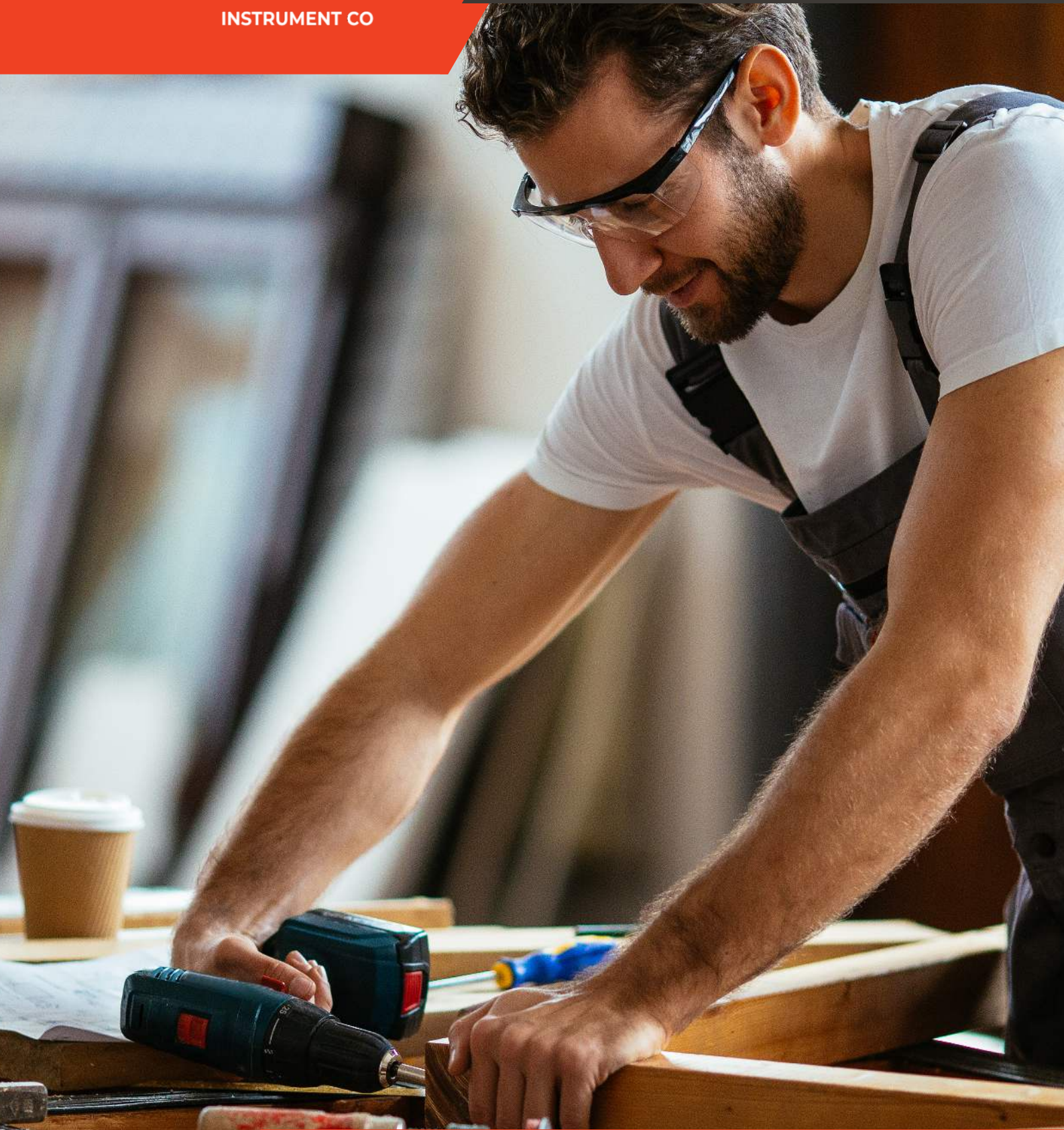


**Delmhorst**<sup>®</sup>  
INSTRUMENT CO



# Moisture Meters

FOR THE MODERN PROFESSIONAL



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# How Moisture Meters Bring Modern Technology

## To the Hardwood Flooring, Woodwork, & Lumber Processing Industries

There's no wood finish or surface application in the world that can compensate for the defects that occur when items made of wood are not sufficiently dried before production. In many cases, the conditions that contribute to the relative moisture content within any single piece of wood or lumber are often out of the control of the craftsman.

New developments in moisture meter technology are critically important to today's woodworking, hardwood flooring, and lumber processing industries. The devices provide fast, accurate moisture content measurements on-site and on demand --- and with a Delmhorst Navigator™ moisture meter for wood in your hand, you are assured that the lumber you are building with today will remain true and stable throughout the life of the project.



