







HI801 Spectrophotometer

with advanced split beam optical system, customizable methods and rechargeable battery

iris portable spectrophotometer is unlike any of the products we have created in the past. It is different from our photometers as it allows for measurement in the spectrum of all wavelengths of visible light and not just pre-specified wavelengths. Spectrophotometers work by isolating light at specific wavelengths from white light. This compact meter incorporates a number of features that facilitate both fantastic performance and exceptional usability.

Supplied with 85 factory methods

Create up to 100 user methods

Field upgradeable firmware

5 cuvette types with automatic detection

Rechargeable li-ion battery

Data storage for 14000 measurements with ability to auto log results

Simplified data transfer to a PC or Mac





In a spectrophotometer the optical system is the heart of the instrument. Ensuring that the optical system is built with the best design and highest quality materials will guarantee accurate readings and a long life for the meter. When developing this meter our research and development team payed special attention to details and combined many small improvements to a typical spectrophotometer design to create a portable meter with unprecedented performance.



Replaceable tungstenhalogen lamp

To be able to measure in a wide variety of wavelengths a broadband light source is necessary. In the iris spectrophotometer this is accomplished by a tungsten-halogen lamp. As these lamps do not last indefinitely, it is necessary to change them throughout the life of the meter. The pre-alignment of the lighting fixture guarantees that the bulb is in the same position every time it is changed. This generates peace of mind as there is no need to worry about realigning the light source.

Narrow bandwidth and high resolution

Having a small bandwidth is necessary to accurately measure narrow peaks. The iris spectrophotometer maintains a narrow bandwidth of 5nm resulting in good spectral resolution. This leads to accurate measurement of sharp, narrow absorbance peaks. Additionally, the high resolution of 1nm generates greater sensitivity as the wavelength is closer to where the sample absorbs the most light.



Beam splitter

The beam splitter is added to the optical system for use with a reference detector to ensure that the measurement compensates for any drift in the light source. It works by splitting the light emitted by the tungsten lamp into two beams and sending one beam of light to the reference detector that measures intensity. If there are any fluctuations in the light source the meter detects this and compensates through a mathematical calculation. The reference detector also saves battery life and leads to improved speed of the meter as the lamp doesn't have to warm up prior to use.

Low stray light

A common problem in spectrophotometers is stray light. Stray light can be light which is outside the wavelength the meter is measuring or also light at the proper wavelength but from outside the meter. This leads to inaccurate readings as this light would not be absorbed by the sample but would still be detected by the meter. This is a problem that is typically hard to control. Due to the design of the optical system we are able to keep this potential issue to a minimum to improve the linearity and accuracy of readings.





Concave grating

This element of the optical system is what generates the spectrum of light. When the light from the tungsten lamp hits the grating it is met with interference coatings that turn the polychromatic white light into a rainbow. This rainbow contains dispersed light at all wavelengths in the visible spectrum. The rotation of this grating is what allows for a specific wavelength to be selected. This ability is one of the biggest differences between a spectrophotometer and a photometer. The concave grating which accomplishes this is superior to other types of diffraction, such as prisms, as it minimizes stray light generated and has constant bandwidth. It also combines elements of the optical system that would typically be separate, for example if a flat grating was used a concave mirror would need to be added in order to refocus the light. The combination of these two pieces creates greater efficiency and a smaller optical system to yield a more compact portable meter.





System check

Upon turning on the meter a performance check occurs to confirm that the light source is working properly and to calibrate the position of the grating. The grating calibration works by scanning for the "zero order" light reflecting off the grating. If any mechanical problems are present, the meter will display an alert. This feature establishes confidence in measurements knowing that the meter is always working properly without needing to run any additional tests.

Universal cuvette holder and auto-recognition

The cuvette holder built into the meter holds both 22 mm round cuvettes and rectangular cuvettes with a 5cm path length. Adapters for the cuvette holder are available to hold other 13 and 16mm round cuvettes, and 10mm square cuvettes. Rectangular cuvettes have longer path lengths which result in higher sensitivity in readings of low absorbance samples. Additionally, the meter permits the selection of the size of the cuvette used in custom user methods from the available sizes. For all methods, the programmed cuvette size is displayed on the screen to ensure the correct cuvette size is used, ensuring that the proper path length is being used by the meter when calculating measurements.





User Interface

No one likes to work with difficult equipment, which is why we have worked hard to create an interface that makes the meter's operation seamless. The intuitive menu design and large LCD screen all make working with the meter a breeze. Get ready for your new favorite piece of lab equipment.



Favorite methods

Always have your most frequently used methods readily available with the favorite methods feature. Directly from the home screen is access to user-programmed favorite methods, saving time.

Capacitive touchpad

Maneuvering the menus and using the meter is effortless with the capacitive touchpad. Featuring dedicated buttons specifically for setup, logging data, recalling data, and methods allows for quick and easy access to these functions. There is a key beep feature that can be enabled or disabled, for audible feedback that the key was pressed. Additionally, the meter also still recognizes key touches even through gloves.

Large high contrast custom LCD display

With a 6" display, the screen is large and easy to read. The high contrast makes every character on the display stand out even during outdoor use. The wide viewing angle allows for measurements to be seen from far away, so while working around the lab it is not necessary to hover over the meter to see the measurements.

Customized Methods

Creating a customized method is easy and intuitive. The HI801 guides you step-by-step through the process of creating your own custom method. The intuitive user interface will guide you through naming your method, setting the measurement wavelengths, creating reaction timers, and calibrating the method. Up to 10 points can be used to calibrate methods.

Step-by-step method creation

Up to 10 calibration points

Flexible calculations for multi wavelength methods

General Features

When choosing a piece of equipment making sure the product has all required features for the intended purposes is critical. When building the iris we included as many features as we could to aid in making this meter exceedingly versatile and convenient. From bare necessities such as long battery life and easy data logging and transfer, we have pushed the limits on seemingly basic features to make your life as easy as possible.











Pre-programmed methods

Programmed in the meter are more than 80 commonly used methods for chemical analysis. Methods can easily be updated by transferring the file from a computer to the meter or by a flash drive. Up to 150 factory methods can be saved in the meter and some chemical parameters have the option to switch between different chemical forms. Finding the product codes to order additional reagents is easy as the meter provides the appropriate reagent codes for each programmed method.

User methods

The ability to program up to 100 personal methods into the meter creates both versatility and customization. Methods can include up to 10 calibration points, 5 different wavelengths (which can be used simultaneously), and permits the use of 5 reaction timers. These features allow for many variations to be implemented into methods. Compared to a photometer there is no longer a limitation by factory methods. If a certain parameter is not offered or a modification to a pre-programmed method is required, the meter can be customized to suit your needs.

Spectral range

The meter features a spectral range of 340nm to 900nm allowing for a wide selection of analytical methods. The flexibility of this range permits compliance with many methods from regulatory organizations and associations for a variety of applications.

Data logging and transfer

Transferring data from a meter should always be simple and straightforward. Impressively the meter can store up to 14,000 measurements in memory. At any time data can be transferred to a PC or Mac as either a CSV or PDF file. No software is required, simply plug in a flash drive or plug it into a computer and export the data. The ability to save data as a PDF ensures higher integrity of the data as it cannot be easily changed. Additionally, a meter ID and a sample ID can be programmed to be saved along with logged measurements. iris features USB ports for both flash drive and a direct computer connection. Connectivity with a USB-A port to a flash drive can be used to transfer logged measurements from the meter and also to transfer method updates onto the meter. The USB-B port is used for a direct connection to a computer specifically for transferring logged data.

Battery operated

The meter features a rechargeable lithium ion battery that lasts for approximately 3,000 measurements. Lasting well over a day of use in the field there is no need to worry about the battery life while out working without a power supply. The meter can be quickly recharged with a dedicated fast charging adapter.



