LaMotte

Aquaculture & Aquarium Testing Products

Water Testing Leader Since 1919!

SINCE 1919, LaMotte's mission has been to help people solve analytical challenges by providing innovative solutions through knowledgeable technical guidance, prompt service, and quality products designed for the analysis of water and soil. Today, we produce the broadest line of portable test equipment, and continue our focus on your specific needs by offering improved products and strong technical support.

Please visit our website at www.lamotte.com where you can see all of our product catalogs, MSDS, new product information, technical tips and instructions.

We believe the emphasis we place on Technical Support and Customer Service helps distinguish LaMotte. Call our Technical Support staff's toll-free number for guidance on product selection or assistance with any questions regarding purchased LaMotte products.

If for any reason you are not satisfied with our products or service, you may return the product within 30 days for a full refund; please call for return authorization. We know that when you buy analysis products from us, you purchase solutions to your challenge, not simply hardware.

David LaMotte
President

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Shipping Codes & Weights

Shipping codes and weights for shipping are included in this catalog for your convenience. The shipping code will refer to one of the following in this chart. Weight will be in pounds and enclosed in [ ].

Shipping Code	Description
NH	Non Hazardous, No Fees
HF	Hazardous Materials, Air & Ground Fees
R1	Small Quantity Hazardous Materials, No Fees
R2, R3, & LQ	Hazardous Materials, Air Fees Only

Factors

Proper control of water quality is an essential part of any successful aquaculture operation. Immediate test results provided by on-site water analysis equipment can confirm a healthy environment or give early warning signals for required treatment.

ALKALINITY

Composed primarily of carbonate (CO_3^{2-}) and bicarbonate (HCO_3^-), alkalinity acts as a stabilizer for pH. Alkalinity, pH and hardness affect the toxicity of many substances in the water. Alkalinity is often referred to as Carbonate Hardness in the aquarium industry.

AMMONIA

Ammonia, present in both ionized (NH_4^+) and un-ionized (NH_3) forms, is extremely toxic to fish in the un-ionized form. Even low levels of un-ionized ammonia may affect the fish's central nervous system, reducing its ability to obtain oxygen and lowering its resistance to disease. A product of organic waste, ammonia enters the water directly from the fish, other organic material, and uneaten food. Ammonia levels are pH dependent, and can fluctuate throughout the day.

CARBON DIOXIDE

Different species of fish have different susceptibilities to carbon dioxide toxicity. In some species, excess carbon dioxide hinders the ability of the blood to hold oxygen. Produced during respiration and consumed during photosynthesis, carbon dioxide levels fluctuate throughout the day opposite to dissolved oxygen levels. High carbon dioxide levels lower the pH, which in turn affects the ratio of un-ionized to ionized ammonia.

CHLORIDE

Chloride levels can affect fish health in two ways: as the major constituent of salinity or as a treatment to prevent nitrite toxicity. In systems with existing or chronic high nitrite levels, chloride will often be added to prevent the fish from succumbing to nitrite toxicity.

COPPER

Copper, in the form of copper sulfate, is often used in aquaculture systems as an algicide and bactericide; however high levels can be toxic to fish. High pH and alkalinity levels will complex copper, helping to reduce its toxicity.

DISSOLVED OXYGEN

The dissolved oxygen test is one of the most important in aquaculture. Dissolved oxygen levels can affect fish respiration, as well as ammonia and nitrite toxicity. Salinity and temperature are both factors that affect dissolved oxygen levels.

HARDNESS

Total hardness is defined as the concentration of calcium (Ca_2^+) and magnesium (Mg_2^+) in the water. Closely related to alkalinity and pH, sufficient hardness levels can decrease ammonia and pH toxicity. Calcium is also necessary for proper egg and fry development.

NITRITE

An intermediate product between ammonia and nitrate in the nitrification process, nitrite (NO_2^-) is extremely toxic to fish. High levels, combined with low chloride and dissolved oxygen concentrations, may result in methemoglobinemia, better known as brown blood disease.

pH

pH is a measure of acidity/basicity. The pH scale is logarithmic and runs from 0 to 14; 7.0 is considered neutral, with values greater being basic and those lower being acidic. The greatest concern with pH is how it affects the toxicity of other substances, including nitrite and ammonia.

PHOSPHATE (PHOSPHORUS)

Phosphates enter the water supply from many sources, including agricultural runoff and sewage. Phosphorus is an essential nutrient for bone formation and is a primary ingredient in fertilizers, yet excessive levels can promote an overabundance of algae.

TEMPERATURE

Water temperature controls the rate of all chemical reactions and affects fish growth, reproduction and immunity. Drastic temperature changes can be fatal to fish.

Test Methods

TITRIMETRIC

DIRECT READING TITRATORS are 1.0mL microburets calibrated for direct readout in concentration; no counting of drops or calculations.

VISUAL COLORIMETRIC

Octa-Slide 2 and LRC Comparators feature eight color standards with built-in filters that eliminate optical distortion.

ELECTRONIC METER/PROBE

Electronic methods generally use a special electrode for measuring a specific test factor. An electrode is immersed into a sample, and an amplified current or voltage is produced and translated into a digital readout. In a colorimeter, light is passed through a sample and measured by a photodetector.