## Delmhorst's Navigator™ JX-20 and JX-30 Moisture Meters for Wood

Many woodworking, lumber, and flooring professionals consider these two Delmhorst tools the "best in class" for the industry. The JX-20 and JX-30 have been modernized to bring cutting-edge technology into the production facilities of today's wood manufacturing sector. They are redesigned and fully digitized, so they offer several notable improvements:

- Dozens of wood species corrections for typical domestic and exotic species.
- The backlit screen is easy to read in all lighting conditions..
- Intuitive design places the Read, Set, and Record buttons right where they should be.
- They both report in either °F or °C.
- An alarm will sound when the wood has reached the desired %MC.
- There is an internal calibration check, so you can trust their accuracy.
- They use the same industry-specific probes and electrodes you have for your other Delmhorst tools, so you won't be duplicating that stock.

Additionally, the JX-30 is compatible with the Delmhorst *EDGE™* application that allows for meter customization and expanded species lists. Statistical data collected and stored in the app is easily shared to email or spreadsheets for use by everyone else on the project.

The design and functionality of the devices enhances their performance for any professional who works with wood. The JX-30 meter is invaluable to personnel from the sawmill and dry kiln to the finishing room of a furniture plant. At the push of a button, the meter records relevant data for quick and easy Bluetooth transmission.

## Appropriate Moisture Content Levels Assure Dimensional Stability

The challenge for everyone in the woodworking trades is to ensure the longevity and value of the wood they use so they can pass that value on to their customers. Whether installing high-end hardwood floors, designing and building custom furniture, or processing raw lumber for use in these projects, all woodworkers must track moisture content to ensure the quality of the finished piece will remain stable and defect-free, and ultimately satisfy their client.

That's why Delmhorst modernized its Navigator™ series of moisture meters for wood to give its woodworking customers the tools they need to protect the quality of the products they create. Not only do the meters assess and record accurate %MC, but they also save you time and money by addressing the typical wood quality concerns that can crop up at almost any job site or production facility.

## Equilibrium Moisture Content (EMC)

Ambient humidity can significantly impact the %MC of any individual wooden board or lumber batch. In all climates, lumber materials expand or contract based on the moisture in the air around them. They'll continue the expansion or contraction processes until their internal moisture content comes into equilibrium with that of the environment.

That swelling and shrinking poses a problem because the relative moisture within any one piece of wood can dramatically affect the dimensional stability of the finished product. Wood with too high or too low %MC won't maintain its final size – it won't remain stable in its assembled form. Products with dimensional stability, on the other hand, won't warp, cup, or separate after construction. Dressers, for example, will remain square and level, keep their tight joints like new, and have drawers that glide freely.

The moisture meter can be a great tool in helping determine when the EMC level is reached. The best way to determine EMC is to check the moisture content over the course of a few days as it sits in the installation environment. Using a moisture meter, take a reading of the wood daily until the reading stops changing.

It can take a few days, even weeks, for wood to fully acclimate to a given environment, depending on the original moisture content of the wood, the temperature of the environment, and the relative humidity of the area. Generally speaking, the more significant the difference between the moisture content of the wood and the EMC point, the longer it will take to acclimate fully.





## Variable Wood Species

Wood species matter, too. Different wood species read differently at the same moisture levels, and they all dry at their own pace. Woodworkers who use a variety of wood types will appreciate the Delmhorst meters' extensive range of species corrections, so along with any necessary temperature and electrode 'corrections,' you have all the inputs needed for best accuracy, regardless of the application.

You want all your woodworking, flooring installation, and lumber processing projects to achieve their intended goal without worrying about errant moisture levels spoiling it. Delmhorst's moisture meters for wood give you more control over your raw wood stock, so you'll always know when it has achieved its optimal %MC. Only then will it be ready for the finish of your choice.





# 2

## How Moisture Meter Technology

### Benefits the Water Damage Restoration Industry

Delmhorst's modernized moisture meters bring high value to almost every industry that tracks moisture content in its materials and products. In this chapter, we're looking at the water damage restoration industry and discussing how technological advances in our devices add extra assurances that water and moisture abatement processes are complete and permanent.

#### Water Causes Damage

Moisture intrusions cause billions of dollars in damage every year. Wet weather, storms, flooding, and leaking or burst pipes can inundate buildings with thousands of gallons of bacteria-laden water. Those contaminants can cause serious health issues and compromise the safety and integrity of the structure if they aren't dealt with appropriately. Even excessive humidity can cause problems if it prevents systems from drying out quickly and thoroughly to avoid generating the growth of mold or mildew.

Undiscovered moisture that is left in place for any length of time generates health and safety risks. Mold and mildew are quick to grow in crevasses, seams, and corners, usually in dark areas where the growths can't be seen or are hard to spot. The spores emitted by those fungi can cause significant health issues, especially in people with compromised lungs, such as asthmatics.