Cuvette Adapters RETURN TO THE THOO IT'S

Specifications

General Specifications	HI801 iris
Wavelength Range	340-900 nm
Wavelength Resolution	1nm
Wavelength Accuracy	±1.5 nm
Photometric Range	0.000-3.000 Abs
Photometric Accuracy	5 mAbs at 0.000-0.500 Abs; 1% at 0.500-3.000 Abs
Measurement Mode	transmittance (%), absorbance and concentration
Sample Cell	$10\mathrm{mm}\mathrm{square}, 50\mathrm{mm}\mathrm{rectangular}, 16\mathrm{mm}\mathrm{round}, 22\mathrm{mm}\mathrm{round}, 13\mathrm{mm}\mathrm{round}(\mathrm{vial})$
Wavelength Selection	automatic, based on the selected method (editable for user methods only)
Light Source	tungsten halogen lamp
Optical System	split beam
Wavelength Calibration	internal, automatic at power-on with visual feedback
Stray Light	$<\!0.1\%Tat340nm$ with $NaNO_2$
Spectral Bandwidth	5 nm
Number of Methods	150 Factory / 100 User
Data Points Stored	9999 measured values
Export Capability	csv file format, pdf file format
Connectivity	1x USB A (mass storage host); 1x USB B (mass storage device)
Battery Life	3000 measurements or 8 hours
Power Supply	15 VDC power adapter; 10.8 VDC Li-lon rechargeable battery
Environment	0 to 50 °C (32 to 122 °F); 0 to 95% RH
Dimensions	155 x 205 x 322 mm (6.1 x 8.0 x 12.6")
Weight	3 kg (6.6 lbs.)
Ordering Information	HI801-01 (115V) and HI801-02 (230V) is supplied with sample cuvettes and caps (22 mm, 4 pcs.), cloth for wiping cuvettes, scissors, USB cable, USB flash drive, 15 VDC power adapter, instruction manual and instrument quality certificate.