INDIVIDUAL TEST KITS

Test Factor	Code	Water	Method	Range/Sensitivity	# of Tests	# of Rgts.	Ship Code (wt./lbs)
Alkalinity*	4491-DR-01†	Fresh or Salt	Direct Reading Titrator for Total (T) Alkalinity	0-200 ppm as $CaCO_3$ in 4.0 ppm increments	50	2	NH(1)
Ammonia Nitrogen	3304-01	Salt	Octa-Slide 2, Salicylate Method	0.0, 0.05, 0.1, 0.25, 0.5, 1.0, 1.5, 2.0 ppm NH_3-N	50	3	R2(1)
	3351-02†	Fresh or Salt	Octa-Slide 2, Nessler Method	0.2, 0.4, 0.6, 0.8, 1.0, 1.5, 2.0, 3.0 ppm NH_3-N	50	2	R1(1)
	4795-01	Fresh or Salt	Octa-Slide 2, Nessler Method	1.0, 2.0, 3.0, 4.0, 5.0, 6.0, 7.0, 8.0 ppm NH_3-N	50	2	R1(1)
Carbon Dioxide	7297-DR-01†	Fresh or Salt	Direct Reading Titrator	0-50 ppm CO_2 in 1.0 ppm increments	50	2	R1(1)
Chloride	4503-DR-02†	Fresh	Direct Reading Titrator	0-200 ppm Cl in 4.0 ppm increments	50	4	R1(1)
Chlorine	3312-01	Fresh	Octa-Slide 2 for Free & Total Chlorine	0.1, 0.2, 0.3, 0.4, 0.5, 0.6, 0.8, 1.0, ppm Cl_2	50	2	NH(1)
Copper	6616-01	Fresh or Salt	LRC Comparator for Total Copper	0.0, 0.05, 0.1, 0.15, 0.2, 0.3, 0.4, 0.5 ppm Cu	50	1	NH(1)
Dissolved Oxygen	5860-01†	Fresh or Salt	Direct Reading Titrator All liquid system!	0-10 ppm O_2 in 0.2 ppm increments	50	5	R1(2)
Hardness*	4824-DR-LT-01	Fresh or Salt	Direct Reading Titrator for Total, Calcium, & Magnesium Hardness	0-200 ppm as $CaCO_3$ in 4.0 ppm increments	50	5	R1(1)
	4482-DR-LI-01†	Fresh or Salt	Direct Reading Titrator for Total Hardness	0-200 ppm as $CaCO_3$ in 4.0 ppm increments	50	3	R1(1)
	3609-01	Fresh or Salt	Direct Reading Titrator for Calcium Hardness	0-200 ppm or 0-2,500 ppm	50	3	R1(1)
Iron	4447-01	Fresh or Salt	Octa-Slide 2 for Total Iron	0.5, 1.0, 2.0, 3.0, 4.0, 6.0, 8.0, 10.0 ppm Fe	90	2	R1(1)
	7787-01	Fresh or Salt	LRC Comparator for Total Iron	0.05, 0.1, 0.2, 0.3, 0.4, 0.6, 0.8, 1.0 ppm Fe	30	2	R1(1)
Nitrate Nitrogen	3354-01	Fresh or Salt	Octa-Slide 2 All tablet system!	0, 1, 2, 4, 6, 8, 10, 15 ppm NO_3^-N	40	2	NH(2)
	3110-01	Fresh or Salt	Octa-Slide 2	0.25, 0.5, 1.0, 2.0, 4.0, 6.0, 8.0, 10.0 ppm NO_3^-N	50	2	R1(2)
Nitrite Nitrogen	3352-01†	Fresh or Salt	Octa-Slide 2	0.05, 0.1, 0.2, 0.3, 0.4, 0.5, 0.6, 0.8 ppm NO_2^-N	50	3	NH(2)
Ozone	3678-01	Fresh or Salt	Digital colorimeter, Indigo Blue method	0-0.4 ppm O_3/0.04 detection limit	100	3	NH(7)
pH	3353-01†	Fresh or Salt	Octa-Slide 2	5.0, 6.0, 6.5, 7.0, 7.5, 8.0, 9.0, 10.0 pH	50	1	R1(1)
	2159-02	Salt	LRC Comparator	7.7, 7.8, 7.9, 8.0, 8.1, 8.2, 8.3, 8.4 pH	100	1	R1(1)
Phosphate	3121-02	Fresh or Salt	LRC Comparator	0.0, 0.2, 0.4, 0.6, 0.8, 1.0, 1.5, 2.0 ppm PO_4	50	2	R1(1)
Salinity	7459-02	Salt	Direct Reading Titrator	0-20 ppt Salinity in 0.4 ppt increments	50	2	R1(1)
Sulfide	4456-01	Fresh or Salt	LRC Comparator for Total Sulfide	0.2, 0.5, 1.0, 2.0, 5.0, 10.0, 15.0, 20.0 ppm $S^=$	50	3	R1(1)

* Often referred to as Carbonate Hardness in the aquarium industry.
† Featured test in AQ Series of combination outfits.
Note: Direct Reading Titrators have a specific range, but may be refilled to test higher concentrations.

New Insta-Test Analytic Test Strips for Natural Waters

Ideal for routine monitoring of lakes, streams, ponds, aquaria and ornamental fish ponds. Strips may be immersed directly into body of water or tank. No test tubes or sampling containers required. Suitable for fresh or salt water analysis. 25 strips per vial.

Strip	Range	Code
5-Way	Nitrate 0, 20, 40, 80, 160, 200 ppm	3038-G
	Nitrite 0, 0.5, 1.0, 3.0, 5.0, 10.0 ppm	
	pH 6.0, 6.5, 7.0, 7.5, 8.0, 8.5, 9.0	
	Alkalinity 0, 40, 80, 120, 180 ppm	
	Hardness 0, 30, 60, 120, 180 ppm	
Ammonia	Ammonia 0, 0.5, 1.0, 3.0, 6.0 ppm	3023-G

Model AQ-2 · Fresh Water

Order Code 3633-04 · Shipping Code R3 (16)

A complete outfit for pond fish culture—ideal for fresh water analysis. Nine critical test factors can be efficiently and accurately determined on-site. Designed with field analysis as a priority; all reagents, components and accessories are arranged for convenience. Lid label instructions are convenient for quick reference, while a booklet provides detailed instructions. Unit is supplied complete with labware, accessories, sampling bottle, and reagents for 50 tests of each factor.

Code 3633-04

Octa-Slide 2 Comparator	Range
Ammonia Nitrogen	0.2, 0.4, 0.6, 0.8, 1.0, 1.5, 2.0, 3.0 ppm NH_3-N
Nitrite Nitrogen	0.05, 0.1, 0.2, 0.3, 0.4, 0.5, 0.6, 0.8 ppm NO_2-N
pH	5.0, 6.0, 6.5, 7.0, 7.5, 8.0, 9.0, 10.0 pH

Direct Reading Titrator	Range	Sensitivity
Alkalinity (Total)	0–200 ppm as $CaCO_3$	4.0 ppm
Carbon Dioxide	0–50 ppm CO_2	1.0 ppm
Chloride	0–200 ppm Cl	4.0 ppm
Dissolved Oxygen	0–10 ppm O_2	0.2 ppm
Hardness (Total)	0–200 ppm as $CaCO_3$	4.0 ppm
Temperature	**Range**	**Sensitivity**
Armored Thermometer	–5° to 45°C	0.5°C

Model AQ-3 · Fresh Water

Order Code 3634-04 · Shipping Code R3 (13)

Designed for growers and technicians monitoring pH, Dissolved Oxygen and Temperature with instrumentation. The Model AQ-3 offers the same convenient packaging, but without the chemical tests for pH, Dissolved Oxygen, or the thermometer.

