

Water Quality Testing Products



Welcome to the latest edition of our primary catalog, *Water Quality Testing Products*. It represents our most extensive listing of water analysis instruments, test kits, reagents, test strips, and sampling equipment offered in our eighty-eight year history. In addition to the products presented in this catalog for testing water in industrial, potable, and wastewater applications, we offer Application Specific Catalogs for many industries such as recreational water and environmental education. These industry specific catalogs are free and are featured on page 91.

We are very excited to present in this issue a sneak preview of our new ColorQ colorimeter. Initial models for testing pool water will launch in the first half of 2007 while others will come throughout the year. The ColorQ colorimeter line includes kits for residential water professionals, aquarium and aquaculture specialists, as well as outdoor education and monitors. For more details, contact a market manager in the industry of your choice.

Our test strip line keeps growing. Check our our listing on pages 34-35 and see new strips for Peracetic Acid, Chlorine Dioxide and many other parameters.

LaMotte is also proud to introduce innovative new DPD TesTabs in rapid dissolving instrument grade formulas. These will impress any chlorine analyst. We firmly believe the emphasis we place on Technical Support and Customer Service helps distinguish LaMotte. I encourage you to call our Technical Support staff for guidance on product selection or assistance with any questions regarding LaMotte products.

Solving Analytical Challenges Since 1919

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

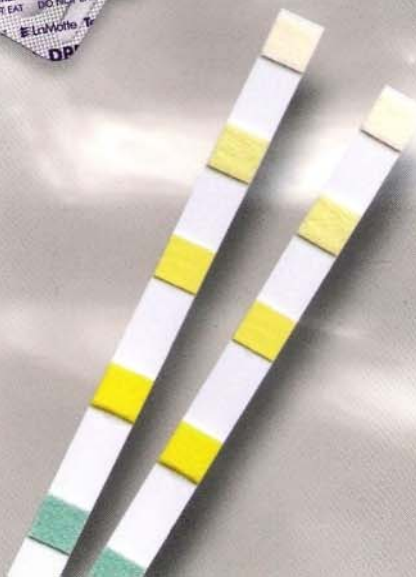
If for any reason you are not satisfied with our products you may return the product within 30 days for a full refund; please call for return authorization. We know that when you buy analysis products for us, you purchase solutions to your challenge, not simply hardware.



David LaMotte
PRESIDENT



www.lamotte.com





TO ORDER - SEE BACK COVER

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CAPABILITIES

LaMotte Company manufactures its products at its 65,000 square foot facility in Chestertown, Maryland, near Washington DC on the east coast of the United States.

Now, more than five years into its Lean Manufacturing journey, LaMotte's chemists, engineers, and technicians continue to optimize a wide variety of processes to achieve maximum quality and efficiency.

We offer a wide range of test methods and tools for the analyst. From multi-test test strips, foil packaged unit-dose tablets, unit-dose powder vials, and liquid reagents to sonic-welded color comparators, multi-parameter test kits, and electronic instruments. LaMotte controls the manufacturing of all aspects to ensure the highest quality.

We believe strongly in having a team of technical experts available by phone and email for customer support. The Research and Development team works to constantly improve and create new test methods. Our in-house graphic design department provides extensive services that are especially valuable for the many custom designed product projects that LaMotte welcomes.

All of these varied capabilities enable LaMotte to excel at helping people solve their analytical challenges.



CUSTOM TEST KIT SERVICES

WE CAN design a kit that combines any grouping of parameters you need.

WE CAN develop new test methods for new proprietary compounds or for control of specialized treatment programs.

WE CAN alter existing graphics and packaging or design something new for private labeling purposes

If your needs go beyond our standard product line, then our Custom Test Kit Services Department can design a custom kit to meet your needs.

How The Custom Test Kit Service Works

1. Contact our Customer Service or International Sales departments by phone, fax, or email. Tell us how you plan to use the product, the level of accuracy and range you need, how many kits, and any limitations such as size, weight, cost, or skill level of the end user (i.e. student, consumer, technician).
2. We will prepare a quote for you. Based on the information you provide, we will suggest one of our non-catalog test kits or develop a kit to suit your needs.
3. Once you order, we immediately begin the development process, subject to final approval before beginning production.



INTERNATIONAL SALES

Worldwide Distributor Network

Available online at www.lamotte.com:

- Entire Product Listing with Full Descriptions
- Printable Test Instructions
- Printable MSDSs
- Printable Reagents Certificates of Analysis

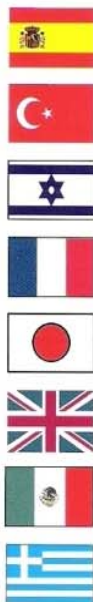
For Pricing and To Order, contact a distributor near you.

To locate a LaMotte distributor, visit www.lamotte.com and select "global sales".

For more information, email us at intl@lamotte.com.



www.lamotte.com



TEST METHODS: COLORIMETRIC

Colorimetric

There are two basic types of colorimetric tests:

1. Tests which determine the concentration of a substance are based on Beer's Law. Simply stated, this says that the higher the concentration of a substance, the darker the color developed in the test, so more light is absorbed by the sample.
2. pH tests use an indicator which changes color with changes in the concentration of hydrogen ions, or the acidity of the solution.

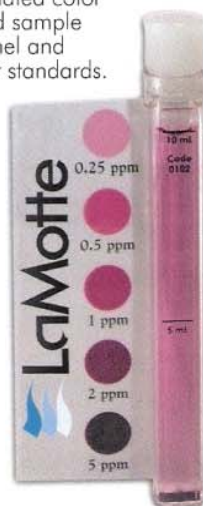
OCTA-SLIDE COMPARATOR

The eight color standards in the Octa-Slide are placed in a bar so that they can be compared to the sample individually.



COLOR CHART COMPARATOR

Color charts are laminated color standards. The reacted sample is held against the panel and compared to the color standards.



OCTET COMPARATOR

The Octet Comparator contains eight color standards. The color standards are arranged so that the sample can be compared to four standards at once.

There are two accessories which may be used with an Octet Comparator. The Bi-Color Reader (Code 2150) neutralizes sample color and/or turbidity to give more accurate readings.

The Axial Reader (Code 2070) uses a mirror to extend the viewpath and intensify faint colors of low concentrations for easy distinction. Both accessories attach directly to the comparator and come with complete instructions for use.



Octet comparator with Axial Reader

TEST STRIPS

Test strips are either dipped or swirled in test solutions. The resulting color reaction is compared to a color chart provided.



TEST METHODS: ELECTRONIC • TITRIMETRIC



Electronic Methods

Electronic colorimeters measure the amount of light which travels through the reacted sample, and convert the measurement to a reading as ppm, absorbance or %T. In addition to colorimeters, LaMotte offers instruments to test pH, TDS/conductivity, dissolved oxygen, and turbidity.



Titrimetric

Titrimetric tests can be used to determine the concentration of a substance in a sample solution. After the sample is treated with an indicator, a standard titrant is added until a color change indicates a completed reaction. LaMotte offers four separate types of titration methods, allowing a choice of precision and convenience.

DIRECT READING TITRATOR

The Direct Reading Titrator is a 1.0 mL microburet calibrated to allow direct reading of the test result. Each Titrator has a specific range, but may be refilled to test higher concentrations.



AUTOMATIC BURET

The self-zeroing automatic buret is calibrated from 0 to 10 mL in 0.1 mL increments. It is available with a squeeze valve (pinchcock), glass stopcock, or Teflon[®] stopcock.

See page 85 for full line of automatic burets.

DROPPER PIPET

The drop count test uses a pipet to provide fast, reliable measurements in the field. The number of drops used to obtain a color change is multiplied by a given factor to produce the test result.



DROPPER BOTTLE

The dropper bottle test uses bottle tips which deliver a consistent standard drop size to add titrant to the sample. As with the drop count test, the number of drops used to complete the reaction is multiplied by a given equivalence factor to determine the concentration. Many dropper bottle tests use different sample sizes for different equivalences.

TC-3000 TRI-METERS Turbidity, Color, & Chlorine - ALL IN ONE METER!

Industry leading precision, sensitivity and dependability in one of the most innovative meters available on the market for the measurement of: Turbidity, Color, and Chlorine.



