Wagner Meters

HELPING LUMBER MILLS AND WOOD PRODUCTS MANUFACTURERS MAXIMIZE VALUE

Omega
In-Line Moisture Measurement System

MC4000
Advanced In-Kiln Moisture Measurement System

Handheld Moisture Meters
Our Company

Wagner Meters unleashes your expertise by providing you with world-class moisture measurement technology. For over 50 years, our field-proven technology has helped thousands of valued customers improve profits and eliminate moisture-related problems.

Innovation

Wagner leads the forest products industry in innovation. Our decades of research have resulted in a number of leading-edge patents, which means you get the very latest in moisture measurement technology.

World Class Support

Partner with Wagner and get permanent access to our US-based customer support staff. We don’t wait for you to call us – our proactive Customer Care Call Program means that we take the initiative to help you resolve issues before they become problems. When you need us, we’re there.
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Whether your company is a primary lumber mill or a secondary wood products operation, with or without dry kilns, the Omega In-Line Moisture Measurement System should be your most important moisture measurement and analysis tool.

Whether it is installed upstream or downstream of your planing or moulding operation, a sideways or end-to-end configuration, the benefits of having an Omega system are the same:

• Keep moisture problems out of your mill
• Improve your kiln drying, your grade recovery, and your bottom line by minimizing moisture-related degrade, excessive drying energy costs, wet claims, and overall moisture quality control issues

Omega, Wagner’s latest generation of moisture measurement systems, continues our legacy of providing comprehensive and robust moisture measurement and data analysis tools that are so critical now for today’s modern wood products mills.

Especially designed for the lumber mill or wood products manufacturing environment, Omega and its optional data collection and analysis software is an invaluable tool for improving your kiln drying or overall moisture quality control.

Moisture Data Collection and Analysis

Whether you are a high-production lumber mill interested in improving your kiln drying QC or a door/window, wood flooring, cabinet manufacturer, or other remanufacturing or secondary wood products operation with the need for tight moisture QC… (Continued on page 3)
• Virtually eliminate wet claims
• Reduce overdrying & lumber defects
• Use optional software to help troubleshoot and correct kiln performance
• Automate the process by redirecting rejected pieces
• Reduce time QC’ing lumber with hand meters
• Reduce or eliminate the man-hours that used to be necessary hand sorting wet boards
• Reduce grading time by using Omega to identify wet boards prior to spending time grading those boards
• Automatically integrating moisture data with the grading systems
• Reduce drying time
• Greatly reduce man-hours because it quickly and accurately takes the moisture readings
• Automatically differentiate levels of moisture

Scan QR code for more info
https://goo.gl/fKxnFy
Omega’s optional data collection and analysis software, gathering moisture data from every measured board, offers you a comprehensive tool to help pin down kiln drying or moisture-related manufacturing problems and can assist in the identification of lumber suppliers that are not meeting your moisture specifications.

For in-depth kiln analysis, primary mills are able to map packages in the kiln and determine hot or cold spots based on moisture data from the planer mill. Moisture data by product is also available.

For the secondary manufacturer, you are able to analyze your key lumber suppliers and, if necessary, help them provide lumber that better meets your moisture criteria.

**Sideways Configuration**

Up to eight sensors can be installed between the chain races.

Boards pass over these sensors at a high rate of speed, and multiple moisture content readings from each sensor are taken on every piece of lumber. Those that have an out-of-spec (too wet or too dry) moisture content can activate outputs in the Omega system’s main console to trigger spray-marking devices or your dropout gate.

If your application requires longitudinal measurement of your lumber or wood components, then an end-to-end sensor version of Omega is an option.
End-to-End Configuration

Most often installed on the outfeed side of high-speed planers or moulders, an Omega system with an end-to-end sensor scans your lumber, flooring, or wood components at over 300 measurements per second. End-to-end measurement is preferable when there is a need to, for example, identify wet pockets along the length of lumber that will be sold to laminated beam manufacturers. It will also allow the identification and trimming out of wet areas within strip flooring.

