Hach turbidimeters are the preferred choice of water quality managers around the world, because they are engineered to provide superior accuracy and sensitivity in any application. Since Hach introduced the first laboratory turbidimeter for testing drinking water more than 30 years ago, our optical system has evolved continuously. Now—with new advances in optics, digital signal processing, control and self-diagnostic software—we offer the world's most versatile and reliable laboratory turbidimeters.

Hach's 860nm LED (2100N IS and 2100AN IS models), mounted in a machined anodized alloy collimator, produces a precisely controlled beam with little stray light. The LED light source is ideal for many applications involving colored samples—in the food and beverage industry, for example. The self-regulating LED is extremely stable and reliable for an average of 10 years with no maintenance.

Passing through three precisely aligned lenses, the light is focused in a narrow, collimated beam. A series of baffles and light-capturing chambers virtually eliminate stray light.

Superior accuracy starts here, with an extraordinary tungsten lamp (2100 N & AN). Every halogen-filled lamp made for a Hach turbidimeter is fitted with a tungsten filament that is meticulously aligned to produce a stable, predictable output. Each lamp is stabilized at Hach before installation for the greatest possible quality assurance. This enhances the lamp's performance from the start.

In Ratio Measurement mode, an array of additional detectors provide data that make 2100 Series Turbidimeters even more versatile. Hach's patented Ratio Measurement system reduces color interference and maintains calibration stability.

With Ratio Measurement turned off, the instrument uses only the 90-degree detector to provide a pure nephelometric measure of turbidity.

With a back-scatter detector, 2100AN and 2100AN IS models are uniquely equipped to measure high levels of turbidity (up to 10,000 NTU) with excellent accuracy.
Hach makes a 2100 Series Turbidimeter for virtually every application—and every model includes technology and reliability that sets Hach apart. Regulate your requirements for regulatory compliance, accuracy, or sensitivity at extremely high or low levels of turbidity, there is a 2100 Series Turbidimeter to meet your needs exactly.

Which 2100 Series Turbidimeter is right for you?

Hach 2100 Series Turbidimeters. The primary standard for versatility, accuracy and value.

Choose the right light source –

Choose a tungsten light source to comply with U.S. EPA 180.1 requirements, or an LED to comply with European ISO 7027 Turbidity Measurement Standards.

Otherwise, choose a light source that matches the parameters of your application. For samples with very small particles, a tungsten lamp is preferred for its shorter wavelengths and greater sensitivity in the low range of turbidity (< 1 NTU).

Air purge prevents condensation within sample chamber

A built-in connection allows you to purge the sample compartment with dry air to prevent light scattering caused by condensation, which allows you to measure cold and hot samples.

Meets worldwide industry safety and design standards

Listed to UL 1262 and certified to CSA 22.2 No. 1010.1 by Edison Testing Laboratories (ETL). Carries the CE compliance mark.

RS232 input/output

Enables you to send data to a computer or external printing device.

Regulatory reporting

The 2100N is equipped with a stable halogen-filled, tungsten filament lamp to meet the reporting requirements of EPA Method 180.1. The 2100N IS is equipped with an 860 nm LED light source to meet ISO 7027 Turbidity Measurement Standards.

Specifications

<table>
<thead>
<tr>
<th>Model</th>
<th>Resolution</th>
<th>Repeatability</th>
<th>Warranty</th>
<th>Power</th>
<th>Operating modes</th>
</tr>
</thead>
<tbody>
<tr>
<td>2100N</td>
<td>0.001 NTU</td>
<td>±1% of reading or 0.01 NTU, whichever is greater</td>
<td>2 years</td>
<td>115/230 VAC, 50/60 Hz</td>
<td>Manual or Auto Range; Signal Avg on or off</td>
</tr>
<tr>
<td>2100N IS</td>
<td>0.001 NTU</td>
<td>±2% of reading or 0.01 FNU/NTU from 0 to 1,000 FNU/NTU</td>
<td>2 years</td>
<td>115/230 VAC, 50/60 Hz</td>
<td>Manual or Auto Range; Signal Avg on or off</td>
</tr>
</tbody>
</table>

To Order:

- 2100N North American power cord: Cat.# 47000-00
- 2100N North American power cord: Cat.# 47900-00
- 2100N European power cord: Cat.# 47900-02
- 2100N European power cord: Cat.# 47000-02

2100N IS

Analytical workhorses.