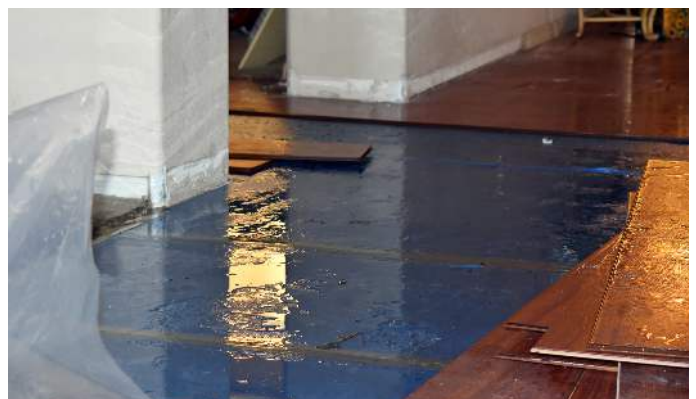
Unwanted moisture can have a negative impact on the building itself, too. It can cause wallpaper and paint to peel, trigger rotting in wood furnishings and floors, and even damage brickwork, joists, and studs. Left unattended, the contaminated construction materials can fail, leaving damage that can render the whole building unsafe for use.

## Water Damage Restoration Professionals Restore Buildings to Health

Water restoration professionals are often called in immediately to begin the 'moisture abatement' process. It is only after they can prove that all excess wetness and moisture have been removed that any structure can be deemed safe and healthy again. Even a tiny area of moisture left behind can be the beginning of a whole new swell of bacterial invasion. The challenge for these professionals is to ensure the removal of the entire threat of unwanted moisture. Restorers use moisture meters specifically designed for the water damage restoration industry to assess moisture content and confirm its removal.

Delmhorst has modernized its moisture meters with technological advances to give these restoration professionals the specific services they need to find and eliminate any particular moisture concern:

- The 'scan mode,' for example, is used in large areas to locate where water or moisture is present or is still coming in.
- Combination settings facilitate moisture detection and data readings from a variety of materials, which significantly enhances the versatility of the device.
- Moisture meters are also invaluable for helping to identify the precise location of where the leak or intrusion began. Very often, it's difficult to find where the water first entered the building. In some cases, however, finding and repairing this failure point speeds up the restoration process, saving money in the process.
- Access to both pinless and pin moisture meters accommodates a broader range of restoration needs. In many restoration projects, contractors use pinless meters to scan larger areas for a more general view of the extent of the problem, while also using pin meters to obtain more precise readings in particular areas.





The Delmhorst BDX-20 and BDX-30 moisture meters for restoration are essential tools for any contractor or water damage remediation professional involved in restoring or renovating buildings that have suffered extensive moisture damage.

## Enhancing the Success of Water Damage Restoration: The Delmhorst BDX-20 & BDX-30

Rugged and reliable, these building trade pin meters are ergonomically designed with a comfortable handle, large tactile buttons for ease of use, and a convenient, sturdy carrying case for equally easy portability. Two AA batteries are all it takes to power either device, and they come with a two-year warranty against manufacturer defects.

However, it is the functionality that makes these two moisture meters so popular with restoration techs. Both meters offer valuable features to the technician:

- A large, custom backlit display, making reading easy even in low light.
- Scales for wood and drywall, and a 0-100 reference scale
- Wood temperature correction in °F and °C.
- Corrections for insulated and non-insulated pins or electrodes.
- On-screen data, including High, Low, Average, and Standard Deviation.
- Color coded LEDs and alarm threshold.
- Compatible with your existing Delmhorst electrodes.

The BDX-30 adds the enhanced functionality of the *EDGE™* app, Delmhorst's proprietary digital application that connects wirelessly to transmit recorded data to spreadsheets and email programs. The app offers meter customization; it also stores historical information, as well as additional selection of wood species, so you can find the information you need for any project conveniently at hand, regardless of where you are at that moment.

Water damage can happen at any time. Reach out to Delmhorst today to explore more about how the BDX-20 and BDX-30 can enhance your next building restoration venture.





# Moisture Meters for Agriculture:

## How Modern Technology Benefits The Hay & Cotton Industries

It's never been more crucial for agricultural commodity producers to monitor the status of their crops. The evolving influence of disruptive weather conditions is compelling the industry to make out-of-the-box decisions on the fly, encouraging the 'ag' industry to rethink its conventional plant-tend-harvest schedules.

Consequently, it's becoming increasingly critical to know the condition of every crop at virtually all times so that each decision maximizes harvest values while reducing or eliminating the impacts of potential weather and pest damage.

Delmhorst offers two moisture meters for two lines of agriculture: cotton and hay. Delmhorst designed the tools specifically to meet the unique needs of cotton and hay growers, whose commodities are especially vulnerable to the impact of climate concerns.





## Moisture Meter for Cotton: CX-30

Excess or insufficient moisture within the cotton plant itself can cause more problems than even the invasive boll weevil. At least with a weevil infestation, you can see the bugs and know to act fast. Moisture, on the other hand, is invisible to the naked eye, so its presence or absence in the cotton crop is an unresolved concern without the special testing tools needed to detect it.