Code 1964-EPA

Code 1964-ISO

LaMotte offers 2 versions of the TC-3000. The TC-3000i uses an IR LED and meets the requirements of the ISO 7027 Standard. The TC-3000e uses a tungsten lamp and meets the specifications of EPA 180.1.

- Ideally suited for both low-level drinking water applications as well as monitoring high turbidity in the field
- Six detector design allows for long term stability over a wide range of operational conditions
- Special focusing optics
- Advanced IR emitter (3000i version)
- Tube positioning ring to limit tube variability enabling maximum sensitivity and accuracy
- MSP430 micro controller used is the most advanced controller on the market for hand held applications enabling use of advanced calibration algorithms
- Supports 6 languages: English, French, Spanish, Japanese, Portuguese and Italian
- Data logging up to 4000 points with a date and time stamp – stored tests can be viewed on the meter or downloaded to a PC
- Compatibility with existing Smart Link 2 software
- Easy to read graphic LCD display
- Easy menu-driven operation

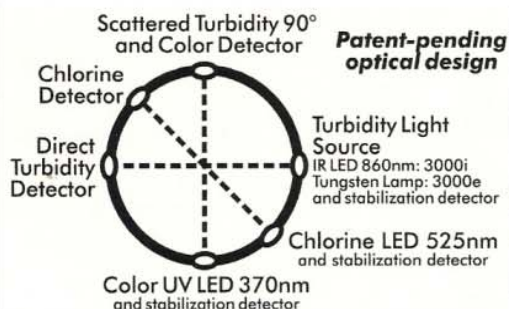
Meter Features

Battery	9V
AC Power	Optional
Data Logging	4000 points
Auto Shut-Off	Disabled, 5, 10, 30
Languages	English, French, Spanish, Japanese, Italian, Portuguese
Response Time	<5 Seconds

**2 YEAR
WARRANTY**

Ultra-Rugged Carrying Case!

Kit supplied with 0, 1, and 10 NTU standards, sample bottle, 4 sample tubes, DPD tablets, and extra battery.



TC-3000 TRI-METERS

Turbidity, Color, and Chlorine

Turbidity

- Meets design criteria for quantitative methods of turbidity using optical turbidimeters as specified by ISO 7027/EPA 180.1
- Uses micro focusing optics
- Two user selected factory calibration modes:
 - Formazin
 - Polystyrene Japanese Turbidity Unit (Japanese Water Works Regulation)
- Supplied with formazin verified styrene divinylbenzene bead suspensions (AMCO) for easy and accurate field calibration
- User selected signal averaging (disabled, 2, 5 or 10 measurements)
- Blanking with turbidity-free water allows a zero point calibration for increased accuracy at very low turbidity levels

<i>Unit of Measure</i>	NTU, FNU, FAU, ASBC, EBC
<i>Range</i>	0-4000
<i>Resolution</i>	0.01 NTU/FNU 0.00-10.99 0.1 NTU/FNU 11.00-109.9 1 NTU/FNU 110-4000
<i>Range Selection</i>	Automatic
<i>Accuracy</i>	±2%
<i>Detection Limit</i>	0.05 NTU/FNU
<i>Reproducibility</i>	0.02 NTU/FNU; 0.5 FAU
<i>Stray Light</i>	<0.02 NTU FNU
<i>Light Source</i>	860nm LED (ISO) Tungsten (EPA)
<i>Signal Averaging</i>	Disabled, 2, 5, 10

Chlorine

- Exceeds design specifications for EPA 330.5
- Liquid and tablet DPD calibrations for Free and Total Chlorine measurement.
- Wide-range accomplished with same cell and reagent dosage.
- Low level detection.
- User selected units ppm or mg/L

<i>Range</i>	0-10 ppm
<i>Resolution</i>	0.01 ppm (0-5)/0.1 ppm (5-10)
<i>Accuracy</i>	0.05 or ±2%
<i>Detection Limit</i>	0.02 ppm
<i>Response Time</i>	<5 Seconds
<i>Light Source</i>	525 nm LED

Color

- UV LED and micro-focusing optics enable low level detection.
- Uses same sample vial as turbidity and chlorine tests

<i>Range</i>	0-500 cu
<i>Resolution</i>	0.1 cu (0-99.9 cu)
<i>Accuracy</i>	±0.5 cu or 2%
<i>Detection Limit</i>	0.2 cu
<i>Response Time</i>	<5 Seconds
<i>Light Source</i>	UV LED 375 nm

TC3000e USEPA Compliant

Order Code 1964-EPA

Turbidity (180.1), Chlorine (330.5),
Color (Modified 2120B)

TC3000i ISO Compliant

Order Code 1964-ISO

Turbidity (ISO 7027), Chlorine (330.5),
Color (Modified 2120B)

Kits & Accessories

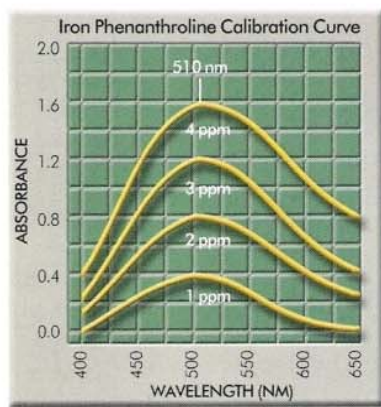
1964-EPA	TC-3000 Kit, EPA version	4140	DPD Chlorine secondary standards kit
1964-ISO	TC-3000 Kit, ISO version	3176-01	FAS-DPD Titration kit for chlorine titration
1754†	AC adapter (variable 100-240V AC)	6973-H	Standard chlorine solution, 250 ppm, 60 mL
0641	Vial Ring (2-pk)	6973-L	Standard chlorine solution, 250 ppm, 475 mL
0475	Six pack of vials	3858-H	Permanganate solution, 1000 ppm, 60 mL
1480	0 NTU Standard (ISO and EPA), 60 mL	3858-L	Permanganate solution, 1000 ppm, 60 mL
1481	1 NTU Standard (ISO), 60 mL	6903A-J	Chlorine DPD #1 instrument grade tablets (100/box)
1482	10 NTU Standard (ISO), 60 mL	6197A-J	Chlorine DPD #3 instrument grade tablets (100/box)
1483	100 NTU Standard (ISO), 60 mL	P-6740-H*	Liquid DPD 1A reagent, 60 mL
1484	1 NTU Standard (EPA), 60 mL	P-6741-H*	Liquid DPD 1B reagent, 60 mL
1485	10 NTU Standard (EPA), 60 mL	P-6743-H*	Liquid DPD 3 reagent, 60 mL
1486	100 NTU Standard (EPA), 60 mL		
6195-H	Formazin standard solution, 4000 NTU, 60 mL		

*Note: DPD 1A and DPD 1B are both required to test free residual chlorine and DPD1A, DPD1B and DPD 3 are required for testing total residual chlorine.

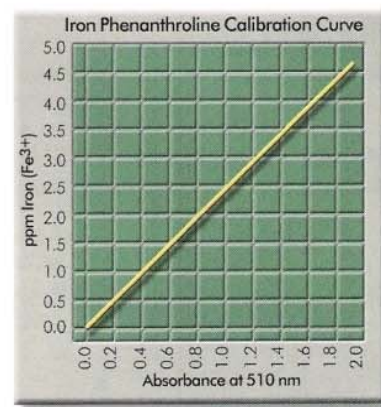
†Optional - not included in kit

SMART SPECTRO™ SPECTROPHOTOMETER

A portable spectrophotometer that is easier to use and more accurate than anything in its price range. With automatic wavelength selection, pre-programmed tests, and superior performance – this is the best spectrophotometer for the money!



Fully functional spectrophotometer allows the user to select the optimum wavelength for creating calibration curves.



The user calibration software automatically calculates the best straight line fit.