Additionally, with Omega’s fast scanning rate capability, board moisture content can be profiled in great detail along the length of boards with this high-speed data being communicated to today’s sophisticated grading systems, providing additional moisture information for your automated lumber grading solutions.
In the 1970s, with the introduction of our Model 778, Wagner Meters revolutionized the industry with the first generation of electrical field-based in-kiln moisture measurement systems. Ruggedly-designed and easy-to-use, Wagner has continued to refine and update this basic and proven design concept with the launch of our current Model MC4000.

The MC4000 can stand alone as a valuable, automatic in-kiln moisture measurement system, or can be interfaced with computerized kiln control system software packages, providing the kiln operator with an accurate moisture measurement and monitoring tool to afford more control over the kiln drying operation.
Closer Look at the MC4000 Software

The MC4000 software application offers a real-time view of the moisture content for each sensing zone, and provides a moisture content trend graph of all of the sensors during the drying schedule. Additionally, the MC4000 software allows the user to set up, for each new charge, a moisture content average shutdown or alert set point for the charge. When the average moisture content of a kiln’s Sending Units’ (moisture sensing zones) measurements reaches the set-point, a relay output activation will occur that can trigger an alert notification signal to annunciator panels or a shutdown command to kiln control system hardware.

A TYPICAL MC4000 SYSTEM CONSISTS OF:

- One or more Per Kiln Units (PKU; one main enclosure per kiln)
- At least four Sending Units (moisture sensing zones per kiln; 9 maximum per kiln)
- The main MC4000 computer with user interface software for setup and monitoring of the moisture content status of each sensing zone in each SU kiln during the drying process

MC4000 FEATURES

- Displays moisture content trending of sensors throughout the drying process
- Designed to operate reliably even in a kiln temperature of 300° F
- Large sensing zones; obtains average moisture content between sensor plates
- Automatic alert or shutdown and shutdown alarm based on a moisture set-point
- Open architecture allows integration with virtually any computerized kiln controller
Scan even large boards from end-to-end in seconds with handheld meters designed for the demanding environment of the sawmill or wood products manufacturing plant. Reach deep into stickered units of lumber with our L722 Stack Probe.

At Wagner Meters, we continue to go above and beyond for our customers. For example, we’ve extended the L600 series digital recording handheld moisture meters battery life by more than five times. With the previous power circuit, the average battery life of the L600 series digital meters was eight hours of ON time. With the upgrade, mills can now use any L600 series digital meter for up to 50 hours of ON time.

Scan QR code for more info  
https://goo.gl/4Ygosa
The L600 series digital meters now have an extended battery life of up to 50 hours of ON time!
L601-3
Handheld Moisture Meter

The rugged L601-3 is specifically designed for the demanding environments of primary mills or wood products manufacturing plants where quick scanning of lumber is a must. Even large boards can be scanned from end-to-end in seconds; it makes the job of moisture measurement easier, more thorough, and more accurate.

The L601-3’s “wood-friendly” electromagnetic waves penetrate beyond the surface into the wood to a depth of 1” (25.4mm) and provides an instant averaged reading of the board’s moisture content in a 2.5” x 2.5” x 1” (63.5mm x 63.5mm x 25.4mm) scanning area.
**OTHER FEATURES OF NOTE**

- Moisture content (MC) range: 5-30%
- This model is available in 2 different versions: pre-calibrated for either Douglas-fir or Southern yellow pine. In either case, an accompanying instruction manual includes species adjustment tables for more than a hundred of the most used hardwood, softwood, and imported species.
- Non-invasive scanning: does not mar or damage the surface of wood being tested.
- Low battery light: warns the user that voltage has been drained to a level where the batteries must be changed to ensure the meter functions properly.
- An optional Calibration Verification Block (CVB): can be purchased separately to confirm that the meter is properly calibrated. The L601-3 also features an automatic shut-off (battery saver).
- 1-year warranty.

**SPECIFICATIONS**

<table>
<thead>
<tr>
<th>Feature</th>
<th>Specification</th>
</tr>
</thead>
</table>
| Size               | L 8.5” x W 4” x H 3.75”  
(L 215.9mm x W 101.6mm x H 95.25mm) |
| Scanning Area      | 2.5” x 2.5”  
(63.5mm x 63.5mm) |
| Scanning Depth     | 1” (25.4mm)                               |
| Display Resolution | 1.0%                                     |
| Weight             | 16 oz. (.453 kg)                          |
| Power              | 4 AA batteries                            |

“Even large boards can be scanned from end-to-end in seconds....It makes the job of moisture measurement easier, more thorough, and more accurate.”