- Cotton that is too dry at harvest can be damaged in the process, which can affect its quality after processing.
- Cotton that is too wet can damage the harvesting machinery, causing unnecessary repair or replacement expenses.

The hand-held new Delmhorst CX-30 provides a convenient and easy-to-use tool that performs reliably to ensure your cotton crop's optimal moisture content throughout its harvest and processing cycle:

- In its natural state, cotton tends to be loosely packed, which makes determining its moisture content more challenging. The electrodes for the CX meter 'cups' the material to compress air pockets or voids, which would skew the measurement.
- The CX-30meter also takes into account the moisture level distinctions between seed cotton and lint cotton. Cotton seeds typically have a higher moisture content than the attached lint, and that moisture is incorporated into the reading when it's taken in the field. Data from seed cotton can suggest a relative lint cotton moisture level, which can provide a guideline for overall moisture levels in the plant before harvest.
- The Delmhorst CX-30 moisture meter for cotton also makes testing for moisture at all stages of cotton growth - from field to harvest to baling - as easy as changing out the electrodes. Because the device moves with you through all the stages of your cotton processing, you get the accurate data you need to optimize the quality and value of your product.

The CX-30 gives cotton producers the cutting-edge digital tool needed to help build and track product data year over year. The CX-30 also connects with Delmhorst's proprietary *Edge™* App, sending data to your spreadsheets while providing virtually unlimited data storage.

## Moisture Meters for Hay: The FX-20 and FX-30

Like the CX-30, Delmhorst designed its FX-20 and FX-30 meters to optimize crop yield and productivity for its hay-producing customers. Hay, too, presents unique production challenges due to its vulnerability to the weather and its sensitivity to moisture conditions. Maintaining a vigilant eye on crop and field conditions throughout the growing season and the moisture meter is the essential tool required at baling time.

## Challenges with Excessively Wet Hay

Remarkably, too much moisture in hay can cause both fires and spoilage.

- Tightly baled hay that is too wet can spontaneously combust as bacteria grow out of control in that overly damp environment. Bacterial growth generates heat and pressure, which can become the ignition factor for a blaze.
- The same moisture-loving bacteria can also cause the product to rot and become unusable for its primary purpose as animal feed. Another concern caused by bacteria in wet hay is mold. A mold contamination also ruins the product as a feed substance and for any other purpose.



## Challenges with Excessively Dry Hay

Too dry hay becomes brittle, and nutrients are lost as the leaves wither and die. Consequently, the product becomes inedible, again eliminating it as a live-stock feed option.

How it's baled also presents a complication in measuring moisture levels in hay.

- Smaller square bales are typically less tightly packed than large hay bales, so they generally have a higher tolerance for a higher moisture content.
- Larger square bales that are more tightly bound are more likely to experience a combustion/mold incident than smaller bales.
- Round bales will have the same challenges as squares; the tighter the pack, the higher the risk of damage.



In all cases, having too-wet or too-dry hay can reduce or eliminate its value to its end consumer, which also wastes the time and energy you've put into growing the crop. Maintaining a close eye on hay's moisture content gives you the control you need to maximize the value of your product.

## Learn More About Delmhorst's Cutting-Edge, Hand-held Moisture Meters

Both the CX-30 and FX-30 moisture meters connect to the company's *EDGE™* app, giving users complete control over their streaming agricultural production data. The information gained keeps every hay and cotton producer fully informed about the moisture levels in their crops, their harvests, and their final products, so they can both assert and verify their end product's quality.

Reach out to Delmhorst today to learn more about the CX-30, FX 20, and FX-30.





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# Moisture Meter Technology: Revolutionizing Modern Industries from Paper to Leather

Assuring product quality should be your highest corporate priority, regardless of what your product might be. Delmhorst moisture meters for paper and leather give your organization the precision tool it needs to prove and maintain the high quality of your paper and leather products. They ensure that exposure to excess moisture and humidity does not adversely impact your products' value before it leaves your production facility.

## Learn More About Delmhorst's Cutting-Edge, Hand-held Moisture Meters

No two paper products are the same. Accordingly, manufacturing any paper product requires monitoring and precise measurements of the material's moisture content to ensure that the end commodity achieves its intended purpose.

Paper is 'hygroscopic,' which means it will absorb and lose moisture depending on humidity fluctuations in its environment. Generally, paper products will retain their usable stability in a 45-50% relative humidity (RH) zone at a 72°F temperature. To ensure this product stability, raw paper stock is produced with an 'absolute moisture content' between 4 and 6% of the material's total weight. And the paper remains stable while encased in its protective shipping wrapping.



When exposed to ambient air conditions with a high RH factor, the moisture content within the material can increase to as much as 7% within a scant 4 hours. Paper product that is too wet will become sticky and can clog up the machinery used to turn it into its final product. Conversely, material that is too dry (that loses moisture in dryer ambient conditions) can also lose its strength and disintegrate in the processing system.