Model AQ-4 · Salt Water

Order Code 3635-04 · Shipping Code R3 (16)

This equipment monitors the nine parameters most critical for the salt water aquaculturist. Reagents, labware, and accessories are mounted for convenient test selection and portability. Lid label instructions are convenient for quick reference, while a booklet provides detailed instructions. Unit is complete with labware, accessories, sampling bottles, and reagents for 50 tests of each factor.

Octa-Slide 2 Comparator	Range
Ammonia Nitrogen	0.0, 0.05, 0.1, 0.25, 0.5, 1.0, 1.5, 2.0 ppm NH_3-N
Nitrate Nitrogen	0.25, 0.5, 1.0, 2.0, 4.0, 6.0, 8.0, 10.0 ppm NO_3-N
Nitrite Nitrogen	0.05, 0.1, 0.2, 0.3, 0.4, 0.5, 0.6, 0.8 ppm NO_2-N
pH	5.0, 6.0, 6.5, 7.0, 7.5, 8.0, 9.0, 10.0 pH

Direct Reading Titrator	Range	Sensitivity
Alkalinity (Total)	0–200 ppm as $CaCO_3$	4.0 ppm
Carbon Dioxide	0–50 ppm CO_2	1.0 ppm
Dissolved Oxygen	0–10 ppm O_2	0.2 ppm
Salinity	0–20 ppt Salinity	0.4 ppt
Temperature	**Range**	**Sensitivity**
Armored Thermometer	–5° to 45°C	0.5°C

Code 3635-04

Model AQ-5 · Salt Water

Order Code 3636-04 · Shipping Code R3 (13)

Designed for growers supplementing their water quality monitoring with instrumentation, in the same convenient packaging as the AQ-4. Same factors as AQ-4, but without tests for Dissolved Oxygen, Salinity, pH, and Temperature.

SMART Spectro® Spectrophotometer

Order Code 2000-01 · Shipping Code NH (17)

Easier to use and more accurate than any meter in its price range. Over 80 pre-programmed tests included, 25 user-calibrations can be entered into the memory, and sequences can be customized for frequently run tests.

Advanced Features

- Wide Wavelength Range
- Menu-Driven Display
- High Resolution, Exceptional Accuracy
- Automatic Wavelength Selection
- Unique Optical Design System Using a 1200 Lines/mm Grating
- Pre-Programmed Tests
- Portable

Specifications:

Wavelength Range:	350-1000 nm
Wavelength Accuracy:	±2 nm
Wavelength Resolution:	1 nm
Wavelength Bandwidth:	5 nm (max)
Photometric Range:	0-125%T, -0.1-2.5A
Photometric Accuracy:	±0.005A
Light Source:	Quartz halogen
Sample Chambers:	25 mm round cell, 10 mm square cuvette UDV, COD
Optical Mount:	Modified Ebert, 1200 grooves/mm ruled grating
Modes:	Conc., %T, ABS
Power:	110/220 volt or battery pack (rechargeable)
Weight:	4.65 kgs (10.3 lbs)
Size:	35 cm x 28 cm x 17 cm

Standard Solutions

Test Factor	Size	Conc.	Code	Shipping
Ammonia-Nitrogen	60 mL	100 ppm	3871-H	NH
Chlorine	60 mL	250 ppm	6973-H	NH
Chlorine	60 mL	1000 ppm	3858-H	NH
Nitrate- Nitrogen	60 mL	1000 ppm	5392-H	NH
Phosphate	60 mL	1000 ppm	5393-H	NH
Sulfate	60 mL	2000 ppm	7120-H	NH
pH	120 mL	4.0 pH	2866-J	NH
pH	120 mL	7.0 pH	2881-J	NH
pH	120 mL	10.0 pH	2896-J	NH

Shipping Codes listed in front of catalog.

See Pages 8-9 for Reagent Systems!

Includes:

- 6 Sample Tubes (25mm Round)
- 2 Sample Cell Holders (25mm Round and Cod, 10 mm Cuvettes)
- AC Adapter
- Battery Charger
- Instruction Manual Including Test Procedures
- Quick Start Guide

Optional Accessories

- Carrying Case · Order Code 2000-CS · NH (6)
- Battery Pack with Holder (Rechargeable) · Order Code 2000-BP · NH (2)
- SmartLink3 Software with Cable · Order Code 1901-CD · NH (2)
- COD Heater Block (for Total N & P Analysis) · Order Code 5-0102 · NH (15)

SMART3 Colorimeter®

Order Code 1910 · Shipping Code NH (4)

The user-friendly waterproof SMART3 Colorimeter is the direct reading colorimeter for complete on-site water analyses. Over 80 pre-programmed tests can be run on this compact instrument and each test features automatic wavelength selection. The entire multi-LED optical system is embedded in the light chamber and optimized for LaMotte test reagent systems. This enables the analyst to select a wavelength and read a reacted sample. The microprocessor, which selects the wavelength, also allows the user to load up to 25 tests for analyzing custom reagent systems. Features seven user selected languages. Comes with 4 sample tubes, USB wall/computer adapter and instruction manual.

Specifications:

Light Source:	LED/filter setup at 430nm, 520nm, 570nm, 630nm
Detector:	Photodiode
Display:	160 x 100 Backlight LCD, 20 x 4 line graphics display
Range:	0-125%T
Resolution:	1% FS
Accuracy:	2% FS
CE Mark:	Yes
Sample Cell:	25 mm round cell, 10 mm square cuvette, 16mm COD tubes
Power:	USB computer/wall adapter or lithium ion rechargeable battery
Battery Life:	Charge Life: Approx. 380 tests with backlight on to 1000 tests with backlight off. (Signal averaging diabled). Battery Life: Approx. 500 charges.
Datalogging:	Up to 500 data points; USB transfer, time and date stamped
Calibration:	Factory set-user adjustable
Keypad:	6-button mechanical
Size:	7.5 x 3.5 x 2.5 inches
Weight	15 ounces

See Pages 8-9 for Reagent Systems!