This meter’s readings are virtually unaffected by wood temperature or moisture present on the surface of the wood being measured.

Primary mills will appreciate being able to take readings with confidence on wood just pulled from the kiln.

Other wood manufacturing facilities will be able to rely on accurate reading repeatability when measuring boards end-to-end when it is crucial to identify any wet spots for applications, such as the production of laminated beams.
L620

Digital Moisture Meter

The affordable L620 Digital Moisture Meter from Wagner Meters combines proven “wood-friendly” electromagnetic scanning with an easy-to-read LCD screen, featuring a full function two-line 32-character display. A simple menu system guides you step-by-step through the selecting, storing, and reporting process.
OTHER FEATURES OF NOTE

- Storage of up to 500 individual moisture readings.
- Readings are retained even when the batteries have been replaced.
- The L620 is factory-supplied with 32 built-in common species. These can be customized to allow for changes in regional calibration.
- Readings can be stored in up to 5 different groups for comparison of average moisture content (MC), standard deviation, and minimum/maximum MC.
- The LCD screen is backlit, making it easier for measurements to be taken in low-light environments.
- Battery life up to 50 hours.
- When battery voltage is low, “BAT” will be displayed.
- Auto shut-off in 1 minute unless a function button has been pressed or an MC reading has changed.
- 1-year warranty.
- The L620 comes standard with a Calibration Verification Block, to allow you to check factory calibration.
- In the 15%+ moisture content range, the L620 has improved accuracy over earlier models.

SPECIFICATIONS

| Size       | L 8.5” x W 4” x H 3.75”  
            | (L 215.9mm x W 101.6mm x H 95.25mm) |
|------------|-----------------------------------|
| Scanning Area | 2.5” x 2.5”  
                | (63.5mm x 63.5mm) |
| Scanning Depth | 1” (25.4mm) |
| Weight     | 18 oz. (.51 kg) |
| Power      | 4 AA batteries |
| MC Range   | 5%-30% |

With this meter, electromagnetic waves penetrate past the surface into the wood to a depth of 1” and provide an instant reading of the board’s moisture content. Even very long boards can be scanned from end-to-end in seconds with the large 2.5” x 2.5” scanning surface. It makes the job of moisture measurement easier, very thorough, and more accurate.

Readings are virtually unaffected by wood temperature (operating range 32-120 degrees F outside of the kiln), can operate accurately in every wood-drying and processing environment, and the presence of absorbed surface moisture on wood being measured is not an issue with a Wagner meter.
L622
Digital Recording Lumber Moisture Meter

Wagner is keenly aware of today's growing need for timely, accurate moisture monitoring information and record keeping for mills like yours.

As a result, Wagner Meters has introduced the L622 Digital Recording Moisture Meter. In the 15%+ moisture content range, the L622 has improved measurement accuracy over the earlier L612 model and combines Wagner Meters' unique, non-pin “wood-friendly” scanning with our latest micro-computer technology.

All Wagner moisture meters have the unique ability to truly read the moisture in the wood, not on the wood, and the measurements are not adversely affected by the presence of absorbed moisture in the lumber surface.

The L622 comes from the factory with 32 user-selectable species settings by name, and these can be customized by you. When paired with the companion L722 stack probe accessory, you can easily check the moisture content of kiln packages, and with our Stat-Pak software included with this meter, it is easy to record your results for future comparison. Send reports directly to a printer, or data to the computer for advanced analysis.

The easy-to-read backlit LCD screen features a two-line, 32-character display. Function buttons and scroll arrows operate a menu system that guides the user step by step through the selecting, storing, and reporting process.

Every L622 Digital Recording Moisture Meter comes with Stat-Pak, a PC compatible software package that greatly expands the record keeping and report generating capabilities of the L622. This software enables users to create custom species lists, and to archive L622 data on a PC hard drive for long term storage, retrieval, and report generations.