## The PX-20 & 30

Delmhorst produces two types of moisture meters for testing the relative moisture within paper stock, the PX-20 and the PX-30. These devices accommodate three calibrations, one each for general paper and paper core testing, one for baled or recycled paper, and another for relative “dry/wet” readings on paper-based materials that do not have specific calibrations. The meters are designed with a dashboard-like display that is backlit for easy viewing of the moisture content and other relevant data including statistics. Both models have integral contact pins for convenience and are compatible with any special application Delmhorst electrode.

Consequently, these meters can measure the moisture content in virtually any paper product at any point during the manufacturing or buying/selling processes to ensure that levels are within range and thus assure the quality of the end product.

## Moisture Meters for Leather

Around the world, high-quality leather commands equally high prices because of its inherent beauty, durability, and functionality. Accordingly, manufacturers of leather-based merchandise must protect the quality of their supplies to ensure the consistent superiority of their marketed product – and the security of their market sector.



However, those leather goods producers face many challenges throughout the procurement and production processes. Initially, they must be confident that the rawhide supply they receive is already of the highest quality. They then must obtain appropriate transport options and environmentally proper storage capacities for the delicate raw materials. In all these instances, the environment in which the raw hides and finished leather supply travels, is stored, and is processed can profoundly impact the end quality of the final product.

- In its raw state, leather hide that will become a finished leather product is vulnerable to swift deterioration when exposed to climate and environmental factors, including sunlight, water (rain as well as ambient humidity), bacteria, and fungus. The unprocessed component must be protected from these elements as quickly as possible after harvest to avoid unnecessary quality loss.
- As it's processed, the natural material also swells and then shrinks, which can change it in both shape and character. Excess moisture that is not removed during processing and that evaporates later can negatively alter the construction and final appearance of the end product and thereby reduce its quality and value.
- Not least, leather exposed to too much heat or moisture during the tanning process also loses its tensile strength, which also can result in an inferior piece of merchandise.

Consequently, it is critical for all companies that produce or use leather in their manufacturing operations to track and monitor the status of their leather supply throughout these procedures. A reliable and accurate moisture meter is the essential tool that no production or QC operation can be without.

## The JXL-30

Delmhorst is already renowned for its best-in-class moisture meters for the agriculture, water restoration, paper, and wood production industries. Now, the global leader in moisture measuring devices is introducing its newest device, the JXL-30, specifically for the leather processing and manufactured goods sectors.

The JXL-30 has a calibration for leather that covers the range of 9%-30%MC and can quickly and accurately detect the moisture levels during any phase of processing. The device is also compatible with the Delmhorst *EDGE™* App, which collects and stores virtually unlimited data regarding your leather supplies and goods. With the *EDGE™* App, you'll be able to store unlimited MC data points with time and date stamp, and also have the data you need to back up your claims of its superior grade.







In today's escalated global economy, paper and leather goods producers should exercise every available option to maintain and grow their market share. The Delmhorst moisture meters for paper (the PX-20 and 30) and leather (the JLX-30) provide the precision and accuracy they need to control moisture within their product. At the same time, both the JLX-30 and the PX-30 devices offer *EDGE™* App connectivity for data collection and storage.

Call Delmhorst today to find out more about these game-changing moisture meters for the leather and paper industries.



# Moisture Meter History:

## The Development of This Essential Tool

Product quality evolves over time as tools and techniques improve. This reality is definitely true when it comes to moisture meters for industrial use. Moisture in all of its forms can cause significant damage to process, goods, and production machinery, so maintaining control over it is often the best way to ensure the optimal quality of the end product. The moisture detection tools designed by Delmhorst Instrument Co. have facilitated the development and manufacture of thousands of goods, commodities, and products over the years, contributing significantly to several notable industries' evolutions.

Let's look back at the history of these mission-critical devices and how their early beginnings laid the foundation for the sophisticated digital devices you're using today.

### Tracking Moisture

Moisture control and management are the keys to quality. Uncontrolled moisture causes problems in many industries, especially those that involve organic materials like wood and many building materials, paper, and agricultural commodities. Too much or too little moisture causes project and product failure. Warp, splits, and cracks are not something anyone wants to see in a beautiful wood floor or furniture piece. Mold, rot, and loss of nutrient-filled leaves certainly are not friends of the hay producer.



Accordingly, for decades, industrialists have studied moisture content (MC) in conjunction with ambient humidity to gain control over moisture levels in their product development and manufacturing processes. Early researchers determined that passing an electrical current through the material would generate an MC value for that substance at that moment. Further experimentation revealed that the results of each assessment were also affected by the electrical frequency, the material's density, the temperature of both the substance and the environment in which it was sitting, and the relative volume of moisture present in the component itself. Once these standards were established, scientists could innovate devices capable of taking accurate MC measurements for a whole host of materials in use by industrial sectors.