Optional Accessories

- Small Field Carrying Case · Order Code 1910-GCS150 · NH (7)
- Large Carrying Case · Order Code 1910-GCS440 · NH (9)
- Car Charger · Order Code 5-0132 · NH (1)

Replacement Parts

- USB Cable · Order Code 1720 · NH (1)
- USB Wall Adapter · Order Code 1721 · NH (1)
- COD/UDV Adapter · Order Code 1724 · NH (1)

SMARTLink 3 Program & Interface Cable

Order Code 1901-CD · Shipping Code NH (1)

Interface the SMART Spectro Spectrophotometer and SMART2 Colorimeter with a Windows based personal computer. The program can be used to download data stored in the dataloggers of the SMART Spectro and the SMART2 Colorimeter. The program allows the user to identify, organize, view, manipulate and store data as a database on a PC. Data can also be copied and pasted or exported to other applications as an ASCII tab delimited text file.

COD Heater Block

COD Heater Block, 120V and 230V, 12-Tube Capacity

Order Code 5-0102 (120V) · Shipping Code NH (15)

Order Code 5-0102-EX2 (230V) · Shipping Code NH (15)

This COD heater block features digital microprocessor control, programmable time and temperature settings, and a dual LED display to monitor both temperature and timer. Perfect for COD, Total Phosphorus, and Total Nitrogen testing PLUS other tests requiring digestion.

Specifications:

Temperature:	30-200°C
Timer:	0-999 minutes
Vial Capacity:	12 (16 mm tubes)
Stability:	±0.1°C@100°C
Weight:	3.6 kg
Dimensions	310 x 250 x 80mm (LxWxH)
CE Mark:	Yes
Oven Temp Cutoff:	212°C

COLORIMETER REAGENT SYSTEMS

Test Factor	Test Method (# or reagents)	Spectro Range	Spectro MDL	SMART 3 Range	SMART 3 MDL	# of Tests	Order Code	Ship
Alkalinity UDV	Unit Dose Vial (1)	0-200	15	0-200	10	100	4318-J	NH
Aluminum	Eriochrome Cyanine R (4)	0.00-0.30	0.01	0.00-0.30	0.01	50	3641-01-SC	NH
Ammonia Nitrogen (Fresh & Salt Water)	Salicylate (3)	0.0-1.00	0.02	0.0-1.00	0.05	25	3659-01-SC	R2
Ammonia Nitrogen HR	Nesslerization (2)	0.0-1.00	0.10	0.0-1.00	0.10	50	3642-SC	R1
Barium	Barium Chloride (1)	0.00-4.00	0.05	0.00-4.00	0.05	50	3638-SC	NH
Benzotriazole	UV Photolysis (4)	0.0-30.0	1.0	0.0-30.0	1	50	4047-01	R1
Biguanide	Colorimetric (1)	0-70	5	0-70	7	50	4044	NH
Borate UDV	Unit Dose Vial (1)	—	—	0.00-80.00	5.0	100	4322-J	NH
Boron	Azomethine-H (2)	0.00-0.80	0.05	0.00-0.80	0.05	50	4868	NH
Bromine LR	DPD Tablets (2)	0.00-9.00	0.04	0.00-9.00	0.10	100	3643-SC	NH
Bromine UDV	Unit Dose Vial DPD (1)	0.0-22.0	0.3	0.0-20.0	0.35	100	4311-J	NH
Cadmium	PAN (4)	0.00-1.00	0.02	0.00-1.000	0.025	50	4017-01	R1
Carbohydrazide	Iron Reduction (3)	0.000-0.900	0.005	0.000-0.900	0.005	100	4857	R1
Chloride TesTab	TesTab (1)	0.0-50.0	0.5	0.0-30.0	0.5	50	3693-SC	NH
Chlorine	DPD Tablets (3)	0.00-4.00	0.02	0.00-4.00	0.05	100	3643-SC	NH
Chlorine - Free UDV	Unit Dose Vial (1)	0.00-10.00	0.10	0.00-10.00	0.15	100	4311-J	NH
Chlorine - Liquid DPD	DPD (3)	0-4	0.025	0.00-4.00	0.05	144	4859	R1
Chlorine - Total UDV	Unit Dose Vial (1)	0.00-10.00	0.10	0.00-10.00	0.15	100	4312-J	NH
Chlorine Dioxide	DPD tablet/Glycine (2)	0-7.0	0.04	0.00-8.00	0.10	100	3644-SC	NH
Chromium (Hexavalent)	Diphenylcarbohydrazide (1)	0.00-1.00	0.01	0.00-1.00	0.02	100	3645-SC	HA
Chromium (Total, Hex & Trivalent)	Diphenylcarbohydrazide (5)	0.00-1.00	0.03	0.00-1.00	0.05	100	3698-SC	LQ
Cobalt	PAN (3)	0.00-2.00	0.02	0.000-2.000	0.025	50	4851-01	LQ
COD LR with Mercury	Digestion (1)	0-150 mg/L	5 mg/L	0-150 mg/L	5 mg/L	25	0075-SC	R1
COD LR without Mercury	Digestion (1)	0-150 mg/L	5 mg/L	0-150 mg/L	5 mg/L	25	0072-SC	R1
COD SR with Mercury	Digestion (1)	0-1,500 mg/L	50 mg/L	0-1,500 mg/L	50 mg/L	25	0076-SC	R1
COD HR without Mercury	Digestion (1)	0-1,500 mg/L	50 mg/L	0-1,500 mg/L	50 mg/L	25	0074-SC	R1
COD HR with Mercury	Digestion (1)	0-15,000 mg/L	500 mg/L	0-15,000 mg/L	500 mg/L	25	0077-SC	R1
COD SR without Mercury	Digestion (1)	0-15,000 mg/L	500 mg/L	0-15,000 mg/L	500 mg/L	25	0073-SC	R1
Color	Platinum Cobalt (0)	0-1,000	15	0-1,000	20	¥	NA	NH
Copper BCA - LR	Bicinchoninic Acid (1)	0.00-3.50	0.05	0.00-3.50	0.04	50	3640-SC	NH
Copper - Cuprizone	Cuprizone (2)	0.00-2.00	0.01	0.00-2.50	0.03	50	4023	R1
Copper DDC	Diethyldithiocarbamate (1)	0.00-6.00	0.05	0.00-7.00	0.05	100	3646-SC	NH
Copper UDV	Unit Dose Vial, Bicinchoninic acid (1)	0.00-4.00	0.20	0.0-4.0	0.05	100	4314-J	NH
Cyanide	Pyridine-Barbituric Acid (5)	0.00-0.50	0.05	0.00-0.50	0.01	50	3660-01-SC	R1
Cyanuric Acid	Melamine (1)	0-200	16	5-200	10	40	3661-01-SC	NH
Cyanuric Acid UDV	Unit Dose Vial, Melamine (1)	0-150	5	5-150	6	100	4313-J	NH
DEHA	Iron Reduction (3)	0.00-0.700	0.005	0.00-0.700	0.005	100	4857	R1
Dissolved Oxygen (DO)	Winkler Colorimetric (3)	0.00-12.00	0.25	0.0-10.0	0.025	200	3688-SC	R1
Erythorbic Acid	Iron Reduction (3)	0.00-3.00	0.02	0.00-3.00	0.02	100	4857	R1
Fluoride	SPADNS (2)	0.00-2.00	0.05	0.00-2.00	0.05	50	3647-02-SC	R1
Hardness UDV	Unit Dose Vial (1)	10-500	10	0-450	15	100	4309-J	NH
Hydrazine	P-dimethylaminobenzalde-hyde (2)	0.000-0.750	0.010	0.00-1.00	0.01	50	3656-01-SC	R2