1

MAIN MENU 09:50
* CALIBRATE WL
PROGRAMMED TESTS
%T/ABS

Select from main menu

2

15. CHLORINE
* SCAN BLANK
SCAN SIMPLE
END 515NM

Scan blank and sample

3

15. CHLORINE
* 12.5%T 0.9031A
1.51 PPM
PRINT PRESS ENTER

Results shown as %T, ABS, ppm

Create

EDIT USER TEST 1
* NAME THE TEST
SELECT WL
NEW CALIBRATION

Create new tests

Customize

SEQUENCE 1
* 9. BROMINE-LR
32. COPPER DDC
64. NITRATE-N LR

Customize test sequences



MENU DRIVEN DISPLAY

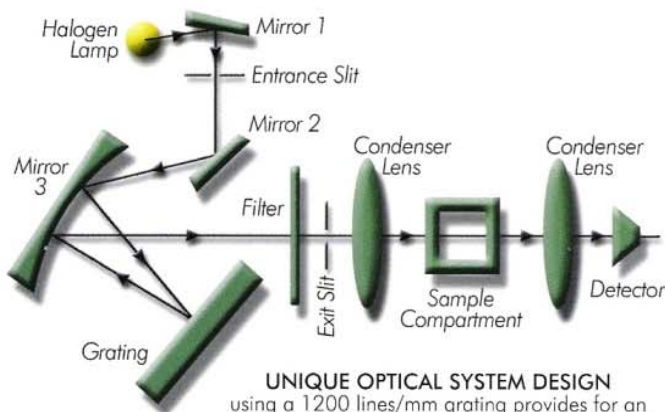
Tests and functions are selected from scrolling menus for ultimate simplicity. Results are displayed as %T, absorbance, and concentration.

PRE-PROGRAMMED TESTS, USER TESTS & AUTOMATIC WAVELENGTH SELECTION

Over 80 pre-programmed tests. Up to 25 calibrations for additional tests can be entered into the memory. The user can also customize sequences for frequently run tests. The meter automatically moves the grating to the required wavelength.

SMART SPECTRO™ SPECTROPHOTOMETER

A wider wavelength range	The same accuracy, every test	Extremely high resolution	Holds calibration longer	Better for higher absorbance samples	Better linearity for higher concentrations
350-1000 nm	±2 nm continuous wavelength accuracy	1 nm resolution with 5 nm (max) bandpass over entire range	Modified Ebert mounting, 1200 lines/mm grating	-0.1 to 2.5A photometric range	±0.005A continuous photometric accuracy



UNIQUE OPTICAL SYSTEM DESIGN
using a 1200 lines/mm grating provides for an excellent range, greater accuracy, and high resolution.

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
Photometric Noise:	<0.001A at 0A; <0.002A at 2A
Photometric Drift:	±0.002A/hr @500 nm
Photometric Stray Light:	<0.5 %T
Dispersive Device:	Grating - based system
Optical Mount:	Modified Ebert
Grating:	1200 grooves/mm ruled grating
Light Source:	Quartz halogen
Bulb Life:	1000 hours minimum
Sample Chambers:	25 mm round cell, 10 mm square cuvette UDV, COD
Detector:	Silicon photodiode
Temperature Range:	0-40°C
Modes:	Conc., %T, ABS
Pre-Programmed Tests:	Yes
Wavelength Selection:	Automatic
User Tests:	Yes, up to 25 can be entered and edited
Datalogging:	Yes, RS-232
Diagnostics:	Yes
Power:	110/220 volt or battery pack (rechargeable)
Weight:	4.65 kgs (10.3 lbs)
Size (WxDxH):	35 cm x 28 cm x 17 cm

TO ORDER:

ORDER CODE 2000 (120V/60Hz and 220V/50Hz)

Includes 6 sample cells (25mm round), 2 sample cell holders (25mm round and COD, 10mm cuvettes), power supply, battery charger, and diagrammed manual.

OPTIONS:

- Carrying Case • ORDER CODE 2000-CS
- Battery Pack with holder (rechargeable) ORDER CODE 2000-BP
- SMARTLink 2 Software with cable ORDER CODE 1912-CD
See page 13
- Replacement sample cells (round) ORDER CODE 0290-6
- Cuvettes • ORDER CODE 29653-10



See
pages 15-16
for complete
reagent system
listing

An error-free design	Much easier to operate	A full function display screen	Truly superior utility	Download results	Portable design
Wavelength selection is fully automatic	Menu prompting with six-button simplicity	Display %T, ABS, concentration; 4 line, 40 character	Pre-programmed tests, additional 25 user tests	RS232 compatible	Optional battery pack, rugged optical bench

SMART2 & COD PLUS COLORIMETERS

The user-friendly SMART2 Colorimeter and COD PLUS colorimeter are the ideal direct reading colorimeters for complete on-site water analyses. All pre-programmed tests can be run on these compact instruments and each test features automatic wavelength selection. The entire multi-LED optical system is embedded in the light chambers and optimized for LaMotte test reagent systems. The analyst can simply select the test and put in the sample with reagent. The microprocessor, which selects the wavelength, also allows the user to load up to 10 tests for analyzing custom reagent systems. *LaMotte stands behind every system we provide.*

See
pages 15-16
for complete
reagent system
listing

Order Code 1919



2 YEAR
WARRANTY

OVER 80
PRE-PROGRAMMED
TESTS!

Order Code 1922



These portable colorimeters have the user in mind with these advanced features:

- Simple, menu-driven operation
- Alphabetical test selection
- User-selected test sequences
- Self diagnostics with error/warning messages
- Instant readiness without "count down" delays; achieved by active stabilization of lamp intensity
- Auto-blank; Auto-off
- European CE mark

The user may select any of the wavelengths in each meter to determine the absorbance or %T of a sample at the desired wavelength.

Additional advancements include:

- Superior narrow band-width interference filters
- New Super Twist LCD display for improved readability
- RS-232 interface
- Optional computer cable and software for data storage and manipulation
- 9-Volt battery and AC adapter are included

As well as the incorporated features:

- All wavelength filters - 430, 520, 570, 620 nm (SMART2 only)
- RS-232 serial port
- and more...

SMART Colorimeter® is a registered trademark of LaMotte Company.

SMART2, COD PLUS COLORIMETERS, & SMARTLink 2

Range:	0-125%T
Resolution:	1% FS
Accuracy:	2% FS
CE Mark:	Yes
Light Source:	COD PLUS: LED/Filter setup at 430nm and 620nm SMART2: LED/Filter setup; 430nm, 520nm, 570nm, 620nm
Detector:	Photodiode
Display:	122x32 LCD, 16x4 line graphics display
Sample Cell:	25 mm round cell, 10 mm square cuvette, 16 mm COD tubes
Datalogging:	RS-232, time and date stamped
Keypad:	6-button membrane switch
Calibration:	Factory set
Power:	9V or AC adapter; battery life 500 tests
Dimensions:	15 x 8 x 5.5 cm; 6 x 3.25 x 2.5 inches (152 x 83 x 64 mm)
Weight:	11 ounces
Bandwidth:	10 mm

SMART2 (120V/60Hz) • Code 1919

Comes with 4 sample tubes, AC adapter and manual

SMART2 (230V/50Hz) • Code 1919-EX2

Comes with 4 sample tubes, AC adapter and manual

COD PLUS (120V/60Hz) • Code 1922

Comes with COD adapter, 4 sample tubes, AC adapter and manual

COD PLUS (230V/50Hz) • Code 1922-EX2

Comes with COD adapter, 4 sample tubes, AC adapter and manual

ACCESSORIES/REPLACEMENT ITEMS:

COD adapter • Code 5-0087

UDV Adapter • Code 5-0086

6 sample tubes • Code 0290-6

AC adapters • Code 1731-110; Code 1754 for Ex2 versions

OPTIONS:

Small Carrying Case (37.5 x 27.5 x 13.75 cm) • Code 1919-GCS150

Large Carrying Case (45 x 32.5 x 20 cm) • Code 1919-GCS440



INSTRUMENTATION



SMARTLink 2 Program

ORDER CODE 1912-CD

Interface the SMART Spectro, SMART2, COD Plus Colorimeters, and TC-3000 meters with a Windows-based personal computer. The program can be used to download data stored in the dataloggers of these meters. 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 REAGENTS & HEATER BLOCKS

Digestion Tubes for Total Nitrogen and Total Phosphorus

LaMotte offers low and high Total Phosphorus and a Total Nitrogen test that are reacted in a heater block and are then tested using a colorimeter or spectrophotometer. All kits ship as R1.