With Hach's patented optical system and 30 years of design evolution, the 2100N and 2100N IS Turbidityimeters meet the needs of most laboratories for fast, accurate turbidity testing over a wide range of samples. The 2100N is equipped with a tungsten lamp, while the 2100N IS is equipped with an 860 nm LED light source. Otherwise, the two models offer comparable performance.
For colored samples – in industries such as foods, petrochemicals and pharmaceutical processing – the LED is generally superior. Hach’s Ratio Measurement mode is an effective method of reducing color interference. For the greatest possible reduction of color and other sample interferences, use an LED-based turbidimeter and Ratio Measurement.

Choose the right level of performance –

The 2100N and 2100N IS are ideal for daily analytical tasks or for regulatory monitoring. Step-by-step menus guide you through calibration, normal operation and diagnostics. Advanced features like Ratio Measurement and signal averaging ensure that your results will be accurate and consistent in all conditions.

The 2100AN and 2100AN IS are ideal for research, process monitoring and product control at any level of turbidity – up to 10,000 NTU. Programmable signal averaging, calibration curves, recorder outputs and a built-in printer are powerful tools for optimizing your test procedures and managing your results.

Three readout modes

Measuring turbidity over an extended range, three selectable readout modes are available for the 2100N: NTU, NEP and EBC. The 2100N IS displays measurements in FNU and NTU.

Smart self-diagnostics

Relax. The instrument will alert you if you make a mistake – such as inserting the wrong calibration standard.

Hach-patented Ratio Measurement

(2100N, AN, and AN IS only)

One keystroke initiates Ratio Measurement and activates an array of detectors in addition to the 90-degree nephelometric detector. Ratio Measurement corrects for color interference, enhances calibration stability, and allows the measurement of turbidity at levels greater than 1,000 NTU.
Hach's patented StablCal Stabilized Formazin is true non-toxic Formazin, not a synthetic – as required by ISO 7027 and EPA Method 180.1. It scatters light exactly like a freshly diluted, conventional formazin standard. But StablCal is delivered at precisely the concentration you need. It requires no preparation before you use it, and its stability is guaranteed for a minimum of one year.

A complete selection of accessories are available to speed up routine testing and improve the accuracy of your test results. Flow cell kits – including a high-pressure flow cell – convert your testing process into a nearly continuous operation. Sample conditioning accessories and special filter modules help eliminate error caused by entrained gases and color interference.

Laboratory accessories

- StablCal® Stabilized Formazin Standards – No preparation, fast calibration.
- Enhanced flow cell options: Now, you can program flow time, duration, and static or dynamic measurements.
- Expanded recorder output: The instrument's internal printer, external RS232 port, and recorder outputs can all send signals simultaneously.

Meets worldwide industry safety and design standards

- Listed to UL 1262 and certified to CSA 22.2 No. 1010.1 by Edison Testing Laboratories (ETL). Carries the CE compliance mark.
- Air purge prevents condensation.

Only StablCal and Hach-prepared Formazin guarantee the reproducibility necessary for optimal performance. Unlike conventional formazin, StablCal is available in ready-prepared sets of sealed sample vials, customized for full-range calibration of all 2100 Series turbidimeters. They are also available in bulk.

Specifications

- Resolution: 0.001 NTU
- Repeatability: ±1% of reading or 0.01 NTU, whichever is greater
- Warranty: 2 years
- Power: 115/230 VAC, 50/60 Hz
- Operating modes: Manual or Auto Range; Signal Avg on or off; Ratio on or off
- Meets ISO 7027, DIN 3804 and NFT 9033
- Light source: 860 nm LED (typical life, 10 years continuous use)
- Accuracy: ±2% of reading or 0.01 FNU from 0 to 1,000 FNU
  ±10% of reading from 20.0 to 10,000 FAU
  ±2% of reading or 0.01 NTU from 0 to 1,000 NTU
  ±5% of reading from 1,000 to 4,000 NTU
  ±10% of reading from 4,000 to 10,000 NTU
- Range: 0-10,000 NTU
- Measurement modes: Select FNU, FAU, NTU, EBC, ABS, %T, or two user-defined units
- Min. sample volume: 20 ml

To Order:

- 2100AN IS North American power cord: Cat. # 47901-00
- 2100AN IS European power cord: Cat. # 47901-02
- 2100AN North American power cord: Cat. # 47001-00
- 2100AN European power cord: Cat. # 47001-02