Parameter Specifications

Asalmity Asim (Asim) O-Storopic (SO) ± Inquit ±59 relation Before the Solid Horse (Asim) 6.75 (Asim) 1.75 (Asim) Allminum 0-50 mort (Asim) ± Inquit ±59 relation Allminum 50 (Asim) 1.75 (Asim)<	Parameter	Range	Accuracy (@25°C)	Method	λ (nm)	Reagent	Cuvette
Authorium	Alkalinity	0-500 mg/L CaCO₃	±5 mg/L ±5% of reading	Bromocresol green	610	HI775-26	R-22
Amonabia IR O.D. 3.00mg/d Mily k 4.00 farget *4.00 factoring Needer 4.75 1.92700.01 8.16 Amonabia IR O.D. 1.00 farget Mily k ± 0.00 farget *1.90 feet factoring Needer 4.75 1.92715.01 8.16 Amonabia IR O.D. 1.00 farget Mily k ± 0.05 feet factoring Needer 4.25 1.92715.01 8.16 Amonabia IR O.D. 1.00 farget Mily k ± 1.95 feet factoring Needer 4.25 1.92715.01 8.12 Amonabia IR O.D. 1.00 farget Mily k ± 1.95 feet factoring Needer 4.25 1.92715.01 8.25 Amonabia IR O.D. 1.00 farget Mily k ± 1.95 feet factoring Needer 4.25 6.2715.01 8.25 Galum O.D. 4.00 farget Mily k ± 1.95 feet factoring Outlet 4.66 1.9275.01 8.25 Galum O.D. 4.00 farget Mily k ± 1.95 feet factoring Outlet 4.66 1.9275.01 8.22 Galum D.D. 1.00 feet factoring ± 1.95 feet factoring D.D. 1.00 feet factoring 2.00 feet factoring 2.00 feet factoring 2.00 feet	Alkalinity, Marine	0-300 mg/L CaCO₃	±5 mg/L ±5% of reading	Bromocresol green	610	HI755-26	R-22
Ammonia RA DOI-100mg/LNH-N ±100mg/L or Shoot reading Nessler 425 H3975-02 8.18 Ammonia RA DOI-100mg/LNH-N ±105 mg/L ±500 froating Nessler 425 H3973-02 8.18 Ammonia RA DO-100mg/LNH-N 1 ±105 mg/L ±500 froating Nessler 425 H3973-02 8.18 Ammonia RA DO-100mg/LNH-N 1 ±105 mg/L ±500 froating Nessler 425 H3973-02 8.18 Brown DO-100mg/LNH-N 1 ±100 mg/L ±500 froating DPG 95 95 95 1997-02 8.22 Clothin O-200 mg/L Ch ±100 mg/L ±500 froating DPG 95 95 1997-02 8.23 Clothin D-200 mg/L Ch ±100 mg/L ±500 froating PD 455 H3975-01 8.22 Clothin D-200 mg/L Ch ±100 mg/L ±500 froating Chompton life life 95 H3975-01 8.22 Clothin D-200 mg/L Ch ±100 mg/L ±500 froating Chompton life life 95 H3975-01 8.22 Clothin D-200 mg/L Ch	Aluminum	0.00-1.00 mg/L AI3+	±0.02 mg/L ±4% of reading	Aluminon	530	HI93712-01	R-22
Ammonia NG 000-100 mg/LN-N-N 8.05 mg/L ±596 melang Nessler 4.25 189375-01 R-16 Ammonia NG 0.01-00 mg/LN-N-N 1.05 mg/L ±596 melang Nessler 4.25 189375-01 R-16 Ammonia NG 0.01-00 mg/LN-N-N 1.1 mg/L or 596 of reading Nessler 4.00 189376-02 R-12 Blumine 0.01-100 mg/L mg/L 1.10 mg/L ±596 of reading Owalare 4.60 189372-01 R-22 Calcium 0.01-00 mg/L GP 1.10 mg/L ±596 of reading Owalare 4.60 193732-01 R-22 Calcium 0.01-00 mg/L GP 1.00 mg/L ±596 of reading Mercury thiocyanate 4.55 189373-01 R-22 Chorise Recoll CR 0.00 mg/L GP 0.10 mg/L ±596 of reading Mercury thiocyanate 4.55 189378-01 R-22 Chorise Free RELIN 0.00 mg/L GP 0.10 mg/L ±596 of reading PM 4.00 mg/L ±596 189378-01 R-22 Chorise Free RELINGUIR 0.00 mg/L GP 0.10 mg/L ±596 of reading PD 2.5 189378-01 R-22 Chorise Free RELI	Ammonia LR	0.00-3.00 mg/L NH ₃ -N	±0.04 mg/L ±4% of reading	Nessler	425	HI93700-01	R-16
Amenonia (IR) 0.1-00 mg/l Mi., 1 1.5 mg/l 1994 of reading Nessber 475 149733-00 8.15 Amonaid IR 0.1-00 mg/l Mi., 1 1.1 mg/l or Stat reading Nessber 475 14973-16.1 8.15 Dimmine 0.0-10 mg/l Cor 1.10 mg/l 1-994 of reading PPO 525 14977-10.1 8.22 Calcium, Marine 2.0-0-00 mg/l Cor 1.50 mg/l 1-994 of reading Auctive 465 11977-10.1 8.22 Chorise 0.0-20 mg/l Cor 1.50 mg/l 1-994 of reading Metrury thocyanate 455 11937-10.1 8.22 Chorise Free LR 0.0-20 mg/l Cor 1.50 mg/l 1-994 of reading On One of 1.0 mg/l 1-994 of reading PO 453 11937-10.1 8.22 Chorise Free LR (Gooder reagent) 0.0-0-300 mg/l Cor 2.00 mg/l 2-994 of reading DPO 253 11937-10.1 8.22 Chorise Free LR (Gooder reagent) 0.00-500 mg/l Cor 2.00 mg/l 2-994 of reading DPO 253 11937-10.1 8.22 Chorise Free LR (Gooder reagent) 0.00-500 mg/l Cor 2.00 mg/l 2-994 of reading DPO 253 <td>Ammonia LR</td> <td>0.00-3.00 mg/L NH₃-N</td> <td>±0.10 mg/L or 5% of reading</td> <td>Nessler</td> <td>425</td> <td>HI93764A-25</td> <td>R-13</td>	Ammonia LR	0.00-3.00 mg/L NH ₃ -N	±0.10 mg/L or 5% of reading	Nessler	425	HI93764A-25	R-13
Ammonia HR 09-100mg/LMF, N ± 1 mg/s of 99/07 releasing Nessee 450 H927/69-25 R.13 Bromine 09-100 mg/L Gr ² ± 10 mg/s 1.59% of reading OPO 525 H937/5-01 R.22 Cackum 0.400 mg/L Gr ² ± 10 mg/s 1.59% of reading On outst 466 H937/5-01 R.22 Cackum Mornine 200-000 mg/L Gr ² ± 15% of reading Zeros 610 H758-26 R.13 Chloride 00-200 mg/L Gr ² ± 100 mg/s 1.59% of reading Chronophronia Red 475 H937/3-01 R.22 Chloride 00-200 mg/L Gr ² ± 100 mg/s 1.59% of reading Chronophronia Red 575 H937/3-01 R.22 Chloride Free R (grounder reagent) 0.00-500 mg/L Gr ² ± 10.00 mg/L Free Free free Red 0.00-500 mg/L Gr ² ± 10.00 mg/L Gr ² ± 10.00 mg/L Gr ² ± 20.00 mg/L Gr ² H937/3-01 R.22 Chloride Free R (grounder reagent) 0.00-500 mg/L Gr ² ± 10.00 mg/L Gr ² ± 10.00 mg/L Gr ² ± 10.00 mg/L Gr ² H937/3-01 R.22 Chloride Free R (grounder reagent) 0.00-500 mg/L	Ammonia MR	0.00-10.00 mg/L NH ₃ -N	±0.05 mg/L ±5% of reading	Nessler	425	HI93715-01	R-16
Beamine 0.00-10.00 mgs (mgs) 2.008 mgs (a.gr) 2.508 mgs (a.gr)	Ammonia HR	0.0-100 mg/L NH ₄ +	±0.5 mg/L ±5% of reading	Nessler	425	HI93733-01	R-16
Calcium Galcium 4-A00mg/L Gal* \$150mg/L selve freading Oxabate 466 H19752-20. R-22 Calcium Marine 200-600 mg/L Cal* 556 treading Zincon 610 H1750-25. R-12 Chloride 0-200 mg/L Cl0 201 mg/L 55% of reading Merry Micry Marine 455 H09758-01 R-22 Chloride Free LR (powder reagen) 0.000-500 mg/L Q 201 mg/L 55% of reading DP0 255 H9970-10 R-22 Chloride, Free LR (powder reagen) 0.00-500 mg/L Q 200 mg/L 25% of reading DP0 255 H9970-10 R-22 Chloride, Free LR (powder reagen) 0.00-500 mg/L Q 200 mg/L 25% of reading DP0 255 H9970-10 R-22 Chloride, Free LR (powder reagen) 0.00-000 mg/L Q 200 mg/L 25% of reading DP0 255 H9970-10 R-22 Chloride, Free LR (powder reagen) 0.00-000 mg/L Q 200 mg/L 25% of reading DP0 255 H9970-11 R-22 Chloride, Free LR (powder reagen) 0.00-000 mg/L Q 200 mg/L 25% of reading DP0 255 H9970-11	Ammonia HR	0.0-100 mg/L NH ₃ -N	±1 mg/L or 5% of reading	Nessler	430	HI93764B-25	R-13