Code	Description	Range	# of Tests
4024	Low Total Phosphorus	0-3.5 mg/L	25
4025	High Total Phosphorus	0-100 mg/L	25
4026	Total Nitrogen	0-25 mg/L	25



Multi-Range COD Reagent Systems

LaMotte-manufactured Chemical Oxygen Demand reagent systems used with our COD PLUS Colorimeter, SMART 2 Colorimeter or SMART Spectro Spectrophotometer are an easy and precise way to measure critical COD levels. Measure low, medium or high levels of COD using your choice of mercury (USEPA approved method) or non-mercury reagent systems. Each package contains 25 ready to use vials. All kits ship as R1.



Mercury based systems

Code	Range
0075-SC	0-150 ppm (EPA approved)
0076-SC	0-1500 ppm (EPA approved)
0077-SC	0-15,000 ppm

Mercury-free systems

Code	Range
0072-SC	0-150 ppm
0073-SC	0-1500 ppm
0074-SC	0-15,000 ppm

COD Heater Block

COD Heater Block, 120V and 230V, 12-tube capacity Code 5-0102 (120V) • Code 5-0102-EX2 (230V)

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.



Feature

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

INSTRUMENT REAGENT LISTING

New tests are being developed for the SMART Spectro and SMART 2. Please contact our Technical Service Department for information regarding additions of new tests to the SMART2.

Test Name	Test Method (# of reagents)	Spectro Range	Smart 2 Range	COD Plus Range	# of Tests	Order Code#	Ship Code
Alkalinity UDV*	UDV (1)	0-200	0-200	---	50	4318-H	NH
Aluminum	Eriochrome Cyanine R (4)	0-0.3	0-0.3	---	50	3641-SC	NH
Ammonia Nitrogen (Fresh/Salt)	Salicylate (3)	0-1.0	0-1.0	0-1.0	25	3659-01-SC	R2
Ammonia Nitrogen HR	Nesslerization (2)	0-4.0	0-4.0	0-4.0	50	3642-SC	R2
Benzotriazole	UV Oxidation/Dichromate	0-30	0-30	---	50	4047	R1
Biguanide	Colorimetric	0-70	0-70	---	50	4044	NH
Boron	Azomethine-H	0-0.8	0-0.8	0-0.8	50	4868	NH
Bromine LR	DPD Tablets (2)	0-9.0	0-9.0	---	100	3643-SC	NH
Bromine UDV*	Unit Dose Vial DPD (1)	0-22	0-22	---	50	4311-H	NH
Cadmium	PAN (4)	0-1.0	0-1.0	---	50	4017	R1
Ca & Mg Hardness UDV	UDV (1)	10-500	10-500	---	50	4309-H	NH
Carbohydrazide	Iron Reduction (3)	0-0.9	0-0.9	---	100	4857	R1
Chloride TT	Test Tab	0-50	0-50	---	50	3693-SC	NH
Chlorine - Free & Total	DPD Tablets (3)	0-4	0-4	---	100	3643-SC	NH
Chlorine - Free UDV*	Unit Dose Vial (1)	0-10	0-10	---	50	4311-H	NH
Chlorine - Liquid DPD	DPD (3)	0-4	0-4	---	144	4859	R1
Chlorine - Total UDV*	Unit Dose Vial (1)	0-10	0-10	---	50	4312-H	NH
Chlorine Dioxide	DPD tablet/Glycine (2)	0-7.0	0-8.0	---	50	3644-SC	NH
Chromium Hexavalent	Diphenylcarbohydrazide (1)	0-1.0	0-1.0	---	100	3645-SC	HA
Chromium TT	TestTab	0-1.0	0-1.0	---	50	3889A-H	NH
Chromium (Total, Hex & Trivalent)	Diphenylcarbohydrazide (1)	0-1.0	0-1.0	---	100	3698-SC	HF
Cobalt	PAN	0-2.0	0-2.0	0-2.0	50	4851	HF
COD LR 0-150 w/ Mercury**	Digestion (1)	0-150	0-150	0-150	25	0075-SC	R1
COD LR 0-150 w/o Mercury**	Digestion (1)	0-150	0-150	0-150	25	0072-SC	R1
COD SR 0-1500 w/ Mercury**	Digestion (1)	0-1,500	0-1,500	0-1,500	25	0076-SC	R1
COD SR 0-1500 w/o Mercury**	Digestion (1)	0-1,500	0-1,500	0-1,500	25	0073-SC	R1
COD HR 0-15,000 w/ Mercury**	Digestion (1)	0-15,000	0-15,000	0-15,000	25	0077-SC	R1
COD HR 0-15,000 w/o Mercury**	Digestion (1)	0-15,000	0-15,000	0-15,000	25	0074-SC	R1
Color	Platinum Cobalt	0-1,000	0-1,000	0-1,000	∞	NA	NH
Copper BCA - LR	Bicinchoninic Acid (1)	0-3.5	0-3.5	---	50	3640-SC	NH
Copper Cuprizone	Cuprizone (2)	0-2.0	0-2.0	---	50	4023	R1
Copper DDC	Diethyldithiocarbamate (1)	0-6.0	0-6.0	0-6.0	100	3646-SC	NH
Copper UDV*	UDV, Bicinchoninic Acid (1)	0-4.0	0-4.0	---	50	4314-H	NH
Cyanide	Pyridine-Barbituric Acid (5)	0-0.50	0-0.35	---	50	3660-SC	R1
Cyanuric Acid	Melamine (1)	0-200	0-200	0-200	50	3661-SC	NH
Cyanuric Acid UDV*	Melamine, UDV (1)	0-150	0-150	---	50	4313-H	NH
DEHA	Iron Reduction (3)	0-0.7	0-0.7	---	100	4857	R1
Dissolved Oxygen (DO)	Winkler Colorimetric (3)	0-12	0-11	0-11	200	3688-SC	R1
Erythorbic Acid	Iron Reduction (3)	0-3.0	0-3.0	---	100	4857	R1
Fluoride	SPADNS (2)	0-2.0	0-2.0	0-2.0	50	3647-01-SC	R1
Hydrazine	P-dimethylaminobenzaldehyde (2)	0-0.75	0-1.0	0-1.0	50	3656-SC	R2
Hydrogen Peroxide LR	DPD Tablets (2)	0-1.5	0-1.5	---	100	3662-SC	NH
Hydrogen Peroxide HR	DPD (2)	0-60	0-60	---	50	4045	NH
Hydrogen Peroxide Shock	DPD (2)	0-225	0-225	---	100	4045	NH
Hydroquinone	Iron Reduction (3)	0-1.8	0-2.0	---	100	4857	R1

* Requires UDV Adapter Code Number 5-0086 and Accessory Package 1961 or 1962

** Requires COD Adapter Code 5-0087 and Heater Block

Continue next page...