* Requires COD Heater Block, not included. See page 7 for COD Heater Block Order Code 5-0102 or 5-0102-EX2 and COD Adapter Order Code 5-0087.

COLORIMETER REAGENT SYSTEMS

Test Factor	Test Method (# of reagents)	Spectro Range	Spectro MDL	SMART 3 Range	SMART 3 MDL	# of Tests	Order Code	Ship
Hydrogen Peroxide LR	DPD (2)	0.00-1.50	0.02	0.00-1.50	0.03	100	3662-SC	NH
Hydrogen Peroxide HR	DPD (2)	0-60	1	0.0-80.0	4	50	4045-01	NH
Hydrogen Peroxide Shock	DPD (2)	0-225	4	0-300	10	100	4045-01	R2
Hydroquinone	Iron Reduction (3)	0.00-1.80	0.01	0.00-2.00	0.01	100	4857	R1
Iodine	DPD Tablets (2)	0.00-14.00	0.08	0.00-14.00	0.20	100	3643-SC	NH
Iron - Bipyridyl	Bipyridyl (2)	0.00-6.00	0.06	0.00-6.00	0.06	50	3648-SC	R1
Iron UDV	Unit Dose Vial Bipyridyl (1)	0.00-10.00	0.07	0.00-10.00	0.2	100	4315-J	NH
Iron - Phenanthroline	1,10 Phenanthroline (2)	0.00-4.50	0.04	0.00-5.00	0.08	50	3668-SC	R1
Lead	PAR (5)	0.0-5.0	0.1	0.00-5.00	0.10	50	4031-01	R1
Manganese LR	PAN (3)	0.00-0.50	0.02	0.00-0.70	0.02	50	3658-01-SC	HF
Manganese HR	Periodate (2)	0.0-15.0	0.3	0.0-15.0	0.3	50	3669-SC	R1
Mercury	TMK (3)	0.00-1.50	0.02	0.00-1.50	0.02	50	4861-01	LQ
Methylethylketoxime	Iron Reduction (3)	0-3.0	0.02	0.00-3.00	0.02	100	4857	R1
Molybdenum HR	Thioglycolate (3)	0.0-30.0	0.2	0.0-50.0	0.5	50	3699-03-SC	R1
Nickel	Dimethylglyoxime (6)	0.00-8.00	0.06	0.00-8.00	0.1	50	3663-01-SC	LQ
Nitrate Nitrogen LR	Cadmium Reduction (2)	0.00-3.00	0.05	0.00-3.00	0.10	20	3649-SC	R1
Nitrate TesTabs	Zinc Reduction (1)	0-60	2.5	0-60	5	50	3689-SC	NH
Nitrite Nitrogen LR	Diazotization (2)	0.00-0.80	0.02	0.00-0.80	0.02	20	3650-SC	NH
Nitrate UDV	Unit Dose Vial Zinc Reduction	0.00-0.80	0.02	0.00-0.80	0.02	50	4321-J	NH
Nitrogen, Total*	Chromotropic Acid/ Digestion (6)	0-25 mg/L	2 mg/L	3-25 mg/L	3 mg/L	25	4026-01	R1
Oxygen Scavengers	Iron Reduction	various	various	various	various	100	4857	R1
Ozone	DPD (3)	—	—	0.00-3.00	0.03	100	4881	R1
Ozone LR	Indigo Trisulfonate (3)	0.00-0.40	0.02	0.00-0.40	0.02	100	3651-SC	NH
Ozone HR	Indigo Trisulfonate (3)	0.00-1.50	0.05	0.00-2.50	0.05	20	3651-SC	NH
pH CPR (Chlorphenol Red)	Chlorophenyl Red (1)	5-7	—	5.0-6.8	—	100	3700-01-SC	NH
pH PR (Phenol Red)	Phenol Red (1)	6.8-8.4	—	6.6-8.4	—	100	3700-01-SC	NH
pH TB (Thymol Blue)	Thymol Blue (1)	8-9.5	—	8.0-9.6	—	100	3700-01-SC	NH
pH UDV							4310-J	
Phenol	Aminoantipyrine (3)	0.00-6.00	0.05	0.00-6.00	0.05	50	3652-01-SC	NH
Phosphate LR	Ascorbic Acid Reduction (2)	0.00-3.00	0.04	0.00-3.00	0.05	50	3653-SC	R2
Phosphate HR	Vanodomolybdovanadate Acid (1)	0.0-70.0	1	0.0-70.0	0.5	50	3655-SC	R1
Phosphorus, ppb	Ascorbic Acid/Digestion (5)	—	—	0-3000 ppb	50 ppb	50	3653-SC	R2
Phosphorus, Total - LR*	Ascorbic Acid/Digestion (5)	0.00-3.00	0.07	0.00-3.50	0.50	25	4024-01	R1
Phosphorus, Total - HR*	Molybdovanadate/ Digestion (5)	0-70	5.0	0.0-70.0	5.0	25	4025-01	R1
Potassium	Tetraphenylboron (2)	0.0-10.0	0.5	0.0-10.0	0.8	100	3639-SC	R1
Silica LR	Heteropoly Blue (4)	0.00-2.50	0.03	0.0-4.0	0.05	100	3664-SC	R1
Silica HR	Silicomolybdate (3)	0-50	1	0.0-75.0	0.5	50	3687-SC	R1
Sulfate HR	Barium Chloride (1)	5-100	5	0-100	3	100	3665-SC	R1
Sulfide LR	Methylene Blue (3)	0.00-1.00	0.02	0.00-1.50	0.06	50	3654-02-SC	R1
Surfactants	Bromthymol Blue (3)	0.0-8.0	0.5	0.00-8.00	0.75	100	4876-01	LQ
Tannin	Tungsto-Molybdophosphoric Acid (2)	0.0-10.0	0.2	0.0-10.0	0.1	50	3666-01-SC	R1
Tolyltriazole	UV Oxidation/Dichromate (4)	0.0-30.0	1.0	0.0-30.0	0.5	50	4047-01	R1
Turbidity	Absorptimetric (0)	2-400 FTU	2 FTU	0-500 FAU	3 FAU	◇	NA	NH
Zinc LR	Zincon (6)	0.00-3.00	0.025	0.00-3.00	0.05	50	3667-01-SC	LQ