Cackina, Marine 700-600 mg/L CP 45% of reading Zincon 610 H758-75 R-16 Chloride 0.0-200 mg/L CP ±05 mg/L ±5% of reading Mercury thiocynates 455 H15975-01 R-22 Chloride Free ULR 0.000-0500 mg/L CP ±0.020 mg/L ±3% of reading OP 525 H15975-01 R-22 Chloride Free LR (Bowder reagen) 0.00-500 mg/L CP ±0.020 mg/L ±3% of reading OPD 525 H15970-10 R-22 Chloride Free LR (Bowder reagen) 0.00-500 mg/L CP ±0.03 mg/L ±3% of reading OPD 525 H19370-1 R-22 Chloride Free LR (Bowder reagen) 0.00-500 mg/L CP ±0.03 mg/L ±3% of reading OPD 525 H19370-1 R-22 Chloride Free LR (Biquid reagen) 0.00-500 mg/L CP ±0.02 mg/L ±3% of reading OPD 525 H19370-1 R-22 Chloride Free LR (Biquid reagen) 0.00-500 mg/L CP ±0.02 mg/L ±3% of reading DPD 525 H19370-1 R-22 Chloride Free LR (Biquid reagen) 0.00-500 mg/L CP ±0.02 mg/L ±3% of reading DPD 525 H19371-1	Bromine	0.00-10.00 mg/L (mg/L)	±0.08 mg/L ±3% of reading	DPD	525	HI93716-01	R-22
Chloride 0.0-2.00 mg/L Cr	Calcium	0-400 mg/L Ca ²⁺	±10 mg/L ±5% of reading	Oxalate	466	HI937521-01	R-22
Choire Divide	Calcium, Marine	200-600 mg/L Ca ^{z+}	±5% of reading	Zincon	610	HI758-26	R-16
Choine Free ULR 0.000 - 0.500 mg/L C ₂ ± 0.020 mg/L ±396 of reading DPD \$25 H85762-01 R-22 Cholorine Free IR (qiquid reagent) 0.00-500 mg/L C ₂ ± 0.03 mg/L ±396 of reading DPD \$25 H8370-1 R-22 Cholorine Free IR (qiquid reagent) 0.00-500 mg/L C ₂ ± 0.03 mg/L ±396 of reading DPD \$25 H8370-1 R-22 Cholorine Free HR 0.00-100 mg/L C ₂ ± 0.03 mg/L ±396 of reading DPD \$25 H8373-1 R-22 Cholorine Total LR (powdre reagent) 0.00-500 mg/L C ₂ ± 0.03 mg/L ±396 of reading DPD \$25 H8371-01 R-22 Cholorine Total LR (qiquid reagent) 0.00-500 mg/L C ₂ ± 0.03 mg/L ±396 of reading DPD \$25 H8371-01 R-22 Cholorine Total LR (qiquid reagent) 0.00-500 mg/L C ₂ ± 0.03 mg/L ±396 of reading DPD \$25 H3371-01 R-22 Cholorine Total LR (qiquid reagent) 0.00-500 mg/L C ₂ ± 300 mg/L ±396 of reading DPD \$25 H3371-01 R-22 Cholorine Total LR (qiquid reagent) 0.00 mg/L C ₂ ± 3 mg/L ±396 of reading	Chloride	0.0-20.0 mg/L Cl ⁻	±0.5 mg/L ±5% of reading	Mercury thiocyanate	455	HI93753-01	R-22
Chlorine, Free LR (powder reagent) 0.00 - 5.00 mg/L Cg ± 0.03 mg/L ±36 of reading OPD \$25 H93701-15 R-22 Chlorine, Free LR (liquid reagent) 0.00 - 5.00 mg/L Cg ± 0.03 mg/L ±38 of reading OPD \$25 H93701-17 R-22 Chlorine, Free LR (liquid reagent) 0.00 - 0.00 mg/L Cg ± 0.00 mg/L ±38 of reading OPD \$25 H95761-01 R-22 Chlorine, Total LR (powder reagent) 0.00 - 5.00 mg/L Cg ± 0.00 mg/L ±38 of reading OPD \$25 H93701-1 R-22 Chlorine, Total LR (powder reagent) 0.00 - 5.00 mg/L Cg ± 0.03 mg/L ±38 of reading OPD \$25 H93701-1 R-22 Chlorine, Total LR (liquid reagent) 0.00 - 5.00 mg/L Cg ± 0.03 mg/L ±38 of reading OPD \$25 H9371-01 R-22 Chlorine, Total LR (liquid reagent) 0.00 - 5.00 mg/L Cg ± 0.03 mg/L ±38 of reading DPD \$25 H9371-01 R-22 Chlorine, Total LR (liquid reagent) 0.00 - 5.00 mg/L Cg ± 1.00 m	Chlorine Dioxide	0.00-2.00 mg/L CIO ₂	±0.10 mg/L ±5% of reading	Chlorophenol Red	575	HI93738-01	R-22
Chlorine, Free LR (liquid reagent) 0.00-5.00 mg/L C ₂ ±0.03 mg/L ±3% of reading DPD 525 H9370LF R-22 Chlorine, Free HR 0.00-1.00 mg/L C ₂ ±0.03 mg/L ±3% of reading DPD 525 H93734-01 R-22 Chlorine, Total LR (powder reagent) 0.00-5.00 mg/L C ₂ ±0.03 mg/L ±3% of reading DPD 525 H9371-01 R-22 Chlorine, Total LR (powder reagent) 0.00-5.00 mg/L C ₂ ±0.03 mg/L ±3% of reading DPD 525 H9371-01 R-22 Chlorine, Total LR (powder reagent) 0.00-5.00 mg/L C ₂ ±0.03 mg/L ±3% of reading DPD 525 H9371-01 R-22 Chlorine, Total LR (powder reagent) 0.00-5.00 mg/L C ₂ ±0.03 mg/L ±3% of reading DPD 525 H9373-01 R-22 Chlorine, Hard RR 0.00-10.00 mg/L C ₂ ±3 mg/L ±3% of reading DPD 525 H9373-01 R-22 Chlorine, Total LR (powder reagent) 0.00-10 mg/L C ₂ ±3 mg/L ±3% of reading Dipe mg/L 20 555 H9373-01 R-22 Chlorine, Total LR (powder reagent) 0.00-10 mg/L C ₂ ±3 mg/L ±3% of reading	Chlorine Free ULR	0.000-0.500 mg/L Cl ₂	±0.020 mg/L ±3% of reading	DPD	525	HI95762-01	R-22
Chlorine, Free HR	Chlorine, Free LR (powder reagent)	0.00-5.00 mg/L Cl ₂	±0.03 mg/L ±3% of reading	DPD	525	HI93701-01	R-22
Choinne, Total LIR 0.000-0.500 mg/L C ₂ ±0.020 mg/L ±3% of reading DPD \$25 H195761-01 R-22 Choinne, Total LR (powder reagent) 0.00-0.500 mg/L C ₂ ±0.03 mg/L ±3% of reading DPD \$25 H19371-01 R-22 Choinne, Total LR (gould reagent) 0.00-1.000 mg/L C ₂ ±0.03 mg/L ±3% of reading DPD \$25 H19374-01 R-22 Choinne, Total LR 0.00-1.000 mg/L C ₂ ±3 mg/L ±3% of reading DPD \$25 H19374-01 R-22 Choinne, LR (LR (mark))	Chlorine, Free LR (liquid reagent)	0.00-5.00 mg/L Cl ₂	±0.03 mg/L ±3% of reading	DPD	525	HI93701-F	R-22
Chlorine, Total LR (powder reagent) 0.00-5.00 mg/L C ₂ ± 0.03 mg/L ±3% of reading DPD \$25 His371-01 R-22 Chlorine, Total LR ((liquir reagent) 0.00-5.000 mg/L C ₂ ± 0.03 mg/L ±3% of reading DPD \$25 His371-01 R-22 Chlorine, Total LR ((liquir reagent) 0.09-1.000 mg/L C ₂ ± 0.03 mg/L ±3% of reading DPD \$25 His977-01 R-22 Chlorine, URLR 0500 mg/L C ₂ ± 3 mg/L ±3% of reading Diphenylcarbohydrazide 535 His977-01 R-22 Chromium(VI) LR 01000 mg/L Cr ⁴ ± 5 mg/L or 5% of reading Diphenylcarbohydrazide 535 His973-01 R-22 CDOL REPA 0150 mg/L Cr ² ± 5 mg/L or 5% of reading Dichromate EPA 420 His975-02 R-13 CODL REPA 0150 mg/L C ₂ ± 5 mg/L or 5% of reading Dichromate EPA 420 His9754-25 R-13 CODL REPA 0150 mg/L C ₂ ± 5 mg/L or 5% of reading Dichromate EPA 510 His9754-25 R-13 CODMR EPA 01500 mg/L C ₂ ± 15 mg/L or 4% of reading Dichromate EPA	Chlorine, Free HR	0.00-10.00 mg/L Cl ₂	±0.03 mg/L ±3% of reading	DPD	525	HI93734-01	R-22