INSTRUMENT REAGENT LISTING



Test Name	Test Method (# of reagents)	Spectro Range	Smart 2 Range	COD Plus Range	# of Tests	Order Code#	Ship Code
Iodine	DPD Tablets (2)	0-14	0-14	---	100	3643-SC	NH
Iron	Bipyridyl (2)	0-6	0-6	---	50	3648-SC	R1
Iron UDV*	Bipyridyl UDV (1)	0-10	0-10	---	50	4315-H	NH
Iron Phen	1,10 Phenanthroline (2)	0-4.5	0-5.0	---	50	3668-SC	R1
Lead	PAR (5)	0-5.0	0-5.0	---	50	4031	R1
Manganese LR	PAN (3)	0-0.50	0-0.7	---	50	3658-SC	HF
Manganese HR	Periodate (2)	0-15	0-15	---	50	3669-SC	R1
Mercury	TMK	0-1.5	0-1.5	---	50	4861	HF
Methylethylketoxime	Iron Reduction (3)	0-3.0	0-3.0	---	100	4857	R1
Molybdenum HR	Thioglycolate (3)	0-30	0-50	0-50	50	3699-02-SC	R1
Nickel	Dimethylglyoxime (6)	0-8.0	0-8.0	---	50	3663-SC	HF
Nitrate Nitrogen LR	Cadmium Reduction (2)	0-3.0	0-3.0	---	20	3649-SC	R1
Nitrate TT	Zinc Reduction (1)	0-60	0-60	---	50	3689-SC	NH
Nitrite Nitrogen LR	Diazotization (2)	0-0.8	0-0.8	---	20	3650-SC	NH
Nitrite TT	Diazotization (1)	0-1.6	0-1.6	---	50	3886-H	NH
Nitrogen, Total**	CTA/Digestion (7)	0-25	0-25	---	25	4026	R1
Ozone LR	Indigo Trisulfonate (3)	0-0.4	0-0.4	0-0.4	100	3651-SC	NH
Ozone HR	Indigo Trisulfonate (3)	0-1.5	0-2.5	0-2.5	20	3651-SC	NH
pH CPR (Chlorphenol Red)	Colorimetric (3)	5-7	5-6.8	---	100	3700-SC	NH
pH PR (Phenol Red)	Colorimetric (3)	6.6-8.4	6.6-8.4	---	100	3700-SC	NH
pH TB (Thymol Blue)	Colorimetric (3)	8-9.5	8-9.6	---	100	3700-SC	NH
Phenol	4-Aminoantipyrine (3)	0-6	0-6	---	50	3652-SC	NH
Phosphate LR	Ascorbic Acid Reduction (2)	0-3.0	0-3.0	0-3.0	50	3653-SC	R2
Phosphate HR	Molybdovanadate (1)	0-70	0-70	0-70	50	3655-SC	R1
Phosphorus, Total - LR**	Ascorbic Acid/Digestion (5)	0.0-3.0	0.0-3.5	---	25	4024	R1
Phosphorus, Total - HR**	Molybdovanadate/Digestion (5)	0-100	0-100	---	25	4025	R1
Potassium	Tetraphenylboron (2)	0-10	0.5-10.0	0.5-10.0	100	3639-SC	R1
Silica LR	Heteropoly Blue (4)	0-2.5	0-4.0	0-4.0	100	3664-SC	R1
Silica HR	Silicomolybdate	0-50	0-75	0-75	50	3687-SC	R1
Sulfate HR	Barium Chloride (1)	5-100	0-100	0-100	100	3665-SC	R1
Sulfide LR	Methylene Blue (3)	0-1.0	0-1.5	0-1.5	50	3654-01-SC	R1
Surfactants	Ion Pair Extraction (3)	0-8.0	0-8.0	---	100	4876	HF
Tannin	Tungsto-Molybdophosphoric Acid (2)	0-10	0-10	0-10	50	3666-SC	R1
Tolytriazole	UV Oxidation/Dichromate	0-30	0-30	---	50	4047	R1
Turbidity	Absorptimetric	0-400	0-400	0-400	∞	NA	NH
Zinc LR	Zincon (6)	0-3.0	0-3.0	0-3.0	50	3667-SC	HF

* Requires UDV Adapter Code Number 5-0086 and Accessory Package 1961 or 1962

** Requires COD Adapter Code 5-0087 and Heater Block

Model 1200 • SINGLE TEST COLORIMETER LABS

The 1200 Series of single test, direct reading colorimeters incorporates design advances that enhance reliability, improve accuracy, and simplify the calibration process, all in a portable, hand-held package.

Instrument Type:	Single wavelength, direct-reading colorimeter
Readout:	3½ digit LCD
Photometric Accuracy:	±0.001 Absorbance Unit
Detector:	Silicon Photodiode
Sample Chamber:	Accepts 25mm diameter flat-bottom, tubes with screwcaps (6 included)
Light Source:	LED
Interface:	RS-232 serial interface
Power:	Alkaline 9-volt DC battery, 3.5 mm jack for optional AC adapter
Size (LxWxH):	15 x 8 x 5.5 cm 6 x 3 ¼ x 2 ½ inches 152 x 83 x 64 mm



SEE
NEXT PAGE
FOR AVAILABLE
KITS



OPTIONS:

- RS232 Cable • ORDER CODE 1772
- AC Adapter 110/220V • ORDER CODE 1754
- Accessories/Replacement Tubes • ORDER CODE 0290-6

AUTO-ZERO

Simply insert the sample blank and press the zero key. No more dialing in the zero.

HINGED LIGHT COVER

Flip-top lid over sample chamber prevents any stray light, especially in the field, and avoids misplacing separate light caps.

IMPROVED ACCURACY

The microprocessor enables the factory programmed calibrations to optimally match non-linear curves.

EUROPEAN CE MARK

The 1200 has been independently tested and has earned the European CE Mark of compliance for electromagnetic compatibility and safety.

WATER RESISTANT DESIGN

Designed with excessive exposure to moisture in mind, the 1200 colorimeters deliver trouble-free performance in the field and lab.

EPA COMPLIANT

Employing the proper wavelength and the DPD test method, the 1200 Chlorine Colorimeter Kit meets or exceeds EPA design specifications for NPDR and NPDES chlorine monitoring programs (EPA 330.5).

A GREAT VALUE!

Complete, economical package! The 1200 Chlorine Colorimeter Kit comes with enough tablets for 100 tests or liquid reagents for 140 tests, six sample vials with screw caps, instruction manual, and sturdy carrying case.

FIELD & LAB USE

An optional AC adapter is available to save battery life when in the laboratory.

0-4 PPM CHLORINE

No need to select a low or high range. The 1200 covers the entire critical chlorine range of 0-4 ppm with a 0.05 sensitivity.

RS-232 INTERFACE

An RS-232 port is provided to interface with a datalogger or computer. Optional cable available.

LARGE DISPLAY

The large 3½ digit display presents measurements in absorbance, and indicates low battery warnings.

Model 1200 • SINGLE TEST COLORIMETER LABS

Single Test Colorimeter Kits

Test Factor	Order Code	Model	Range (ppm)	Detection Limit	Test Method (# of reagents)	Ship Codes
Ammonia Nitrogen	3680-01	DC1200-NH	0-5.0	0.05	Nessler (2)	R1
Bromine	3672-01	DC1200-BR	0-7.0	0.05	DPD Tablets (1)	NH
Chlorine (Free & Total)	3670-01	DC1200-CL	0-4.0	0.05	DPD Tablets (2)	NH
Chlorine (Free & Total)	3670-01-LI	DC1200-CL-LI	0-4.0	0.05	DPD Liquid (3)	R1
Chlorine Dioxide	3671-01	DC1200-CLO	0-7.0	0.05	DPD with Glycine Solution (2)	NH
Copper	3673-01	DC1200-CO	0-6.0	0.03	Diethyldithiocarbamate (1)	NH
Fluoride	3674-01	DC1200-FL	0-2.0	0.028	Alizarin-Zirconyl (2)	HF
Iron	3681-01	DC1200-FE	0-4.0	0.25	1,10 Phenanthroline (2)	R1
Manganese	3682-01	DC1200-MN	0-0.7	0.02	PAN (3)	R2
Molybdenum	3676-01	DC1200-MO	0-30	0.5	Thioglycolate (3)	R3
Nitrate Nitrogen	3677-01	DC1200-NA	0-3.0	0.05	Cadmium Reduction (2)	R1
Ozone	3678-01	DC1200-OZ	0-0.4	0.04	Indigo Blue (3)	NH
Phosphate	3679-01	DC1200-PLR	0-3.0	0.07	Ascorbic Acid (2)	R2
Sulfate	3683-01	DC1200-SU	0-100	1.0	Barium Chloride (1)	R1

Replacement Reagents for 1200

30 ML (1 oz.)	Code	Ship Code	60 ML (2 oz.)	Code	Ship Code
DPD 1A	P-6740-G	NH	DPD 1A	P-6740-H	NH
DPD 1B	P-6741-G	R2	DPD 1B	P-6741-H	R2
DPD 3	P-6743-G	NH	DPD 3	P-6743-H	NH

Quantity/Order Code				
Tablet	50	100	1000	Ship Code
Chlorine DPD #1 Rapid	6999A-H	6999A-J	6999A-M	NH
Chlorine DPD #1 Instrument	6903A-H	6903A-J	6903A-M	NH
Chlorine DPD #3 Rapid	6905A-H	6905A-J	6905A-M	NH
Chlorine DPD #3 Instrument	6197A-H	6197A-J	6197A-M	NH
Chlorine DPD #4 Rapid	6899A-H	6899A-J	6899A-M	NH
Chlorine DPD #4 Instrument	6906A-H	6906A-J	6906A-M	NH



DPD Powder Pop® Dispenser

LaMotte now offers the Powder Pop Dispenser – a hand held, single-dose dispenser for 10 mL samples that delivers a precise pre-measured dose of DPD reagent directly to your sample. Each Powder Pop kit includes enough reagent for 400 tests.