* Requires COD Heater Block, not included. See page 7 for COD Heater Block Order Code 5-0102 or 5-0102-EX2 and COD Adapter Order Code 5-0087.

Aquaculture Lab

Model SCL-08 · Order Code 1983-02 · Shipping Code LQ (34)

Model SCL-09 (lab w/out pH meter) · Order Code 1984-01 · Shipping Code LQ (34)

Code 1984-01

The Model SCL-08 Aquaculture Lab provides precise results which reflect actual water quality conditions on-site. The battery-powered SMART3® Colorimeter instantly analyzes color reactions within test samples and provides readings directly in ppm (parts per million). No visual color comparison is required. Simplified procedures are utilized for each test. Titration tests performed with LaMotte's Direct Reading Titrator provide results directly in ppm.

SMART® Colorimeter Tests	Range*	Sensitivity	# of Tests
Ammonia	0–5.0 ppm	0.05 ppm	50
Copper	0–5.0 ppm	0.03 ppm	100
Nitrate Nitrogen	0–3.0 ppm	0.02 ppm	20
Nitrite Nitrogen	0–0.7 ppm	0.01 ppm	20
Phosphate	0–3.0 ppm	0.01 ppm	50

Direct Reading Titrator Tests	Range*	Sensitivity	# of Tests
Alkalinity	0–200 ppm	4.0 ppm	50
Carbon Dioxide	0–50 ppm	1.0 ppm	50
Chloride/Salinity	0–200 ppm	4.0 ppm	50
Dissolved Oxygen	0–10 ppm	0.2 ppm	50
Hardness (Total, Ca, Mg)	0–200 ppm	4.0 ppm	50

pH Meter	Range*	Sensitivity	# of Tests
Model pH5	pH 0–14	0.01 pH	—

* Range may be extended by dilution.

pHPLUS Direct 2

Order Code 5-1936-01 · Shipping Code NH (3)

Laboratory precision in a water-resistant design! Read pH, mV, temperature and concentration with accuracy–ISE's read concentration in ppm. Easy-to-use in any test mode, the pHPLUS Direct hold 20 test results.

Features:

- 1 BNC, Temp. Probe, Power, Ref.
- 4 AAA Alkaline or Line for 110 or 220V

Optional Accessories

- pH Probe, Gel-filled · Order Code 1904
- Temperature Probe · Order Code 1909
- Adapter, 110V · Order Code 1726-110

pH	
Range:	0.00-14.00
Resolution:	0.01
Accuracy:	±0.01
Calibration:	2 or 3 point auto.
Electrode:	Epoxy, Ag/AgCl

Temperature	
Range:	0.0 to 100.0°C
Resolution:	0.1°C
Accuracy:	±1°C

Concentration	
Range:	0.0 to 100
Resolution:	±1 LSD
Accuracy:	±0.5% or ±1 LSD

mV	
Range:	±500mV
Accuracy:	±0.1 mV
Resolution:	10 mV

Standardized pH Buffer Solutions

For use in calibration of pH meters. Available in 100 mL (-J) and 500 mL (-L) sizes..

pH Value	Code
4.00	2866
7.00	2881
10.00	2896

Economical Field Meters

An outstanding line of instruments for measuring pH, Conductivity, and TDS. These hand-held meters incorporate advanced microprocessor technology with attractive, compact design, resulting in a hi-tech performance and a user-friendly operation, at an affordable price. Now includes rubber boot with pop-up stand!

Model	pH 5 Plus (pH)	pH 5 Plus (Temp)	CON 6 Plus (Conductivity)	TDS 6 Plus (TDS)	CON 6 Plus & TDS 6 Plus (Temp)	DO Meter
Order Code:	w/out case 5-0034-01 with case 5-0035-01		w/out Case 5-0038-02 with Case 5-0039-02	w/out Case 5-0036-02 with Case 5-0037-02	(Temperature probe included)	5-0107-01 Galvanic Probe
Range:	0.00 to 14.00 pH	0.0 to 100.0°C	0.0 to 20.00, 200, 2,000.0 µS 0 to 20.00, 200.0 mS	0.0 to 10.00, 100.0, 1000 ppm 1.0 to 10.00, 100.0, 200 ppt	-10.0 to 110.0°C	0.00 to 20.00 mg/L (ppm), -5.0 to 105.0°C, 0.00 to 200.0% sat.
Resolution:	0.01 pH	0.1°C	0.01, 0.1, 1 µS 0.01, 0.1 mS/cm	0.01, 0.1, 1 ppm 0.01, 0.1, 1 ppt	0.1°C	0.01 mg/L (ppm), 0.1%, 0.1°C
Accuracy:	±0.01 pH	±0.5°C	±1% full scale	±1% full scale	±0.5°C	±1.5% FS, ±1.5% FS, ±0.5°F
Calibration:	Auto Buffer Recognition Up to 3 Buffer Values (USA, NIST, Pb)	0.1°C increments	One point per range (five points if each range is calibrated)		Offset 0.1°C increments	Salinity and pressure correction, auto or manual
Temperature Compensation:	Automatic or Manual from 0 to 100°C		Automatic or Manual from 0.0 to 50.0°C			Automatic or Manual from 0.0 to 50.0°C
Power:	Four AAA alkaline batteries (included) 500 hours		Four AA alkaline batteries (included) >60 hours continuous use			Four 1.5 AAAA batteries (included) >700 hours continuous use
Display:	Single Custom LCD		Single Custom LCD			Single Custom LCD
Auto shut-off:	After 17 minutes		After 17 minutes			Selectable
Operating Temperature:	32 to 122°F; 0 to 50°C		32 to 122°F; 0 to 50°C			0 to 50°C
Shipping:	NH (3)		NH (3)			NH (3)
Size:	2.8" W x 5.8" H x 1.4" D		2.8" W x 5.8" H x 1.4" D			2.8" W x 5.8" H x 1.4" D