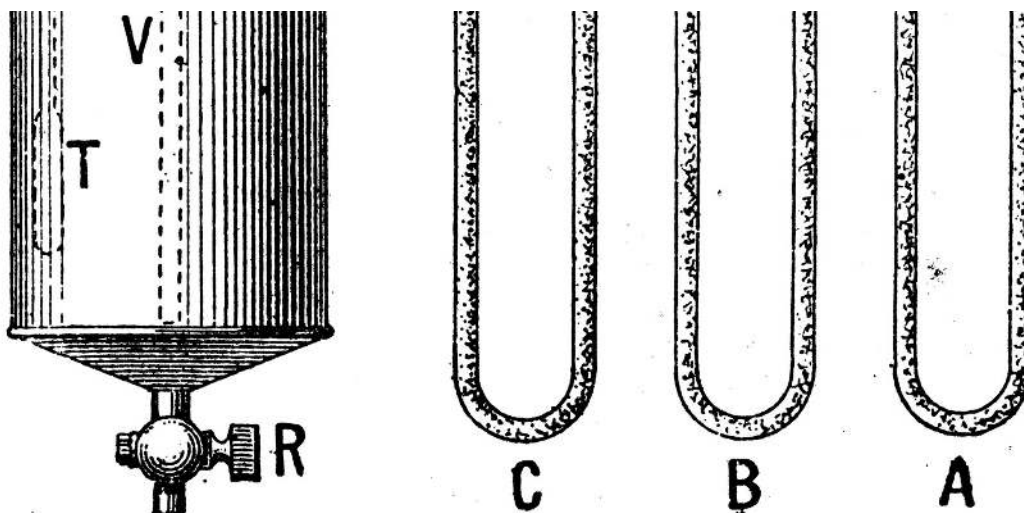
## Reporting Moisture

While the original science still remains at the heart of the process, the methods used to track and identify MC have evolved over the past several decades.

The first versions of commercially available meters used blinking lights to convey the presence of moisture within a substance. Early adopters of wood moisture meters would set a 1920s version of this device to a specific moisture content standard, which was represented by the flashing of a single bulb. They would then insert two electrode contact pins into the wood. Wetter wood caused the second bulb to flash faster than the standard, while dryer lumber caused the second bulb to blink more slowly. Users then 'dialed' the measurement of the second bulb till it matched the blinking pace of the first, and from that, they could establish the relative MC of the material.

By the early 1940s, industries had developed two more accurate measuring tools:

- The 'conductance' meter uses pins to measure the resistance of the wood to the electrical current. Excess water reduces resistance, while dryer wood presents more resistance. Early versions of these devices utilized four pins, while today's instruments use only two.
- The 'capacitance' meter is pinless, and instead uses an electromagnetic wave to track moisture levels.



Both device styles have their merits:

Capacitance meters are easy to use; simply place them on the surface of the material to be measured. They are helpful when surveying large areas to gain an idea of moisture presence and its extent. However, these devices don't provide as accurate an MC reading as that presented by a pin-type meter.

Applying a pin meter to a material requires making small holes through its surface, which, most of the time, are irrelevant to the product's ultimate use. It will provide a more accurate MC reading, however, not just at the surface of the material but all the way through it.

Standards for ease of use have also been upgraded over the past few decades. The first iteration of the moisture meter was a heavy, large metal contraption, sometimes weighing as much as ten pounds. Its wires and awkward size and shape made it less than convenient to use, despite its value as an industrial machine.

Over time, the devices have slimmed down in both size and weight and are now simple hand-held tools for easy use in the field. Additionally, previous versions were driven by traditional electrical systems of the time, including wires, tubes and transistors, etc. Today's versions of this equipment are, instead, driven by microprocessors that facilitate easy-to-read digital displays and a previously unheard-of data storage and sharing capacity. Today's users have much more control over their apparatus than they did with earlier versions, as well as greater service capacity.





## Delmhorst: An Industry Innovator

In 1946, New York City purchased Bill Delmhorst's original version of his proprietary moisture meter to control the rising incidences of roof leaks and subsequent mold risks in city apartments. That purchase was the launch of the Delmhorst Instrument Co., which has since grown into an international enterprise spanning more than 100 countries and 22 industries. Around the world, building envelope techs, farmers, manufacturers, and suppliers reach for their Delmhorst moisture meters to track and record moisture content in materials in the restoration, agricultural, lumber, paper, and flooring industries. The devices ensure that end products delivered to consumers won't fail due to moisture anomalies and buyers and sellers transact with full confidence of quality.



As it celebrates its 77th year in business, Delmhorst is equally proud of its innovative *EDGE™* App, which brings 21st-century technology to this early 20th century invention. The *EDGE™* App collects, stores, and exports MC data and then transmits it through Bluetooth technology to user spreadsheets in whichever language they prefer. Its user-friendly design facilitates easy customization so you can perform whatever tasks are needed for your application.