TO ORDER:

Free Chlorine Powder Pop Dispenser • ORDER CODE 3-0032

Total Chlorine Powder Pop Dispenser • ORDER CODE 3-0033

Model 1200 & 1200 UDV • ABSORBANCE COLORIMETERS



The versatile 1200 Series of single wavelength colorimeters now comes with the capability to display readings directly in absorbance units. Six different wavelengths are available, with two sample vial options, to provide maximum flexibility for your analytical procedures. Microprocessor control and advanced design assure accuracy, easy operation, and durability.

Absorbance colorimeter kits are supplied with vials or cuvettes, water sample collecting bottle, 3 mL syringe (1200-UDV only), all in a sturdy carrying case.

TO ORDER:

Model 1200 Meter

For 25mm vials

ORDER CODES

Listed by wavelengths:

3627-420
3627-460
3627-510
3627-530
3627-570
3627-605

Model 1200-UDV Meter

For 10mm cuvettes

ORDER CODES

Listed by wavelengths:

3627-420-UDV
3627-460-UDV
3627-510-UDV
3627-530-UDV
3627-570-UDV
3627-605-UDV



Instrument Type:	Single wavelength, absorbance colorimeter
Measurement Wavelengths:	420nm, 460nm, 510nm, 530nm, 570nm, or 605nm
Readable Resolution:	0.01 Absorbance Unit
Photometric Precision:	±0.001 Absorbance Unit
Range:	0-2.00 Absorbance Units
Display:	3½ digit LCD
Response Time:	2 seconds
Detector:	Silicon Photodiode
Sample Chamber:	Meters are available with one of two chambers to accept 25mm flat-bottomed glass vials (1200) or 10 mm square polystyrene cuvettes (1200-UDV)
Light Source:	LED
Interface:	RS-232 serial interface, 8 pin mDIN, 9600b, 8 data bits, 1 stop bit, no parity
Power:	Battery Operation: Alkaline 9-volt DC battery Line Operation: 120V/60Hz, 230V/50Hz with adapter



Chlorine Standards for Model 1200

For use with the 1200 series of chlorine colorimeters. Secondary standards provide a fast way to check calibration without the burden of making primary standards. Based on Standard Methods for the Examination of Water and Wastewater, the operator can calibrate a colorimeter using a permanganate primary standard or a chlorine primary standard. Once the meter is calibrated using the primary standard, the operator can insert secondary standards periodically to evaluate the calibration of the instrument.

- Secondary standard kit contains a blank and 3 standards for low, mid-range, and high chlorine calibrations.
- Packaged in a small plastic case with Certificate of Analysis stating range of each standard.

TO ORDER:

DPD Chlorine Secondary Standards Kit
ORDER CODE 4140

FAS-DPD Titration Kit for Chlorine Titration
ORDER CODE 3176-01

Standard Chlorine Solution, 250 ppm
ORDER CODE 6973-H (60 mL)
ORDER CODE 6973-L (475 mL)

Permanganate Solution, 1000 ppm
ORDER CODE 3858-H (60 mL)
ORDER CODE 3858-L (475 mL)

2020 PORTABLE TURBIDITY METERS

The newly redesigned 2020 combines an advanced microprocessor with a patent-pending optical chamber resulting in higher accuracy and a wider range.

The multi-detector optical configuration assures long term stability and minimizes stray light and color interferences. All readings are determined by the process of signal averaging over a 5 second period. This minimizes fluctuations in readings attributed to large particles and results in rapid, highly repeatable measurements. Ideally suited for both low-level drinking water applications as well as monitoring high turbidity in the field.



- Patent pending optical design features focusing optics for **low range precision** and accuracy.
- Six user selected languages – English, Spanish, French, Japanese, Italian, and Portuguese.
- MSP430 Microcontroller used is the most advanced controller on the market for hand held applications.
- Advanced calibration algorithms.
- Tube positioning ring limits vial variability.
- Easy menu driven operation and large LCD display.
- 4000 point data log; stored results can be viewed directly on instrument or downloaded to a computer via RS232 cable.

2 YEAR
WARRANTY



2020e version meets **USEPA design** criteria as specified by USEPA method 180.1.

2020i version meets design criteria for quantitative methods of turbidity using optical turbidimeters as specified by **ISO 7027**.

Kits are supplied with 0, 1, and 10 NTU standard, sample bottle, four sample tubes, and an extra battery.



2020 PORTABLE TURBIDITY METER

TO ORDER:

Model 2020e Kit • ORDER CODE 1979-EPA

Model 2020i Kit • ORDER CODE 1979-ISO

OPTIONS:

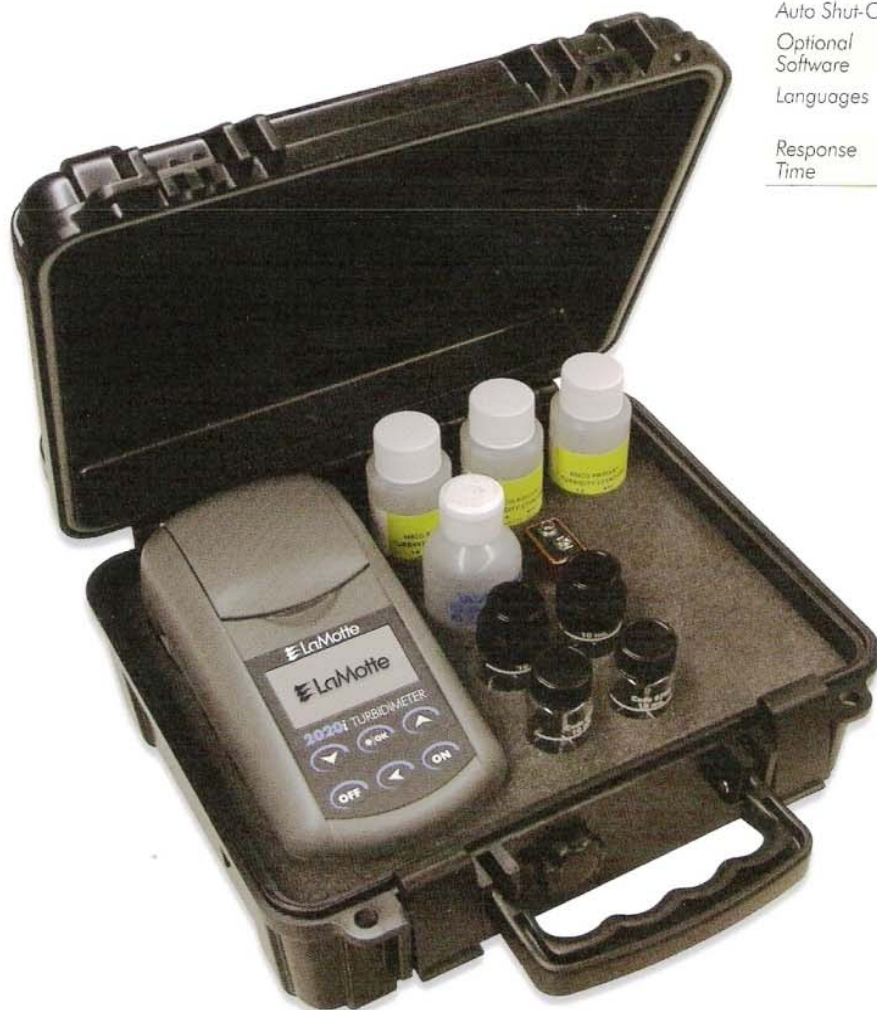
- 0 NTU Standard (ISO and EPA), 60 mL • ORDER CODE 1480
- 1 NTU Standard (ISO), 60 mL • ORDER CODE 1481
- 10 NTU Standard (ISO), 60 mL • ORDER CODE 1482
- 100 NTU Standard (ISO), 60 mL • ORDER CODE 1483
- 1 NTU Standard (EPA), 60 mL • ORDER CODE 1484
- 10 NTU Standard (EPA), 60 mL • ORDER CODE 1485
- 100 NTU Standard (EPA), 60 mL • ORDER CODE 1486
- Formazin Standard Solution, 4000 NTU, 60 mL • ORDER CODE 6195-H
- AC Power Adapter (100-240 V AC) • ORDER CODE 1754
- Vial Ring (2-pk) • ORDER CODE 0641
- Six-pack of vials • ORDER CODE 0475
- RS232 Cable • ORDER CODE 1772

Turbidity Specifications:

Unit of Measure	NTU, FNU, FAU, ASBC, EBC
Range	0-4000
Resolution	0.01 NTU/FNU 0.00-10.99 0.1 NTU/FNU 11.00-109.9 1 NTU/FNU 110-4000
Accuracy	±2%
Detection Limit	0.05 NTU/FNU
Range Selection	Automatic
Reproducibility	0.02 NTU/FNU 0.5 FAU
Light Source	860nm LED (ISO) Tungsten (EPA)

Meter Features:

Signal Averaging	Disabled, 2, 5, 10
Battery	9V
AC Power	Optional
Data Logging	4000 points
Auto Shut-Off	Disabled, 5, 10, 30
Optional Software	SmartLink 2
Languages	English, French, Spanish, Japanese, Italian, Portuguese
Response Time	<5 Seconds



TRACER POCKETESTERS

The world's first pocket-sized ISE meter for measuring total chlorine. Use it to test pH and ORP with interchangeable flat surface sensors.