With the L622 Stat-Pak, you can quickly select the type of report you wish to generate. Three types of reports are available: Group Reports, Multiple Group Reports, and Group Readings Reports. All reports include statistical summaries, average moisture content, number of readings taken, standard deviation, histograms, and the high and low moisture readings.
OTHER FEATURES OF NOTE

- Takes up to 5,000 separate moisture readings.
- Stores readings of up to 200 easily organized groups for comparison of average moisture content (MC), standard deviation, and minimum/maximum MC.
- Built-in real-time clock/calendar.
- Using nonvolatile memory, the L622 will retain the stored readings even when the batteries are removed or changed.
- Battery life up to 50 hours.
- When battery voltage is low, the message “BAT” will be displayed.
- When the user tries to store a reading that is under 5% MC the “Too Low” message appears.
- A ‘no-activity’ auto shut-off in 1 minute saves battery life.
- Operating temperature 30-120 degrees F.
- 1-year warranty.
- The L622 comes standard with a calibration verification block, to allow to you check factory calibration.
- Stat-Pak, a PC compatible software package (see more on page 15).

SPECIFICATIONS

<table>
<thead>
<tr>
<th>Size</th>
<th>L 8.5” x W 4” x H 3.75” (L 215.9mm x W 101.6mm x H 95.25mm)</th>
</tr>
</thead>
<tbody>
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<td>Power</td>
<td>4 AA batteries</td>
</tr>
<tr>
<td>MC Range</td>
<td>5%-30%</td>
</tr>
<tr>
<td>Ports</td>
<td>RS-232 Serial Interface (for connecting with desktop computers)</td>
</tr>
<tr>
<td></td>
<td>– L722 Stack Probe Interface</td>
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</tbody>
</table>
L722
Lumber Stack Probe Sensor

The L722 Stack Probe Sensor coupled with the L622 Digital Recording Moisture Meter makes it easy to reach deep into stickered units of lumber and take accurate moisture readings without the danger of broken pins. Wagner Meters’ electromagnetic wave technology makes it possible to take multiple readings throughout an entire stack in just minutes.

The L722 is an attachment for the L622 hand meter. This combination allows the user to store readings taken in the kiln, and download the information to reports. The information can then be used to help a mill improve its moisture content quality control procedures.
THE L722 IS ROBUSTLY DESIGNED

- Probe hinge assembly is resistant to breakage when overstressed.
- Metal extrusion provides durability and ruggedness for mill environments.
- Leaf spring design ensures proper contact with the lumber for more accurate readings. The springs are user replaceable if worn or damaged.
- Sensor Probe Head is easily detachable from the extrusion for field servicing.
- Spare Sensor Probe Heads can be purchased separately.
- Available in Long (L) and Short (S) lengths.

SPECIFICATIONS

<table>
<thead>
<tr>
<th>Probe Reach</th>
<th>L722L: 40.5” (102.9cm); L722S: 27.75” (70.49cm)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Extrusion and Sensor Head Thickness</td>
<td>0.5” (12.7mm)</td>
</tr>
<tr>
<td>Minimum/Maximum Sticker Thickness Range</td>
<td>0.5” to 0.9” (12.7mm to 22.9mm)</td>
</tr>
<tr>
<td>Scanning Area</td>
<td>2.5” x 2.5” (6.35cm x 6.35cm)</td>
</tr>
<tr>
<td>Scanning Depth</td>
<td>1” (25.4mm)</td>
</tr>
<tr>
<td>Weight</td>
<td>L722L: 128 oz. (3.63kg) L722S: 112 oz. (3.18kg)</td>
</tr>
<tr>
<td>Overall Size Including Handle</td>
<td>L722L—L 48” x W 6” x H 1.625” (121.9cm x 15.2cm x 4.12cm)</td>
</tr>
<tr>
<td></td>
<td>L722S—L 34” x W 6” x H 1.625” (86.3cm x 15.2cm x 4.12cm)</td>
</tr>
</tbody>
</table>
MMI1100
Data Collection Moisture Meter

Designed for applications in wood manufacturing markets, the MMI1100 Moisture Meter is easy-to-use, easy to program, and offers data collection and assessment capabilities in the palm of your hand. The MMI1100 Moisture Meter is perfect for QC personnel for those applications where simple data analysis is critical. A great pocket-sized tool that allows for easy data gathering and spot checking.