Dissolved Oxygen TRACER

Dissolved Oxygen Tracer · Order Code 1761 · Shipping Code NH (1)

DO Sensor Module · Order Code 1762 · Shipping Code NH (1)

- Oxygen level displayed as % Saturation from 0 to 200.0% or Concentration from 0 to 20.00 ppm (mg/L)
- Adjustable Altitude Compensation (0-20,000 ft in 1,000 ft increments)
- Adjustable Salinity Compensation from 0 to 50 ppt
- Memory stores up to 25 data sets with DO and Temperature reading
- Self-calibration on power up; Data Hold, Auto power off, Low battery indicator
- Optional 3 ft (1m) or 16 ft (5m) extension cable
- Complete with DO electrode, protective sensor cap, spare membrane cap, electrolyte, four 1.5V SR44W batteries, and 48" (1.2m) neckstrap

Description	Range	Resolution	Accuracy
DO (sat. mode)	0 to 200.0%	0.1%	±2% FS
DO (conc. mode)	0 to 20.00 ppm (mg/L)	0.01 ppm (mg/L)	0.4 ppm (mg/L)
Temp.	32 to 122°F (0 to 50°C)	0.1°F/°C	±1.8°F (1°C)
Dimensions	1.4 x 6.9 x 1.6" (36 x 176 x 41mm)		

Optional Accessories

Description	Order Code	Ship Code
DO Membrane Kit (6 screw-on membranes and solution)	1761M	NH (1)
Weighted Stand w/Sample Cups (5)	1746	NH (1)
Sample Cups w/caps (24)	1745	NH (1)
DO Extension Cable (1 meters)	1763	NH (1)
DO Extension Cable (5 meters)	1764	NH(1)

pH TRACER

Order Code 1741 · Shipping Code NH (1)

- Read pH from 0.00-14.00 pH to 0.01 pH resolution
- Supplied with 4, 7, 10 pH buffer tablets
- Automatic self calibration to 1, 2, or 3 points
- Extra bold display includes analog bar graph feature
- Memory can store up to 15 readings
- Chlorine and pH modes also display sample temperature
- Unit identifies which probe is in use and retains calibrations
- Automatic shut-off and Low Battery indicator; uses four LR-44 batteries
- Optional total chlorine probe makes unit a true ISE. TCl tablets required

Optional Accessories

Order Code	Description
1733	pH Probe; Range: 0-14.00/±0.01 pH
1734	ORP probe; Range: ±999mV/±4mV
1732	Cl2 probe; Range: 0-10.00/±10% of reading
1746	Optional weighted stand & 5 sample cups
7044A-J	TCl tablets, 100 pack
1745	Sample cups, 24 pack

SAL/EC/TDS Tracer

This Tracer PockeTester offers direct reading of Conductivity, Total Dissolved Solids, and Salinity with one electrode. Simply press the MODE key to select any factor.

pH/TDS/SALT Tracer

This Tracer PockeTester offers direct reading of pH, Conductivity, Total Dissolved Solids, and Salinity with one electrode.

Model	EC/TDS/Salinity Tracer			pH/TDS/SALT Tracer		
	Range	Resolution	Accuracy	Range	Resolution	Accuracy
Order Code:	1749			1766		
Conductivity:	0 to 199.9 µS, 200 to 1999 µS, 2.00 to 19.99 mS	0.1 µS/cm, 1 µS/cm, 0.01 mS/cm	±2%	0 to 199.9 µS, 200 to 1999 µS, 2.00 to 19.99 mS	0.1 µS	±1%
TDS:	0 to 99.9 ppm (mg/L), 100 to 999 ppm (mg/L), 1.00 to 9.99 ppt (g/L)	0.1 ppm (mg/L), 1 ppm (mg/L), 0.01 ppt (g/L)	±2%	0 to 99.9 ppm (mg/L), 100 to 999 ppm (mg/L), 1.00 to 9.99 ppt	0.1 ppm (mg/L)	±2%
Salinity:	0 to 99.9 ppm, 100 to 999 ppm, 1.00 to 9.99 ppt	0.1 ppm, 1 ppm, 0.01 ppt	±2%	0 to 99.9 ppm (mg/L), 100 to 999 ppm (mg/L), 1.00 to 9.99 ppt	0.1 ppm (mg/L)	±2%
pH:	—	—	—	0.00 to 14.11 pH	0.04 pH	±0.01 pH
Temperature:	± 1°C (1.8°F)			32° to 149°F (0 to 65°C)	0.1°F/°C	±1.8°F/°C
Power:	Four 3V CR-2032 Batteries			Four 3V CR-2032 Batteries		
Special Features:	Auto Shutoff after 10 minutes, Low BAT indicator, Digital and Analog Display, Hold 15 tagged readings			Auto Shutoff after 10 minutes, Low BAT indicator, Digital and Analog Display, Hold 25 tagged readings		
Special Functions:	Calibration Function, ATC			Self Calibration		
Replacement Electrode:	1765			1755		

2020we Portable Turbidity Meter

Order Code I970-EPA · Shipping Code NH (6)

Perfect for field and laboratory applications, this compact and easy-to-use instrument is an exceptional value. This meter meets or exceeds EPA turbidity testing requirement USEPA 180.1 standard and is waterproof to IP67.