Chlorine, Total LR (liquid reagent) 0.00-5.00 mg/L C ₃ ± 0.03 mg/L ±3% of reading DPD 525 Hi9370-1 R-2 Chlorine, Total LR 0.01-0.00 mg/L C ₃ ± 0.03 mg/L ±3% of reading DPD 525 Hi9373-4-01 R-2 Chlorine LWR 0.500 mg/L C ₄ ± 2 mg/L ±3% of reading DPD 525 Hi9373-4-01 R-2 Chromium (VI) LR 0.500 mg/L C ₄ ± 2 μg/L ±4% of reading Diphenyl carbohydrazide 535 Hi9374-01 R-2 Chromium (VI) LR 0.100 mg/L C ₄ ± 5 mg/L of 5% of reading Dichromate EPA 420 Hi9375-01 R-2 CDOL RF9A 0.150 mg/L O ₂ ± 5 mg/L of 5% of reading Dichromate EPA 420 Hi9375-02 R-13 CDD LR F1 Green 0.150 mg/L O ₂ ± 5 mg/L of 5% of reading Dichromate EPA 420 Hi9375-02 R-13 CDD LR F2 Green 0.150 mg/L O ₂ ± 15 mg/L of 4% of reading Dichromate EPA 610 Hi9375-02 R-13 CDD MR EPA 0.150 mg/L O ₂ ± 15 mg/L of 4% of reading Dichromate EPA 610 Hi9375-02	Chlorine, Total ULR	0.000-0.500 mg/L Cl ₂	±0.020 mg/L ±3% of reading	DPD	525	HI95761-01	R-22
Chlorine, Total HR 0.00-10.00 mg/L C ₁ ± 0.03 mg/L ±3% of reading DPD \$25 Hi93734-01 R-22 Chlorine UHR 0.500 mg/L C ₁ ± 3 mg/L ±3% of reading DPD \$25 Hi93734-01 R-22 Chromium(VI) LR 0.300 ug/L Cfr ⁴ ± 2 ug/L ±4% of reading Diphenylcarbohydrazide 535 Hi9372-01 R-22 CDOL REPA 0.150 mg/L C ₂ ± 5 mg/L or 5% of reading Dichromate EPA 420 Hi93754-25 R-13 CDU LR EPA 0.150 mg/L C ₂ ± 5 mg/L or 5% of reading Dichromate EPA 420 Hi93754-25 R-13 CDU LR ISO 0.150 mg/L C ₂ ± 5 mg/L or 5% of reading Dichromate EPA 420 Hi93754-25 R-13 CDU RIS G 0.150 mg/L C ₂ ± 5 mg/L or 5% of reading Dichromate EPA 420 Hi93754-25 R-13 CDU RIS G 0.150 mg/L C ₂ ± 15 mg/L or 4% of reading Dichromate EPA 610 Hi93754-25 R-13 CDU RIS G 0.150 mg/L C ₂ ± 15 mg/L or 4% of reading Dichromate EPA 610 Hi93754-25 R-13	Chlorine, Total LR (powder reagent)	0.00-5.00 mg/L Cl ₂	±0.03 mg/L ±3% of reading	DPD	525	HI93711-01	R-22
Chlorine UHR 0-500 mg/L Cl₂ ±3 mg/L ±3% of reading DPD 525 H195771-01 R-22 Chromium(VI) LR 0-300 μg/L Cr6* ±2 μg/L ±4% of reading Diphenylcarbohydrazide 535 H19374-01 R-22 Chromium(VI) HR 0-1000 μg/L Cr6* ±5 mg/L or 5% of reading Diphenylcarbohydrazide 535 H19372-01 R-22 COD LR EPA 0-150 mg/L O₂ ±5 mg/L or 5% of reading Dichromate EPA 420 H193754-25 R-13 COD LR ISO 0-150 mg/L O₂ ±5 mg/L or 5% of reading Dichromate EPA 420 H193754-25 R-13 COD LR ISO 0-150 mg/L O₂ ±15 mg/L or 5% of reading Dichromate EPA 420 H193754-25 R-13 COD LR ISO 0-150 mg/L O₂ ±15 mg/L or 4% of reading Dichromate EPA 610 H193754-25 R-13 COD MR ISO 0-1500 mg/L O₂ ±15 mg/L or 4% of reading Dichromate EPA 610 H193754-25 R-13 COD HR ISO 0-1500 mg/L O₂ ±15 mg/L or 4% of reading Dichromate EPA 610 H193754-25 R-13	Chlorine, Total LR (liquid reagent)	0.00-5.00 mg/L Cl ₂	±0.03 mg/L ±3% of reading	DPD	525	HI93701-T	R-22
Chromium(VI) LR 0-300 μg/L Cf ⁶ * ± 2 μg/L ±4% of reading Diphenylcarbohydrazide 535 HI93749-01 R-22 Chromium(VI) HR 0-1000 μg/L Cf ⁶ * ± 5 μg/L ±4% of reading Diphenylcarbohydrazide 535 HI93724-01 R-22 COD LREPA 0-150 mg/L Q₂ ± 5 mg/L or 5% of reading Dichromate EPA 420 HI937540-25 R-13 COD LRISO 0-150 mg/L Q₂ ± 5 mg/L or 5% of reading Dichromate EPA 420 HI937547-25 R-13 COD MR EPA 0-150 mg/L Q₂ ± 15 mg/L or 5% of reading Dichromate EPA 610 HI937548-25 R-13 COD MR EPA 0-1500 mg/L Q₂ ± 15 mg/L or 4% of reading Dichromate EPA 610 HI937548-25 R-13 COD MR EPA 0-1500 mg/L Q₂ ± 15 mg/L or 4% of reading Dichromate EPA 610 HI937546-25 R-13 COD MR EPA 0-1500 mg/L Q₂ ± 15 mg/L or 4% of reading Dichromate EPA 610 HI93754C-25 R-13 COD MR EPA 0-1500 mg/L Q₂ ± 15 mg/L or 4% of reading Dichromate EPA 610 HI93754C-25 R-	Chlorine, Total HR	0.00-10.00 mg/L Cl ₂	±0.03 mg/L ±3% of reading	DPD	525	HI93734-01	R-22
Chromium(VI)HR 0-1000 µg/L Cr ⁶⁺ ±5 µg/L ±4% of reading Diphenylcarbohydrazide 535 H93723-01 R-22 CODLREPA 0-150 mg/L O₂ ±5 mg/L or 5% of reading Dichromate EPA 420 H93754D-25 R-13 CODLR Hg Fee 0-150 mg/L O₂ ±5 mg/L or 5% of reading Dichromate EPA 420 H93754D-25 R-13 COD RISO 0-150 mg/L O₂ ±5 mg/L or 5% of reading Dichromate EPA 610 H93754D-25 R-13 COD MR EPA 0-1500 mg/L O₂ ±15 mg/L or 4% of reading Dichromate EPA 610 H93754D-25 R-13 COD MR EPA 0-1500 mg/L O₂ ±15 mg/L or 4% of reading Dichromate EPA 610 H93754C-25 R-13 COD MR SO 0-1500 mg/L O₂ ±15 mg/L or 4% of reading Dichromate EPA 610 H93754C-25 R-13 COD HR EPA 0-1500 mg/L O₂ ±15 mg/L or 4% of reading Dichromate EPA 610 H93754C-25 R-13 COD HR EPA 0-1500 mg/L O₂ ±15 mg/L or 4% of reading Dichromate EPA 610 H93754C-25 R-13	Chlorine UHR	0-500 mg/L Cl ₂	±3 mg/L ±3% of reading	DPD	525	HI95771-01	R-22
CODLREPA 0-150 mg/L O₂ ±5 mg/L or 5% of reading Dichromate EPA 420 H193754A-25 R-13 CODLR Hgfree 0-150 mg/L O₂ ±5 mg/L or 5% of reading Dichromate EPA 420 H193754D-25 R-13 CODLR ISO 0-150 mg/L O₂ ±5 mg/L or 5% of reading Dichromate EPA 420 H193754D-25 R-13 COD MR PA 0-1500 mg/L O₂ ±15 mg/L or 4% of reading Dichromate EPA 610 H193754E-25 R-13 COD MR Hg free 0-1500 mg/L O₂ ±15 mg/L or 4% of reading Dichromate EPA 610 H193754E-25 R-13 COD MR ISO 0-1500 mg/L O₂ ±15 mg/L or 4% of reading Dichromate EPA 610 H193754E-25 R-13 COD HR EPA 0-1500 mg/L O₂ ±15 mg/L or 4% of reading Dichromate EPA 610 H193754E-25 R-13 COD HR EPA 0-1500 mg/L O₂ ±15 mg/L or 4% of reading Dichromate EPA 610 H193754E-25 R-13 COD HR EPA 0-1500 mg/L O₂ ±10 mg/L or 4% of reading Bicin horizate EPA 610 H193754E-25 R-13	Chromium(VI) LR	0-300 μg/L Cr ⁶⁺	±2 µg/L ±4% of reading	Diphenylcarbohydrazide	535	HI93749-01	R-22
CODLRHgfree 0-150 mg/L O₂ ±5 mg/L or 5% of reading Dichromate EPA 420 H193754D-25 R-13 COD LR ISO 0-150 mg/L O₂ ±5 mg/L or 5% of reading Dichromate ISO 420 H193754D-25 R-13 COD MR EPA 0-1500 mg/L O₂ ±15 mg/L or 4% of reading Dichromate EPA 610 H193754B-25 R-13 COD MR ISO 0-1500 mg/L O₂ ±15 mg/L or 4% of reading Dichromate ISO 610 H193754B-25 R-13 COD HR ISO 0-1500 mg/L O₂ ±15 mg/L or 4% of reading Dichromate ISO 610 H193754C-25 R-13 COD HR EPA 0-1500 mg/L O₂ ±15 mg/L or 4% of reading Dichromate ISO 610 H193754C-25 R-13 COD HR EPA 0-1500 mg/L O₂ ±15 mg/L or 4% of reading Dichromate EPA 610 H193754C-25 R-13 COD HR EPA 0-1500 mg/L Cu² ±10 mg/L ±5% of reading Dichromate EPA 610 H193754C-25 R-13 COD HR EPA 0-1500 mg/L Cu² ±10 mg/L ±5% of reading Bicinchoninate 575 H19574C-25 R-22	Chromium(VI) HR	0-1000 μg/L Cr ⁶⁺	±5 µg/L ±4% of reading	Diphenylcarbohydrazide	535	HI93723-01	R-22