Total Chlorine TRACER

ORDER CODE 1740

- Read Total Chlorine from 0.00-10 ppm
- Readings are not affected by sample color or turbidity
- Automatic self calibration
- Extra bold display includes an 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 3V CR-2032 batteries
- Includes 100 reagent tablets at almost half the price of similar Chlorine ISE reagents
- Follows EPA protocol for ISE methods

EPA
Approved
(NPDES Monitoring)

pH TRACER

ORDER CODE 1741

- Provided with 4, 7, and 10 pH buffer tablets
- Rugged flat surface electrode will alert user when it's time to "RENEW"
- A "CAL" indicator shows when to recalibrate and user can select a 1, 2, or 3 point calibration
- Includes Automatic Temperature Compensation and displays temperature while showing pH result

Range: 0.00 to 14.00 pH
Temp: 23° to 194°F (-5° to 90°C)
Resolution: 0.01 pH
Accuracy: ± 0.01 pH

ORP TRACER

ORDER CODE 1742

- High resolution to 1 mV
- Automatic self calibration

Range: -999 to 999 mV
Resolution: 1 mV
Accuracy: ± 4 mV



OPTIONS

Additional Probes

- 1733 pH Sensor 0-14.00/ ± 0.01 pH
1734 ORP Sensor 1734 ± 999 mV/ ± 4 mV
1732 Cl₂ Sensor 0-10.00/ $\pm 10\%$ of reading

Chlorine Test Tablets

ORDER CODE 7044A-J

Specially formulated just for the TRACER, these deliver a precise amount of iodide for a 20 mL sample. Available in packages of 100.

Weighted Stand

ORDER CODE 1746

Ideal for precise and stable Total Chlorine readings. Prevents unit from tipping over during analysis. Stand comes with five 20 mL sample cups. Weight 165 grams.



TRACER POCKETESTERS

The Tracer Pocketester offers direct reading of Conductivity, Total Dissolved Solids, Salinity, and Temperature with one electrode. The conversion ratio of TDS to conductivity may be adjusted from 0.4 to 1.0 for various water.



*Not interchangeable with Cl/pH/ORP TRACER

EC/TDS/SALT TRACER

Code 1749

- Easy to use
- 2% accuracy for EC, TDS, and Salt modules
- Automatic temperature compensation
- Self calibration
- Memory can store up to 15 readings
- Automatic shut-off and low battery indicator; uses four 3V CR-2032 button batteries
- Auto-Power Off after 10 minutes of no button presses

OPTIONS:

- EC/TDS/SAL Replacement Electrode* • Code 1765
- Weighted Stand w/Sample Cups (5) • Code 1746
- Sample Cups w/caps (24) • Code 1745
- Conductivity Standard, 84 μ S • Code 6312-G
- Conductivity Standard, 1413 μ S • Code 6354-G
- Conductivity Standard, 12,880 μ S • Code 6317-G

Conductivity:	0 to 199.9 μ S, 200 to 1999 μ S, 2.00 to 19.99 mS
TDS:	0 to 99.9 ppm (mg/L), 100 to 999 ppm (mg/L), 1.00 to 9.99 ppt (g/L)
Salinity:	0 to 99.9 ppm, 100 to 999 ppm, 1.00 to 9.99 ppt
Accuracy:	EC, TDS, Salt: \pm 2% FS; Temperature: \pm 1°C (1.8°F)

pH/TDS/SALT

Code 1766

- Measures five parameters including Conductivity, TDS, Salinity, pH, and Temperature using one electrode
- Units of measure: pH, μ S, mS, ppm, ppt, mg/L, g/L, °C, °F
- Memory stores up to 25 labeled readings
- Adjustable Conductivity to TDS ratio
- Auto power off and low battery indicator

OPTIONS:

- Replacement Electrode* • Code 1755
- Weighted Stand w/Sample Cups (5) • Code 1746
- Sample Cups w/caps (24) • Code 1745
- Conductivity Standard, 84 μ S • Code 6312-G
- Conductivity Standard, 1413 μ S • Code 6354-G
- Conductivity Standard, 12,880 μ S • Code 6317-G

	Range	Resolution	Accuracy
Conductivity	0 to 199.9 μ S, 200 to 1999 μ S, 2.00 to 19.99 mS	0.1 μ S	\pm 1%
TDS/Salinity	0 to 99.9 ppm (mg/L), 100 to 999 ppm (mg/L), 1.00 to 9.99 ppt	0.1 ppm (mg/L)	\pm 2%
pH	0.00 to 14.00 pH	0.01 pH	\pm 0.01 pH
Temperature	32° to 149°F (0 to 65°C)	0.1°F/°C	\pm 1.8°F/°C



INSTRUMENTATION

DISSOLVED OXYGEN METERS



DISSOLVED OXYGEN TRACER

Code 1761

- 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
- Waterproof to IP67
- Optional 3 ft (1m) or 16 ft (5m) extension cable
- Complete with DO electrode, protective sensor cap, spare membrane cap, electrolyte, four 1.5V CR-2032 batteries, and 48" (1.2m) neckstrap

	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	1.4x6.9x1.6" (36x176x41mm)		
Weight	3.8 oz (110g)		

ACCESSORIES

- DO Membrane Kit (6 screw-on membranes and solution) • ORDER CODE 1761M
- DO Sensor Module • ORDER CODE 1762
- DO Extension Cable (1 meter) • ORDER CODE 1763
- DO Extension Cable (5 meters) • ORDER CODE 1764



DISSOLVED OXYGEN METER

Code 5-0107

- No meter warm-up required
- Low-maintenance probe
- Key in salinity and pressure values manually
- Independent 100% and zero adjustment calibrations
- Offset adjustment capabilities
- Displays electrode diagnostics
- Easily toggle from mg/L (ppm) or % saturation to temperature mode



	Range	Resolution	Accuracy
mg/L (ppm)	0.00 to 20.00 mg/L (ppm)	0.01 mg/L (ppm)	±1.5% FS
% Saturation	0.0 to 200.0%	0.1%	±1.5% FS
Temp.	-5.0 to 105.0°C	0.1°C	±0.5°F
Salinity correction	0.0 to 50.0 ppt	0.1 ppt	Method: Key in manually or automatic correction
Barometric pressure correction	500 to 1499 mm Hg	1 mm Hg	Method: Key in manually or automatic correction
Temperature compensation	Automatic from 0 to 50°C		
Operating temperature	0 to 50°C		
Probe	Galvanic		
Power	Four 1.5 V AAA batteries (included), >700 hrs continuous use		
Dimensions	5.5"L x 2.7"W x 1.3"H		
Weight	1.0 lb (0.45 kg)		

POCKETESTERS



pH Pocketester 10

Code 5-0103 (Replacement Electrode, Code 5-0097)

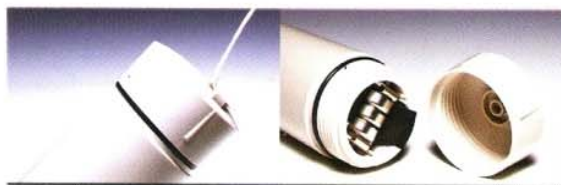
- ± 0.1 pH accuracy

pH Pocketester 20

Code 5-0104 (Replacement Electrode, Code 5-0097)

- ± 0.01 pH accuracy

Both meters feature automatic temperature compensation, and buffer recognition for three point calibration based on US (pH 4.01, 7.00, 10.01) or NIST (pH 4.01, 6.86, 9.18) systems. The sensor is a double junction Ag/AgCl system with polymer gel. The IP67 rated housing features a 1.0625" (26.99 mm) display, which also displays diagnostic messages. Auto-off after 8.5 minutes to conserve battery life.