Now widely respected as a premiere manufacturer of moisture meters, Delmhorst proudly assembles its devices in the United States and maintains an industry-leading warranty on every one. For more information, reach out to your Delmhorst representative today.



# How Moisture Meters Combine Classic Features with New Technology

By definition, a classic is something that provides consistent quality, appeal, performance, and longevity, so users can rely on its service to accomplish their objectives. Here, you'll read about how that definition fits the Delmhorst Navigator™ line of moisture meters. Designed and built on their classic models, today's iterations retain those definitive capacities and qualities while adding cutting-edge technology to enhance their appeal and functionality.

## Foundational Functionality

The advent of the moisture meter was a game changer for countless product manufacturers and professionals. Prior to their introduction, manufacturers relied on tedious lab activities and oven-drying periods to ensure that the quality of their materials was sufficient to sustain the quality of their end product.

The first iteration of moisture meters used metallic pins to measure the electrical resistance or conductance properties of the material. The reading established the moisture content (MC) within the material, which was then compared to the optimal MC level for quality and durability. Too much or too little moisture would impair quality and usability. Treating the material to correct the MC level – adding moisture or drying it out as required – ensured that the final product would hold its shape and perform as expected.





In cases where a pin measurement isn't an option – flooded flooring, for example, where moisture levels can vary significantly from one side of the area to another – pinless meters using electromagnetic waves were introduced to provide the same data from varying points across those surfaces.

As an on-the-go tool, the moisture meter made it easier for anyone to accurately and almost instantly detect moisture levels in many industries and settings. With these tools at hand, manufacturers and producers could incorporate MC data as an integral aspect of their production processing. Consequently, the moisture meter has become an irreplaceable tool in the manufacturing process of thousands of products and goods, as well as an invaluable aid for professionals in the building and restoration industries.

## Innovative Technology Enriches Classic Design and Performance

Moisture meters are used in many industries today to maintain and ensure high-quality construction and production values, and Delmhorst's recent innovations continue to augment the value of these devices.

- Adaptations in their physical design make them much easier to use. Previously, moisture meters' unwieldy shape and size made them difficult to use in certain situations. Today's versions are handheld and portable, so they can safely travel to wherever they are needed.
- Back-lit digital displays also improve usability. The easy-to-read screens offer a variety of brightness settings to provide instant readings in virtually any location, including hard-to-access areas on any job site or manufacturing plant.
- The instruments are also programmable, so you can select the material you are testing to obtain the precise measurement needed, knowing that each one will give you the accuracy you require.
- Adding internet resources for convenience also expands the capacity of Delmhorst moisture meters. Digital manuals, guides, and informative articles can inform and guide users about best practices to ensure optimal outcomes for their projects and materials.

- Additionally, Delmhorst moisture meters in the '30' series are compatible with the company's forward-thinking *EDGE™* app. This innovation gives users virtually unlimited data storage for all their moisture meter readings, access to a library of materials and resources to ensure accuracy on the fly, and Bluetooth® connectivity for swift and timely information sharing.

Adding these advanced capabilities to the moisture meter's 'classic' functionality only enhances their value.

## Expanding Opportunities for MC Monitoring

Optimal MC quality in both materials and end products is critical to the success of countless artisans and producers in many industries. Delmhorst designed its moisture meters to respond to the production and development demands of thousands of commodities in several industrial segments:

- In the agricultural sector, moisture meters designed to read levels in hay and cotton ensure that crops are harvested at the optimal time, the product is properly stored, and quality remains throughout.
- Paper commodity manufacturers monitor MC levels throughout the production process to optimize the quality of both their inputs (pulp) and outputs (sheet, cardboard, etc.) for end products.
- Reliable material quality levels for leather production are also confirmed using moisture meters. Manufacturers of these goods utilize the device across the full scope of the production process, from harvesting the hide to its transportation to the production facility and then on to the storage and shipping of the final merchandise.
- A high-quality moisture meter is especially valuable in the wood and lumber industries, including both construction and water damage restoration:
  - Billions of board feet of raw and milled lumber are produced each year in the United States for use in millions of construction projects.
  - In 2021 alone, flooding across the country cost home and business owners over \$3 billion in property damages. Restoring many of those properties to their optimal usability requires accurate remediation and control of residual moisture.



The quality of the goods produced in each of these sectors depends on maintaining an appropriate MC level throughout all their development and manufacturing processes.

In these and many other industries, professionals must understand the relative moisture content of both their environment and the materials with which they are working. Call Delmhorst today to find out more.





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## Make the Most of Your Moisture Meter with the *EDGE™* App

Let's explore the range of assets and opportunities offered by Delmhorst's innovative *EDGE™* App, which revolutionizes the moisture content (MC) measuring and monitoring industry. Designed to incorporate Delmhorst's already classic moisture meter features, the innovative technology adds enhanced functionality to the full line of its 30-series Navigator™ moisture meter devices. The technology extends the range of the instrument's services, provides fast and accurate information access, and delivers unmatched data management tools that will elevate all your manufacturing and production processes, whether yours is a small business of one or a major corporation with global industrial operations.