COD LR ISO 0-150 mg/L O ₂ ±5 mg/L or 5% of reading Dichromate ISO 420 HI93754F-25 R-13 COD MR EPA 0-1500 mg/L O ₂ ±15 mg/L or 4% of reading Dichromate EPA 610 HI93754B-25 R-13 COD MR Iso 0-1500 mg/L O ₂ ±15 mg/L or 4% of reading Dichromate ISO 610 HI93754C-25 R-13 COD MR ISO 0-1500 mg/L O ₂ ±15 mg/L or 4% of reading Dichromate ISO 610 HI93754C-25 R-13 COD HR EPA 0-15000 mg/L O ₂ ±15 mg/L or 2% of reading Dichromate ISO 610 HI93754C-25 R-13 COD HR EPA 0-15000 mg/L O ₂ ±15 mg/L or 2% of reading Dichromate EPA 610 HI93754C-25 R-13 COD HR EPA 0-15000 mg/L O ₂ ±10 PG/L ±5% of reading Platinum Cobalt 460 R-22 Copper LR 0-500 PG/L Cu²* ±10 PG/L ±5% of reading Bicinchoninate 575 HI9574-01 R-22 Copper LR 0-00-0-200 mg/L Cu²* ±0.00 mg/L e 4% of reading Pridine-Pyrazalone 610 HI93714-01 R-22 <td< td=""><td>COD LR EPA</td><td>$0-150\mathrm{mg/L}\mathrm{O}_{\mathrm{z}}$</td><td>±5 mg/L or 5% of reading</td><td>Dichromate EPA</td><td>420</td><td>HI93754A-25</td><td>R-13</td></td<>	COD LR EPA	$0-150\mathrm{mg/L}\mathrm{O}_{\mathrm{z}}$	±5 mg/L or 5% of reading	Dichromate EPA	420	HI93754A-25	R-13
CODMR EPA 0-1500 mg/L O₂ ±15 mg/L or 4% of reading Dich romate EPA 610 H193754B-25 R-13 COD MR Hg free 0-1500 mg/L O₂ ±15 mg/L or 4% of reading Dich romate EPA 610 H193754E-25 R-13 COD MR ISO 0-1500 mg/L O₂ ±15 mg/L or 4% of reading Dich romate ISO 610 H193754C-25 R-13 COD HR EPA 0-15000 mg/L O₂ ±150 mg/L or 2% of reading Dich romate EPA 610 H193754C-25 R-13 COD from Water 0-5000 mg/L Cu² ±10 pg/L ±5% of reading Platium Cobalt 460 H193754C-25 R-22 Copper LR 0-1500 pg/L Cu²² ±10 pg/L ±5% of reading Bicinchoninate 575 H195747-01 R-22 Copper LR 0.005 mg/L Cu²² ±0.02 mg/L or 4% of reading Bicinchoninate 560 H193702-01 R-22 Cyanide 0.000-0.200 mg/L Cu²² ±0.005 mg/L ±3% of reading Pyridine-Pyrazalone 610 H193714-01 R-22 Cyanuric Acid 0.100 mg/L CYA ±1 mg/L ±15% of reading SPADNS 575 H193729-01 R-22 <td>COD LR Hg free</td> <td>$0-150\mathrm{mg/L}\mathrm{O}_{\mathrm{z}}$</td> <td>±5 mg/L or 5% of reading</td> <td>Dichromate EPA</td> <td>420</td> <td>HI93754D-25</td> <td>R-13</td>	COD LR Hg free	$0-150\mathrm{mg/L}\mathrm{O}_{\mathrm{z}}$	±5 mg/L or 5% of reading	Dichromate EPA	420	HI93754D-25	R-13
CODMR Hg free 0-1500 mg/L O₂ ±15 mg/L or 4% of reading Dichromate EPA 610 H193754E-25 R-13 COD MR ISO 0-1500 mg/L O₂ ±15 mg/L or 4% of reading Dichromate ISO 610 H193754C-25 R-13 COD HR EPA 0-15000 mg/L O₂ ±150 mg/L or 2% of reading Dichromate EPA 610 H193754C-25 R-13 COIP of Water 0-500 PCU ±10 Pg/L ±5% of reading Platinum Cobalt 460 H193754C-25 R-22 Copper LR 0-1500 mg/L Cu² ±10 µg/L ±5% of reading Bicinchoninate 575 H19574-01 R-22 Copper HR 0.00-5.00 mg/L Cu² ±0.002 mg/L or 4% of reading Bicinchoninate 560 H193702-01 R-22 Cyanide 0.000-2.00 mg/L CrX ±1 mg/L ±15% of reading Pyridine-Pyrazalone 610 H193714-01 R-22 Cyanuric Acid 0-100 mg/L CrX ±1 mg/L ±15% of reading SPADNS 525 H193722-01 R-22 Fluoride LR 0.00-2.00 mg/L F ±0.03 mg/L ±3% of reading SPADNS 575 H193739-01 R-22	COD LR ISO	$0-150\mathrm{mg/L}\mathrm{O}_{\mathrm{z}}$	±5 mg/L or 5% of reading	Dichromate ISO	420	HI93754F-25	R-13
COD MR ISO 0-1500 mg/L O₂ ±15 mg/L or 4% of reading Dichromate ISO 610 HI93754C-25 R-13 COD HR EPA 0-15000 mg/L O₂ ±150 mg/L or 2% of reading Dichromate EPA 610 HI93754C-25 R-13 COD or 6 Water 0-500 PCU ±10 PCU ±5% of reading Platinum Cobalt 460 R-22 Copper LR 0-1500 μg/L Cu²+ ±10 μg/L ±5% of reading Bicinchoninate 575 HI95747-01 R-22 Copper HR 0.00-5.00 mg/L Cu²+ ±0.02 mg/L of 4% of reading Bicinchoninate 560 HI93702-01 R-22 Cyanide 0.000-0.200 mg/L Cr² ±0.005 mg/L ±3% of reading Pyridine-Pyrazalone 610 HI93714-01 R-22 Cyanide LR 0-100 mg/L CrX ±1 mg/L ±15% of reading SPADNS 525 HI93720-01 R-22 Fluoride LR 0.00-2.00 mg/L Fr ±0.03 mg/L ±3% of reading SPADNS 575 HI93739-01 R-22 Fluoride LR 0.0-2.00 mg/L CaCO ₃ ±0.03 mg/L ±3% of reading SPADNS 575 HI93739-01 R-22 Hardness S Total LR	COD MR EPA	$0-1500\mathrm{mg/L}\mathrm{O_{z}}$	±15 mg/L or 4% of reading	Dichromate EPA	610	HI93754B-25	R-13
COD HR EPA 0-15000 mg/L O₂ ±150 mg/L or 2% of reading Dich romate EPA 610 H193754C-25 R-13 Color of Water 0-500 PCU ±10 PCU ±5% of reading Platinum Cobalt 460	COD MR Hg free	$0-1500\mathrm{mg/L}\mathrm{O_{z}}$	±15 mg/L or 4% of reading	Dichromate EPA	610	HI93754E-25	R-13
Color of Water 0-500 PCU ±10 PCU ±5% of reading Platinum Cobalt 460 R-22 Copper LR 0-1500 μg/L Cu²+ ±10 μg/L ±5% of reading Bicinchoninate 575 Hl95747-01 R-22 Copper HR 0.00-5.00 mg/L Cu²+ ±0.02 mg/L of 4% of reading Bicinchoninate 560 Hl93702-01 R-22 Cyanide 0.000-0.200 mg/L CN ±0.005 mg/L ±3% of reading Pyridine-Pyrazalone 610 Hl93714-01 R-22 Cyanuric Acid 0-100 mg/L CYA ±1 mg/L ±15% of reading SPADNS 525 Hl93722-01 R-22 Fluoride LR 0.00-2.00 mg/L F ⁻ ±0.03 mg/L ±3% of reading SPADNS 575 Hl93729-01 R-22 Fluoride HR 0.0-2.00 mg/L GCO ₃ ±0.05 mg/L ±3% of reading SPADNS 575 Hl93739-01 R-22 Hardness Calcium 0.00-2.70 mg/L GCO ₃ ±0.08 mg/L ±4% of reading Calmagite 523 Hl93719-01 R-22 Hardness Total LR 0.02-200 mg/L GCO ₃ ±5 mg/L ±4% of reading EDTA 523 Hl93719-01 R-22 Hardness Total MR	COD MR ISO	$0-1500\mathrm{mg/L}\mathrm{O_2}$	$\pm 15 \mathrm{mg/L}$ or 4% of reading	Dichromate ISO	610	HI93754G-25	R-13
