop Water Activity Meter – Rotronic HygroLab

High-end laboratory analyzer for water activity measurements with up to four measurement probe inputs.

- 4-channel benchtop display unit for measurement of aw, %rh, °C
- AwQuick function for fast measurement results (typically 4–5 minutes)
- Large toouchscreen/remote access (by PC or tablet)
- FDA 21 CFR Part 11 compliant with additional validation documents

Touch button for starting and stopping measurements

Bluetooth Water Activity Measurement Head – Rotronic AwEasy

The innovative AwEasy is a mobile Bluetooth device and can be used with the Smartphone together with the free AwEasy App for iOS and Android.

- High accuracy of ±0.008 Aw at 23 °C
- AwQuick function for fast measurement results (typically 4–5 minutes)
- Free Smartphone App for iOS and Android

Calibration Equipment

Relative humidity probes require regular calibration to ensure continued accuracy. Users of large numbers of probes will have significant cost savings by bringing this in-house and DwyerOmega have a range of calibration equipment to suit different sizes of operation and budgets.

RH and Temperature Probe Calibrator – Rotronic HygroGen 2

- Chamber volume 2 litres (S); 20 liters (XL)
- Working volume 1.5 litres (S); 17 liters (XL)
- Humidity changes (5...95 %Rh, 0.1 %Rh stability): < 5 minutes
- Temperature changes (23...50 °C, 0.01 °C stability): < 5 minute

Humidity and Temperature Probe Calibrator – Michell OptiCal

- Integral chilled mirror reference
- Generate 10 to 90 %Rh over +10 to +50 °C (+50 to +122 °F) temperature
- UKAS accredited calibration, as standard
- Humidity and temperature profile generation for unattended verification of sensor

Humidity Generator – Rotronic HygroCal100 Advanced

- Portable device with optional battery pack and hard carry case
- Intuitive UI makes simple automating probe verification
- Validate 7 probes simultaneously
- Automated validation procedures for complete hands-off probe verification

Chilled Mirror Hygrometer - Michell S8000 Remote

- -40 to +120 °C dew-point range with ±0.1 °C dew-point accuracy
- Small, compact design
- Easy integration with HygroGen2

Rock solid stability

Self-contained and transportable

Portable and self-contained

Remote sensor

DwyerOmega Real-Time Monitoring Solutions

DwyerOmega offers a range of **real-time monitoring solutions** to ensure compliance within regulated applications. All monitoring solutions are FDA 21 CFR Part 11/EU Annex 11 complaint.

Our Monitoring Brands

The **Rotronic Monitoring System (RMS)** is a GAMP©5 category 4 software combined with category 1 hardware, helping users monitor their GxP compliant applications, looking into the critical quality attributes and monitoring critical process parameters, helping focus on patient safety, product quality and data integrity and compliant to EudraLex EU Annex 11 and FDA CFR 21 Part 11. Rotronic AG design and manufacture RMS hardware and software based upon the GAMP©5 guidelines. RMS allows user to monitor anything from anywhere using an On-Premise or SaaS – Public Cloud software solution.

Assured data integrity
- All RMS measurement devices have an internal memory
- Wired dataloggers with PoE, 24V and backup battery power
- Wireless dataloggers with 24V and/or backup battery power
- Encrypted LAN communication
- SaaS solutions hosted within an ISO27001 certified datacenter
- Secure data access via HTTPS connection and read/write rights only (no delete rights)

Integration of 3rd party devices
- Integration via analog input
- Integration via MODBUS TCP protocol
- Integration via API

Data Export possibilities
- Export data in .csv or .pdf format
- Export data via API
- Export data via OPC UA

Turnkey Solution Provider
The services offered by DwyerOmega Rotronic are setup following the GAMP©5 life cycle approach to improve GxP compliance efficiency.

Project Management
- System Qualification, including thermal mapping
- System Validation, including all necessary validation documents
- Calibration services (ISO17025 and traceable)
- Support and SLA's
- Rotronic Monitoring System: Environmental Monitoring for GxP Regulated Applications.

Rotronic RMS Hard and Software

SensoScientific offers innovative environmental monitoring and enterprise solutions for automated compliance. Our temperature systems are packed with important features for a wide range of industries, offering precise data, audit tracking, and compliance automation. Discover the wide range of temperature sensors and probes, designed for real-time management and regulatory compliance across healthcare, pharmaceuticals, laboratories, food safety, and transportation scenarios.

The SensoScientific Highlights
Our system offers constant accuracy and monitors multiple environmental parameters like differential pressure, water leakage, humidity, light levels, carbon dioxide, oxygen, dry contact, and formaldehyde. With IoT and cloud-based storage, you'll receive real-time alerts about your environment.

Superior technology: OTA technology, scalability, and top-notch security.
Expert technical support: Validate installations, 24/7 ticket submission, and comprehensive application support.
Lowest cost of ownership: Longest warranty in the market with minimal downtime to protect your bottom line.

Key Features
Automated data logging: No more manual data entry; our continuous monitoring system does it for you.
Cloud-based monitoring with real-time tlerts: Receive immediate alerts when conditions fall outside the desired range.
Automated reporting & customizable reports: Get monthly, weekly, and two-point monitoring reports directly to your inbox.
ISO17025 accredited & NIST taceable calibration: Meet calibration requirements from our A2LA Accredited, ISO/IEC 17025 certified lab.
24/7 Customer and technical support: We're here to assist with various probes and custom sensors to match your facility's needs.
Government-Grade Security: Your data is protected with Microsoft® Azure-backed security.

Datalogger and Probe –SensoScientific

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