INTELLISENSE® TECHNOLOGY

The MMI1100 measures deeply IN the wood for a true moisture picture without damage to the wood surface and without interference from surface moisture. And, like all of the meters at Wagner Meters, there is no need to adjust moisture content (MC) readings for temperature.
OTHER FEATURES OF NOTE

- 7-Year Warranty
- Battery Included
- Shock Resistant Carrying Case with Belt Clip Included
- Operating Temperature 30-110° Fahrenheit
- Stores up to 50 Readings

SPECIFICATIONS

| Size & Weight          | Length – 4 9/16”; Width – 2 3/4”; Height – 1 1/16”; (L 115.8mm x W 69.85mm x H 26.98mm) |
|                       | Weight – .37 lbs (.168 kg) |
| Power                 | 9V Battery; Auto Power Shut Down - 60 seconds |
| Control               | Three button control for on/off, species settings Press & Hold feature, and MODE |
| MC Range              | 5% – 30%; Digital Display in .1% increments (Note: If the specific gravity selected is >.8, the maximum MC reading will be <30%) |
| Depth of Measurement  | 3/4” (19.05mm) |
| Scanning Area         | 1 1/2” x 2 1/2” (38.1mm x 63.5mm) |
| Specific Gravity      | Selectable wood species setting (.20-1.0 specific gravity range) |
| Calibration           | Verifiable with Calibration Block (sold separately) |
| Storage               | Storage of readings
                        | Reviews of readings
                        | Views low, average, and high readings |
Really listening to what you, our customers, are experiencing – and really understanding what your needs are – is the way Wagner Meters has done business for the past 50 years.

I learned this from my dad, Delmer Wagner. When he worked as an electrician for a Pacific Northwest mill in the early 1960s, he listened to the management’s frustrations with traditional contact moisture detection.

These detectors came in big, bulky cabinets equipped with radio vacuum tubes. They were hard to calibrate, hard to interpret, and just plain hard to use.

Because dad listened carefully, he went to work straightaway experimenting with new designs and new technologies to better meet the mill’s needs. What he came up with was the first in-line moisture detector using transistors.

This new moisture detector was smaller and more compact, it cost less to make, and was much easier to calibrate. It also was much more reliable.

Even after dad started Wagner Meters, he continued listening. Once he knew what mills wanted and needed, he applied his vision and creative thinking to create new and innovative products that revolutionized the way the industry measured moisture . . . saving mills considerable time and money.

You may be aware of some of those products and practices: the first non-contact moisture meter, the calibration of meters in percent moisture content, the stack probe for readings in the center of the stack, an in-kiln moisture detector, and in-line meters coupled with computers to troubleshoot kilns.

Dad’s retired now, but Wagner Meters is still listening . . . still responding to our customers’ current needs . . . and still developing more useful and innovative tools.

Omega, our latest generation of comprehensive and robust moisture measurement and data analysis software, has proven to be invaluable for improving kiln drying and overall moisture quality for primary and secondary wood products manufacturers.

We updated our first generation of electrical field-based in-kiln moisture measurement systems (Model 778) with the development of our MC4000 Advanced In-Kiln Moisture Measurement System. This system offers a real-time view of the moisture content for each sensing zone, and provides a moisture content trend graph of all of the sensors during the drying schedule. Using the MC4000 can help your operation cut losses due to drying related degrade, minimize labor-intensive manual checking, and generally make your lumber drying process more effective.

When you asked for a handheld meter that delivers the same reliability, accuracy, and convenience of our larger systems, we developed the original, pin-free L600 Handheld Moisture Detector. Since then, we continued to refine and improve that detector to where we now offer four Digital Recording Handheld Meters – with extended battery life of 50 hours.

You also told us you needed a better way to measure moisture in the middle of lumber stacks . . . so we introduced a stack probe. Today, the L722 Stack Probe, coupled with the L622 digital recording meter, makes it easy to reach deep into stickered units of lumber. You now can take accurate readings without the danger of broken pins, while also taking multiple readings throughout an entire stack in minutes.

But we’re not done by a long shot. Thanks to your great suggestions and requests – we’re working on still more innovative moisture sensing and moisture measurement solutions.

On behalf of Wagner Meters, it gives me great pleasure to thank you for your trust and continual confidence in our products and services, and for giving us the opportunity to serve you.

With best wishes for your continued prosperity and success,
Ed Wagner (Left) and his son Eric Wagner (Right)
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