Copper LR 0-1500 μg/L Cu²² ±10 μg/L ±5% of reading Bicinchoninate 575 H195747-01 R-22 Copper HR 0.00-5.00 mg/L Cu²² ±0.02 mg/L or 4% of reading Bicinchoninate 560 H193702-01 R-22 Cyanide 0.000-0.200 mg/L CN² ±0.005 mg/L ±3% of reading Pyridine-Pyrazalone 610 H193702-01 R-22 Cyanuric Acid 0-100 mg/L CYA ±1 mg/L ±15% of reading SPADNS 525 H193722-01 R-22 Fluoride LR 0.00-2.00 mg/L F² ±0.5 mg/L ±3% of reading SPADNS 575 H193792-01 R-22 Hardness Calcium 0.00-2.00 mg/L CaCO ₃ ±0.5 mg/L ±4% of reading Calmagite 523 H193720-01 R-22 Hardness Magnesium 0.00-2.00 mg/L CaCO ₃ ±0.11 mg/L ±5% of reading EDTA 523 H193719-01 R-22 Hardness Total LR 0-250 mg/L CaCO ₃ ±5 mg/L ±4% of reading Calmagite 466 H193735-00 R-22 Hardness Total MR 200-500 mg/L CaCO ₃ ±7 mg/L ±3% of reading Calmagite 466 H193735-01 R-22	COD HR EPA	$0-15000\mathrm{mg/L}\mathrm{O}_{\mathrm{z}}$	$\pm 150 mg/L$ or 2% of reading	Dichromate EPA	610	HI93754C-25	R-13
Copper HR 0.00-5.00 mg/L Cu²- ±0.02 mg/L or 4% of reading Bicinchoninate 560 HI93702-01 R-22 Cyanide 0.000-0.200 mg/L CN7 ±0.005 mg/L ±3% of reading Pyridine-Pyrazalone 610 HI93714-01 R-22 Cyanuric Acid 0-100 mg/L CYA ±1 mg/L ±15% of reading SPADNS 525 HI93722-01 R-22 Fluoride LR 0.00-2.00 mg/L F ^T ±0.03 mg/L ±3% of reading SPADNS 575 HI93729-01 R-22 Fluoride HR 0.0-2.00 mg/L F ^T ±0.5 mg/L ±3% of reading SPADNS 575 HI93739-01 R-22 Hardness Calcium 0.00-2.70 mg/L CaCO ₃ ±0.08 mg/L ±4% of reading Calmagite 523 HI93720-01 R-22 Hardness Magnesium 0.00-2.00 mg/L CaCO ₃ ±0.11 mg/L ±5% of reading EDTA 523 HI93719-01 R-22 Hardness Total LR 0-250 mg/L CaCO ₃ ±5 mg/L ±4% of reading Calmagite 466 HI93735-00 R-22 Hardness Total LR 200-500 mg/L CaCO ₃ ±7 mg/L ±3% of reading Calmagite 466 HI93735-01 R-22	Color of Water	0-500 PCU	±10 PCU ±5% of reading	Platinum Cobalt	460		R-22
Cyanide 0.000-0.200 mg/L CN ⁻ ±0.005 mg/L ±3% of reading Pyridine-Pyrazalone 610 HI93714-01 R-22 Cyanuric Acid 0-100 mg/L CYA ±1 mg/L ±15% of reading SPADNS 525 HI93722-01 R-22 Fluoride LR 0.00-2.00 mg/L F ⁻ ±0.03 mg/L ±3% of reading SPADNS 575 HI93729-01 R-22 Fluoride HR 0.00-2.00 mg/L F ⁻ ±0.5 mg/L ±3% of reading SPADNS 575 HI93739-01 R-22 Hardness Calcium 0.00-2.70 mg/L CaCO ₃ ±0.08 mg/L ±4% of reading Calmagite 523 HI93720-01 R-22 Hardness Magnesium 0.00-2.00 mg/L CaCO ₃ ±0.11 mg/L ±5% of reading EDTA 523 HI93719-01 R-22 Hardness Total LR 0-250 mg/L CaCO ₃ ±5 mg/L ±4% of reading Calmagite 466 HI93735-00 R-22 Hardness Total MR 200-500 mg/L CaCO ₃ ±7 mg/L ±3% of reading Calmagite 466 HI93735-01 R-22	Copper LR	0-1500 μg/L Cu²+	±10 μg/L ±5% of reading	Bicinchoninate	575	HI95747-01	R-22
Cyanuric Acid 0-100 mg/L CYA ±1 mg/L ±15% of reading SPADNS 525 H193722-01 R-22 Fluoride LR 0.00-2.00 mg/L F ⁻ ±0.03 mg/L ±3% of reading SPADNS 575 H193729-01 R-22 Fluoride HR 0.0-20.0 mg/L F ⁻ ±0.5 mg/L ±3% of reading SPADNS 575 H193739-01 R-22 Hardness Calcium 0.00-2.70 mg/L CaCO ₃ ±0.08 mg/L ±4% of reading Calmagite 523 H193720-01 R-22 Hardness Magnesium 0.00-2.00 mg/L CaCO ₃ ±0.11 mg/L ±5% of reading EDTA 523 H193719-01 R-22 Hardness Total LR 0-250 mg/L CaCO ₃ ±5 mg/L ±4% of reading Calmagite 466 H193735-00 R-22 Hardness Total MR 200-500 mg/L CaCO ₃ ±7 mg/L ±3% of reading Calmagite 466 H193735-01 R-22	Copper HR	0.00-5.00 mg/L Cu²+	±0.02 mg/L or 4% of reading	Bicinchoninate	560	HI93702-01	R-22
Fluoride LR 0.00-2.00 mg/LF ⁻ ±0.03 mg/L ±3% of reading SPADNS 575 H193729-01 R-22 Fluoride HR 0.0-2.00 mg/LF ⁻ ±0.5 mg/L ±3% of reading SPADNS 575 H193739-01 R-22 Hardness Calcium 0.00-2.70 mg/L CaCO ₃ ±0.08 mg/L ±4% of reading Calmagite 523 H193720-01 R-22 Hardness Magnesium 0.00-2.00 mg/L CaCO ₃ ±0.11 mg/L ±5% of reading EDTA 523 H193719-01 R-22 Hardness Total LR 0-250 mg/L CaCO ₃ ±5 mg/L ±4% of reading Calmagite 466 H193735-00 R-22 Hardness Total MR 200-500 mg/L CaCO ₃ ±7 mg/L ±3% of reading Calmagite 466 H193735-01 R-22	Cyanide	0.000-0.200 mg/L CN ⁻	± 0.005 mg/L $\pm 3\%$ of reading	Pyridine-Pyrazalone	610	HI93714-01	R-22
Fluoride HR 0.0-20.0 mg/L FT ±0.5 mg/L ±3% of reading SPADNS 575 H193739-01 R-22 Hardness Calcium 0.00-2.70 mg/L CaCO ₃ ±0.08 mg/L ±4% of reading Calmagite 523 H193720-01 R-22 Hardness Magnesium 0.00-2.00 mg/L CaCO ₃ ±0.11 mg/L ±5% of reading EDTA 523 H193719-01 R-22 Hardness Total LR 0-250 mg/L CaCO ₃ ±5 mg/L ±4% of reading Calmagite 466 H193735-00 R-22 Hardness Total MR 200-500 mg/L CaCO ₃ ±7 mg/L ±3% of reading Calmagite 466 H193735-01 R-22	Cyanuric Acid	0-100 mg/L CYA	$\pm 1\mathrm{mg/L}\pm 15\%$ of reading	SPADNS	525	HI93722-01	R-22
Hardness Calcium 0.00-2.70 mg/L CaCO ₃ ±0.08 mg/L ±4% of reading Calmagite 523 HI93720-01 R-22 Hardness Magnesium 0.00-2.00 mg/L CaCO ₃ ±0.11 mg/L ±5% of reading EDTA 523 HI93719-01 R-22 Hardness Total LR 0-250 mg/L CaCO ₃ ±5 mg/L ±4% of reading Calmagite 466 HI93735-00 R-22 Hardness Total MR 200-500 mg/L CaCO ₃ ±7 mg/L ±3% of reading Calmagite 466 HI93735-01 R-22	Fluoride LR	0.00-2.00 mg/L F	±0.03 mg/L ±3% of reading	SPADNS	575	HI93729-01	R-22
Hardness Magnesium 0.00-2.00 mg/L CaCO ₃ ±0.11 mg/L ±5% of reading EDTA 523 HI93719-01 R-22 Hardness Total LR 0-250 mg/L CaCO ₃ ±5 mg/L ±4% of reading Calmagite 466 HI93735-00 R-22 Hardness Total MR 200-500 mg/L CaCO ₃ ±7 mg/L ±3% of reading Calmagite 466 HI93735-01 R-22	Fluoride HR	0.0-20.0 mg/L F ⁻	±0.5 mg/L ±3% of reading	SPADNS	575	HI93739-01	R-22
Hardness Total LR 0-250 mg/L CaCO₃ ±5 mg/L ±4% of reading Calmagite 466 HI93735-00 R-22 Hardness Total MR 200-500 mg/L CaCO₃ ±7 mg/L ±3% of reading Calmagite 466 HI93735-01 R-22	Hardness Calcium	0.00-2.70 mg/L CaCO₃	±0.08mg/L ±4% of reading	Calmagite	523	HI93720-01	R-22
Hardness Total MR 200-500 mg/L CaCO₃ ±7 mg/L ±3% of reading Calmagite 466 HI93735-01 R-22	Hardness Magnesium	0.00-2.00 mg/L CaCO₃	±0.11 mg/L ±5% of reading	EDTA	523	HI93719-01	R-22
	Hardness Total LR	0-250 mg/L CaCO₃	±5 mg/L ±4% of reading	Calmagite	466	HI93735-00	R-22
Hardness Total HR 400-750 mg/L CaCO ₃ ±10 mg/L ±2% of reading Calmagite 466 HI93735-02 R-22	Hardness Total MR	200-500 mg/L CaCO₃	±7 mg/L ±3% of reading	Calmagite	466	HI93735-01	R-22
	Hardness Total HR	400-750 mg/L CaCO₃	±10 mg/L ±2% of reading	Calmagite	466	HI93735-02	R-22