Features

- Waterproof to IP67
- Lithium Rechargeable Battery
- USB Port
- 7 Languages
- Backlit Display
- Waterproof Carrying Case

Specifications:

Instrument Type:	Nephelometric turbidity; calibrated in NTUs
Range:	0-4000 NTU
Resolution:	0.01 from 0-10.99 NTU, 0.1 from 11-109.9 NTU, 1 from 110-4000 NTU
Response Time:	<2 seconds
Languages:	English, French, Spanish, Japanese, Italian, Portugese, Chinese
Accuracy:	From 0-2.5 NTU/±0.05 NTU; From 2.5-100 NTU/±2%; Above 100/±3%
Display:	6-line with backlit display; 160 x 100 backlit LCD; 20 x 6 line graphics
Light Source:	Tungsten (EPA), complies with EPA 180.1 standard
Sample Chamber:	Accepts 25 mm diameter flat-bottom, screw-capped, sample tubes
Serial Interface:	USB
Power:	USB computer/wall adapter or lithium ion rechargeable battery, 3.7V
Size (LxWxH):	7.5 x 3.5 x 2.5 inches

Hydrometer

Order Code 3-0011
Shipping Code NH (1)

Precision specific gravity hydrometer for salinity measurement. Glass with scale graduated in divisions of 0.0005 from 1.000° to 1.070° Specific Gravity. Each unit checked against NIST certified standard. Includes table to convert reading to salinity in parts per thousand (ppt). Length 13 in. (330 mm), scale length 5 (140 mm). Use with Hydrometer Jar (Code 3-0024) and Armored Thermometer (Code 1066).

Hydrometer Jar

Order Code 3-0024
Shipping Code NH (1)

Precision molded clear plastic (PMP) 500 mL cylinder with broad base for extra stability and easy-to-read, molded 1 mL graduations. Clear, durable polymethyl-pentene cylinder is never slippery, even when wet.

Armored Thermometer

Model 545 · Order Code 1066
Shipping Code NH (1)

A precision thermometer furnished in a protective plastic jacket with window opening. Engraved graduations on white tubing center increases readability which covers the range of –5° to 45°C in 0.5° increments.

Secchi Disk

Order Code 0171-CL · Shipping Code NH (7)
Order Code 0171 (Disk Only) · Shipping Code NH (3)

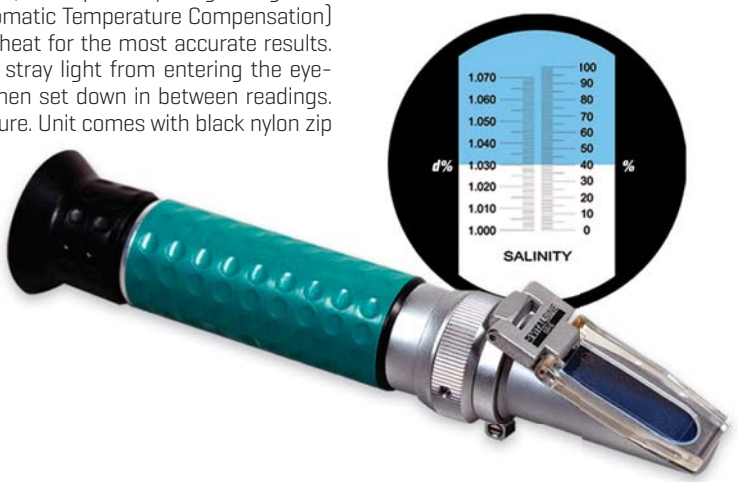
To determine water turbidity in the aquatic environment. A weighted black and white quadrant plastic disk (20 cm diameter) is lowered into the water until it disappears. Calibrated line is marked every half meter up to 20 meters. Braided line.

Salinity Refractometer

Order Code 5-0020 · Shipping Code NH (2)

Handheld salinity refractometer with dual specific gravity and part per thousand (0/00) scale. Range 1.000-1.070 specific gravity and 0-100 0/00 salinity. Resolution 0.0001 and 1.0 0/00 respectively. Large, magnified scale provides a sharp contrast for easier reading. Unit features ATC (Automatic Temperature Compensation) over the range of 10°-30°C. Rubber grip insulates the unit against hand heat for the most accurate results. Hooded eyepiece houses and protects the focusable lens and prevents stray light from entering the eyepiece during use. Non-roll stand protects against damage to the unit when set down in between readings. Calibration ring is used to zero or calibrate the unit, simplifying the procedure. Unit comes with black nylon zip case, transfer pipet, and screwdriver.

Specifications:	Description
Scales:	Specific Gravity 1.000 to 1.070 Parts per thousand (0/00) 0 to 100
Resolution:	S. G. to .001 ppt (0/00) to 1 ppt
Temp. Comp.:	Automatic between 10° and 30°C



Plankton Net

Order Code 1063 · Shipping Code NH (2)
15" x 5" mouth, (38 x 13 cm) diameter

Order Code 0023 · Shipping Code NH (4)
38" x 12" mouth, (97 x 31 cm) diameter

A cone-shaped net of 10 mesh/153 micron nylon cloth. Minute plankton are collected and can be observed in the clear 50 mL conical graduated tube at the end of the net. Two tubes are provided. The net mouth is braced by a sturdy brass ring and harness.

Bottom Sampling Dredge

Order Code 1097 · Shipping Code NH (5)

Stainless steel sampler designed for use on soft bottoms (sand or silt). A simple trigger holds the sampler open while lowering to cover uniform area. Scissor design closes sampler, retrieving a volume of sediment to the surface.

Sounding Lead & Calibrated Line

Order Code 1064-G · Shipping Code NH (4)

This heavy nylon line is marked from 0–20 meters and has a spring clip for easy attachment to a Secchi Disk, plankton net or a lead weight. A 2 lb. (0.9Kg) lead weight is provided. The nylon line wraps conveniently around an ethafoam block which also acts as a float to prevent accidental loss.

Water Sampler

Model JT-1 · Order Code 1077 · Shipping Code NH (9)

A one-liter sampler of clear acrylic with a built-in outlet for removal of the water sample. A brass messenger is sent down a 20 meter calibrated nylon line to trigger a release mechanism sealing the sample chamber. The seal is made with two heavy rubber plungers. A lead collar surrounds the sampler to eliminate Drift.

CATALOGS

Soil Testing Products

Order Code 1652

Field and laboratory test equipment for measurement of soil nutrients and soil pH. For agricultural soils, gardens, and hydroculture.

Environmental Science Products

Order Code 1590

"Hands-on" test equipment for air, soil, and water chemistry students in elementary, secondary, vocational, outdoor, and college science programs.

Water Conditioning Testing Products

Order Code 1650

Softener sales demonstration outfits and other specialized test equipment for the point-of-use water treatment industry.

Pool & Spa Water Testing Products

Order Code 1634

A complete line of test kits, combination outfits, and meters for pool service professionals, public pool or spa operators, and private pool or spa owners.

Water Quality Testing Products

Order Code 1653

A complete guide to instruments, apparatus, kits, and reagents. This catalog features the best available test equipment for testing a variety of waters. LaMotte individual and combination kits, and instrumentation are featured.

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