2100AN / 2100AN IS TURBIDIMETERS

Enhanced performance for the demanding user. In addition to providing all the capabilities of the 2100N and 2100N IS models, the 2100AN and 2100AN IS Turbidimeters are ideal for testing samples in the higher ranges of color and turbidity. Many features – such as signal averaging and recorder outputs – are programmable in the 2100AN and 2100AN IS models. And with such enhanced features as interchangeable color filters and user-defined, Application-Specific Calibration (ASC), they are well-equipped for color compensation and measurement.
For greater confidence and convenience in turbidity testing, insist on a Hach 2100 Series Laboratory Turbidimeter. Call Hach, and ask for any of these specification sheets and technical bulletins:

- 2100 Series Laboratory Turbidimeters – Specifications Sheet No.1588
- Laboratory Accessories – Specifications Sheet No.4261
- StablCal, Low-NTU StablCal, and conventional formazin standards – Specifications Sheet No.1582
- Booklet No.7045, “Turbidity Standards.”

Call 1-800-227-HACH.

Step up to the 2100 Series.

- Extended range, more readout options
  - Both the 2100AN and 2100AN IS measure turbidity over an extended range: up to 10,000 NTU. The 2100AN also displays test results in NEP, EBC, ABS, %T, CU and two user-defined units. Display options on the 2100AN IS include FNU, FAU, EBC, ABS, %T and two user-defined units.

Enhanced Ratio Measurement

- With a 135-degree Back Scatter Detector added to the instrument's array of light detectors, Ratio Measurement in the 2100AN and 2100 AN IS is even more effective at correcting for color interference in colored samples.

Built-in printer

Simplifies documentation by printing date/time, sample ID number, and measurement/calibration data.

Programmable signal averaging – user-adjustable up to 15-seconds

The system automatically stabilizes the displayed value when large or irregular particles cause the measured value to fluctuate excessively.

2100 Series Laboratory Turbidimeters are ideal for regulatory and non-regulatory testing wherever accuracy, consistency and reliability are critical.

- Drinking water
- Waste water
- Food and beverage
- Pharmaceuticals
- Mining
- Petrochemical
- Environmental monitoring
- Paints and resins
- Microbiology
- Process optimization

Call 1-800-227-HACH today to learn more about the value of turbidity testing with 2100 Series Laboratory Turbidimeters. Or visit us on-line at www.hach.com.

Regulatory reporting

The 2100AN is equipped with a stable halogen-filled, tungsten filament lamp to meet the reporting requirements of EPA Method 180.1. The 2100AN IS is equipped with an LED light source to meet ISO 7027 Turbidity Measurement Standards.
At Hach, state-of-the-art technology is only part of the equation – a given. Combine this with Hach’s renowned worldwide support, dedicated technical support staff and skilled, responsive service teams, and you have the formula for success in water analysis and testing.

Hach has elevated analytical chemistry to a new level of accuracy. Hach’s precise sampling, mixing and analytical procedures, designed into every piece of Hach equipment, give you accurate, repeatable results time after time.

The Hach Technical Training Center in Loveland, Colorado has hosted thousands of chemists, technicians, operators, educators and supervisors, all participating in the most up-to-date, practical analytical training available. Topics cover fields as diverse as water and wastewater, boiler and cooling water, meat and dairy products, microbiology, sludge and soils. For a course schedule call 1-800-227-4224 x2391.

Hach’s dedicated service staff is now available in 95 countries – and counting. Whatever challenge you encounter – choosing the right system, understanding a new procedure, troubleshooting an instrument – Hach’s specialists are available to help you.

Installation, warranty and repair assistance can be accessed easily through Hach’s toll-free number: 1-800-227-4224. (Overseas, call the Hach dealer located near you.)

Hach’s outstanding technical staff responds quickly and accurately to all calls. From simple questions on the phone to complex inquiries requiring the expertise of our Technical Support Group, to extended on-site visits in the field, Hach support is second to none. Customers can also e-mail their requests to techhelp@hach.com.

Since its earliest days, Hach has maintained – in fact, defined – the leading technological edge in testing and analysis of water. From sophisticated, high-end laboratory instruments to special on-line process monitoring systems to virtual laboratories-in-a-kit, Hach set the standard for others to follow.