Parameter	Range	Accuracy (@25°C)	Method	λ (nm)	Reagent	Cuvette
Hydrazine	0-400 μg/L N ₂ H ₄	±3 µg/L ±3% of reading	Dimethylaminobenzaldehyde	466	HI93704-01	R-22
lodine	0.0 – 12.5 mg/L I_2	$\pm 0.1 mg/L \pm 5\%$ of reading	DPD	525	HI93718-01	R-22
Iron LR	0.00-1.60 mg/L Fe	± 0.01 mg/L $\pm 8\%$ of reading	TPTZ	575	HI93746-01	R-22
lron HR	0.00-5.00 mg/L Fe	± 0.04 mg/L $\pm 2\%$ of reading	Phenanthroline	525	HI93721-01	R-22
Magnesium	0-150 mg/L Mg²+	$\pm 3\mathrm{mg/L}\pm 3\%$ of reading	Calmagite	466	HI937520-01	R-22
Manganese LR	0-300 μg/L Mn	±7 μg/L ±3% of reading	PAN	560	HI93748-01	R-22
Manganese HR	0.0-20.0 mg/L Mn	± 0.2 mg/L $\pm 3\%$ of reading	Periodate	525	HI93709-01	R-22
Maple Syrup	0.0-100.0%T	±3% @75 %T	Direct measure	560	HI93703-57	S-10
Molybdenum	0.0-40.0 mg/L Mo ⁶⁺	±0.3 mg/L ±5% of reading	Mercaptoacetic acid	420	HI93730-01	R-22
Nickel LR	0.000-1.000 mg/L Ni	±0.010 mg/L ±7% of reading	PAN	565	HI93740-01	R-16
Nickel HR	0.00-7.00 ppt Ni	±0.07 ppt ±4% of reading	photometric	575	HI93726-01	R-22
Nitrate	0.0-30.0 mg/L N-NO ₃	±0.5 mg/L ±10% of reading	Cadmium reduction	525	HI93728-01	R-22
Nitrate (Chromotropic acid)	0.0-30.0 mg/L N-NO ₃	±1.0 mg/L ±3% of reading	Chromotropic acid	410	HI93766-50	R-13
Nitrite Marine ULR	0-200 μg/L N-NO ₂	±8 μg/L ±4% of reading	Diazotization	480	HI764-25	R-22
Nitrite LR	0-600 μg/L N-NO ₂	10 μg/L ±4% of reading	Diazotization	480	HI93707-01	R-22
Nitrite HR	0-150 mg/L N-NO ₂	±4 mg/L ±4% of reading	Ferrous sulfate	575	HI93708-01	R-22
Nitrogen Total LR	0.0-25.0 mg/L N	±1 mg/L or 5% of reading	Chromotropic acid	420	HI93767A-50	R-13
Nitrogen Total HR	10-150 mg/L N	±3 mg/L or 4% of reading	Chromotropic acid	420	HI93767B-50	R-13
Dxygen Dissolved	0.0-10.0 mg/L O₂	±0.4 mg/L ±3% of reading	Winkler	466	HI93732-01	R-22
Oxygen Scavengers (Carbohydrazide)	0.00-1.50 mg/L	±0.02 mg/L ±3% of reading	Iron reduction	575nm	HI96773-01	R-22
Oxygen Scavengers (DEHA)	0-1000 μg/L	±5 µg/L ±5% of reading	Iron reduction	575nm	HI96773-01	R-22
Oxygen Scavengers (ISO-Ascorbic Acid)	0.00-4.50 mg/L	±0.03 mg/L ±3% of reading	Iron reduction	575nm	HI96773-01	R-22
Oxygen Scavengers (Hydroquinone)	0.00-2.50 mg/L	±0.04 mg/L ±3% of reading	Iron reduction	575nm	HI96773-01	R-22
Ozone	0.00-2.00 mg/L 0 ₃	±0.02 mg/L ±3% of reading	DPD	525	HI93757-01	R-22
pH	6.5-8.5 pH	±0.1 pH	Phenol red	525	HI93710-01	R-22
Phosphorus Marine ULR	0-200 μg/L P	±5 µg/L ±5% of reading	Ascorbic acid	610	HI736-25	R-22
Phosphate LR	0.00-2.50 mg/L PO₄³-	±0.04 mg/L ±4% of reading	Ascorbic Acid	610	HI93713-01	R-22
Phosphate HR	0.0-30.0 mg/L PO ₄ 3-	±1 mg/L ±4% of reading	Amino Acid	525	HI93717 -01	R-22
Phosphorus Acid Hydrolyzable	0.00-1.60 mg/L P	±0.05 mg/L or 5% of reading	Ascorbic acid	610	HI93758B-50	R-13
Phosphorus , Reactive LR	0.00-1.60 mg/L P	±0.05 mg/L or 4% of reading	Ascorbic acid	610	HI93758A-50	R-13
Phosphorus , Reactive HR	0.0-32.6 mg/L P	±0.5 mg/L or 4% of reading	Vanadomolybdophosphoric acid	420	HI93763A-50	R-13
Phosphorous, Total LR	0.00-1.60 mg/L P	±0.05 mg/L or 5% of reading	Adenosine 5'-monophosphate monohidrat	610	HI93758C-50	R-13
Phosphorous, Total HR	0.0-32.6 mg/L P	±0.5 mg/L or 5% of reading	Adenosine 5'-monophosphate monohidrat	420	HI93763B-50	R-13
Potassium LR	0.0-20.0 mg/L K	2 mg/L ±7% of reading	Turbidimetric tetraphenylborate	466	HI93750-01	R-22
Potassium MR	10-100 mg/L K	±10 mg/L ±7% of reading	Turbidimetric tetraphenylborate	466	HI93750-01	R-22
Potassium HR	20-200 mg/L K	±20 mg/L ±7% of reading	Turbidimetric tetraphenylborate	466	HI93750-01	R-22
Silica LR	0.00-2.00 mg/L SiO₂	±0.03 mg/L ±5% of reading	Heteropoly Blue	610	HI93705-01	R-22
Silica HR	0-200 mg/L SiO ₂	±1 mg/L ±5% of reading	Molybdosilicate	466	HI96770-01	R-22
Silver	0.000-1.000 mg/L Ag	±0.02 mg/L ±5% of reading	PAN	570	HI93737-01	R-22
Sulfate	0-150 mg/L SO ₄ ² -	±5 mg/L ±3% of reading	Turbidimetric	466	HI93751-01	R-22
Surfactants Anionic	0.0-3.50 mg/L SDBS	±0.04 mg/L ±3% of reading	Methylene blue	610	HI96769-01	R-22
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