## Technology Advances Moisture Control Practices

Moisture control is a critical element in the successful operation of multiple industries, from hardwood flooring and lumber to agriculture and water damage restoration. Even in small amounts, excess moisture can cause devastating damage to people when it generates the toxic molds and mildew that contaminate human-occupied indoor environments. In large volumes, such as flooding, it is responsible for property damages costing billions of dollars each year. At the same time, drought conditions can impede the development and harvesting of essential food and agricultural crops. In virtually any setting, the measuring, monitoring, and tracking of moisture levels is an indispensable element of the strategy to ensure the safety of both human and corporate activities.

Delmhorst was fully aware of this particular reality when it updated its industry-leading moisture meter offering with its advanced technological innovation, the *EDGE™* App. Built into the full line of the 30-series Navigator™ moisture meters, the digital tool augments their already stellar capacities with new capabilities and options.

## Expanded Service Capacities

Delmhorst designed the App primarily to address the day-to-day demands of on-site building tradespeople who routinely interact with moisture-affected materials in the course of their work. Bluetooth® technology installed in the 30-series devices connects and shares relevant data with the App, ensuring immediate and accurate storage and accessibility of project data. The *EDGE™* App allows for meter customization, so it's adaptable and can meet the needs of virtually any industry, artisan, or customer.

In addition to these functions, the App also vastly expands the range of the meter by connecting it to an extensive catalog of materials and the calibrations needed to accurately measure their moisture levels.

- In the woodworking industry, for example, the App provides data for dozens of domestic and exotic wood species. Each individual species reads differently at the same level of moisture, so they all require individualized calibration settings. The App makes this activity simple and easy to accomplish.
- Using the App also allows you to store an unlimited number of readings. The device itself retains data collected from up to a total of 100 readings, so the App extends this capacity significantly.





The combination of the Navigator™ 30-series device and the accompanying *EDGE™* App gives every user the capacity to measure, record, and share data from the field immediately, accurately, and comprehensively. That ability alone escalates the value of emerging information when leaders can receive, review, and act on current relevant data in real-time.

## ***EDGE™* App-Enhanced User Friendly Meters**

Delmhorst has also increased the ease of daily operations by designing the *EDGE™* App's dashboard-like display to highlight precisely the information users may need at any given moment.

- The App contains the control settings for itself and its affiliated device, so users can easily customize both to suit their particular purpose.
- The App's 'readings' feature displays the data collected at a specific moment in time, including the moisture content (MC) level, the time and temperature at the time the reading was taken, and the pin type used to take the measurement.
- The 'plot' feature facilitates the comparison of multiple readings by converting reading data into a line graph. The graph has an adjustable range function, too, that allows users to enter data and tailor their investigation to their individual projects. Each reading included in the plot graph is also tagged with a time stamp, so you always know when your displayed data was collected.
- The 'statistics' generated and captured by the App parse its data into usable and relevant presentations for analysis and decision-making. This element allows users to view the relative values of their reading entries to determine averages, estimates, and other operations-critical elements.
- Sharing data from the *EDGE™* App is easy, too, as it structures data reports into a CSV format for simple transmission to your phone, computer, or a colleague. And because it also stores data, you can always refer back to previous readings to compare and contrast progress.



A smartphone screen displaying a table of moisture meter data. The table has five columns: an index number, moisture content (%MC), time, temperature (F), and a status. The data is as follows:

Fri, Jul, 23				
7	6.7 %MC	12:21 PM	70 F	Non
6	10.8 %MC	12:21 PM	70 F	Non
5	<6.0 %MC	12:21 PM	70 F	Non
4	16.7 %MC	12:21 PM	70 F	Non
3	<6.0 %MC	12:21 PM	70 F	Non
2	7.1 %MC	12:21 PM	70 F	Non
1	18.3 %MC	12:21 PM	70 F	Non

Delmhorst's *EDGE™* App innovation makes the Navigator™ 30-series of moisture meters the first app-enabled moisture meters to actually enhance meter functionality, rather than simply mirror the meter itself.

Designed for use in the building trades (including water damage restoration/IAQ, flooring, and roofing), the agriculture industry (for hay and cotton), the leather goods industry, and the paper and corrugated sector, the App gives professionals the information and control they need to ensure that every element of every product is safe from inappropriate moisture levels during project development and into full usage. The pairing of device and App combines the epitome of moisture control standards and practices with future-focused technology for unmatched ease, precision, and versatility.

[Contact Delmhorst](#) today to get more information!





Delmhorst Instrument Co. has built a reputation for designing, manufacturing, and marketing the highest quality moisture meters available on the market— right here in the USA!

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