Double Junction ORP Pocketester

Code 5-0079

- 99 to 1000 mV range
- Large surface area platinum band sensor
- 1 mV resolution, 2 mV accuracy
- HOLD function, Auto-off

Salt Pocketester

Code 5-0078

- 0 – 10 ppt (0.10 ppt resolution)
- Carrying Case and calibration standard included

"Min-Max" Memory Thermometer

Code 5-0095

- Range: 14 – 392°F or -10 – 200°C
- °F or °C selectable scale
- Recalls minimum and maximum temperature



POCKETESTERS



Microprocessor-Based TDS PockeTesters

- $\pm 1\%$ full-scale accuracy
- Automatic temperature compensation (ATC)
- Replacement electrode
- Push-button calibration
- Auto shut-off
- Full reading displayed – no need to multiply

Model	Code	Range
TDS Tester Low	5-0080	0-1990 ppm (10 ppm resolution)
TDS Tester High	5-0081	0-10.00 ppt (0.10 ppt resolution)
Replacement Electrode	5-0084	

Microprocessor-Based EC Conductivity PockeTesters

- $\pm 1\%$ full-scale accuracy
- Automatic temperature compensation (ATC)
- Replacement electrode
- Push-button calibration
- Auto shut-off
- Full reading displayed – no need to multiply

Model	Code	Range
EC Tester Low	5-0082	0-1990 μS (10 μS resolution)
EC Tester High	5-0083	0-19.90 mS (0.10 mS resolution)
Replacement Electrode	5-0084	



POCKETESTER SPECIFICATIONS

Specifications for pH Pocketesters			Specifications for Specialty Pocketesters		
Model	pH Pocketester 10	pH Pocketester 20	Memory Thermometer	ORP Pocketester	Salt
Code	5-0103	5-0104	5-0095	5-0079	5-0078
Range	-1.0 to 15.0 pH; extended range		-10 to 200°F; 14 to 392°C	-50 to +1050 mV	0-10.00 ppt salinity
Resolution	0.1 pH	0.01 pH	0.1°F to 199.9°; 1°C above 200°	5 mV	0.10 ppt salinity
Accuracy	±0.1 pH	±0.01 pH	±1.8°F / ±1.0°C	±5 mV	±10% full-scale
Calibration	Select up to 3 points (4.0, 7.0, 10.0 or 4.01, 6.86, 9.18)		Factory calibrated; fine adjustment through keypad	Offset calibration to ORP standard or work standard	One-point with trimpot
Operating temperature	32 to 122°F; 0 to 50°C	32 to 122°F; 0 to 50°C	32 to 122°F; 0 to 50°C	32 to 122°F; 0 to 50°C	32 to 122°F; 0 to 50°C
Temperature Compensation	Automatic (ATC) 0 to 50°C		—	—	Automatic (ATC) 0 to 50°C
Special Functions	On/Off or Auto-Off after 8.5 min.; HOLD; CALibrate; CONFirm		On/Off or Auto-Off after 8.5 min.; HOLD; °F or °C scale selectable; factory calibration maintained when batteries are replaced	On/Off or Auto-Off after 8.5 min.; CALibrate; CONFirm; HOLD (HO) and HOLD/ CANCEL (HC)	
Power & Battery Life	Four 1.5V alkaline button cell batteries (supplied), 500 hour use		LR-44 button cell. 2 yr life	Four 1.5V alkaline batteries (supplied) 500 hrs. use	Four 1.5V alkaline batteries (supplied) 150 hrs. use
Dimensions & Weight	8.5"(216 mm)L x 2.4"(61 mm)W x 2.5"(64 mm)H (boxed); 6.5"(165 mm)L x 1.5"(38 mm) Dia. (unit only); 4.5 oz./125 gms (boxed); 3.25 oz./90 gms (unit only) Memory Thermometer Probe: 4.3"(109 mm) x 0.14"(4 mm); top is 1.8"(46 mm); weight 3 oz				

Specifications for TDS & EC Waterproof Pocketesters				
Model	TDS Low	TDS High	EC Low	EC High
Code	5-0080	5-0081	5-0082	5-0083
Replacement Electrode	5-0084	5-0084	5-0084	5-0084
Range	0-1990 ppm	0-10.00 ppt	0-1990 µS	0-19.90 mS
Resolution	10 ppm	0.1 ppt	10 µS	0.1 mS
Accuracy	±1%FS			
Calibration	One-point, push-button calibration using buttons inside battery compartment			
Operating Temp.	32 to 122°F; 0 to 50°C			
Temperature Comp.	Automatic (ATC) 0 to 50°C			
Special Functions	Full reading displayed			
Power & Battery Life	Four 1.5V alkaline batteries (supplied); 150 hours			
Dimensions & Weight	8.5"(216 mm)L x 2.4"(61 mm)W x 2.5"(64 mm)H (boxed); 6.5"(165 mm)L x 1.5"(38 mm) Dia. (unit only); 4.5 oz./125 gms (boxed); 3.25 oz./90 gms (unit only)			

TEMPERATURE MEASUREMENT

TempTestr® IR Meter

Code 5-0056

Optional Carrying Case Code 5-0062

The convenience of non-contact temperature measurements, now with a laser sighting!

Industrial/Electrical Applications:

Monitor steam systems, boiler operations, and motor/engine cooling systems performance; detect hot spots in electrical systems, panels, and motor bearings. Widely used in all types of industries such as food, veterinary, paper, rubber, textiles, gas/electric utilities, cement, chemical, pharmaceutical, asphalt, roofing, electronics, glass, plastics, metals, carpet/floor covering, tires and many more.

Heating and Air Conditioning Applications

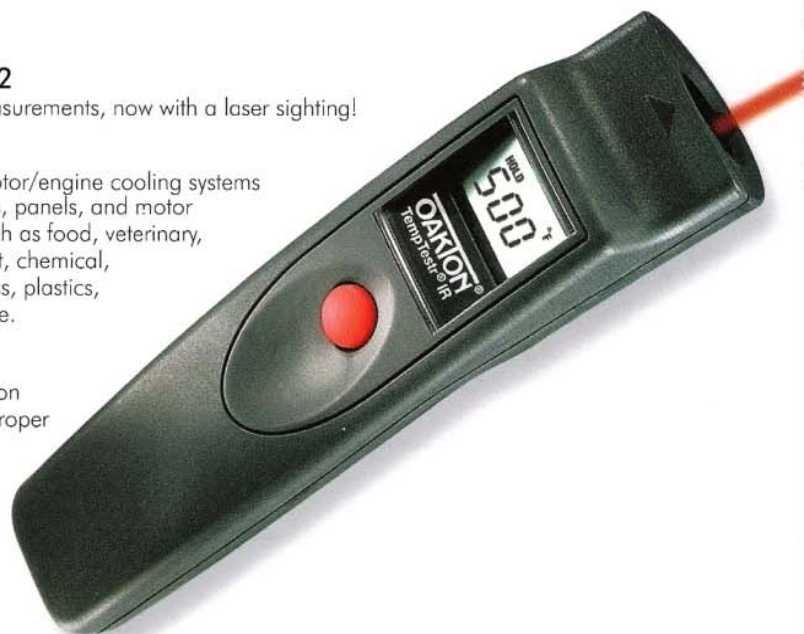
Monitor furnace and duct leakage; detect insulation breakdown; check ceilings, walls, and floors for proper room temperature, heat loss and gain.

Food Safety Applications

Fast and convenient screening tool for both cold and hot foods for Food Safety and HACCP. No contamination or damage to the product. Easily take temperature of products moving on conveyors or hard-to-reach places. Verify equipment performance, sanitation and process temperature conditions. Scan cooling systems, refrigerated display cases, trucks and storage areas before loading and stacking.

Agriculture Applications

Monitor plant temperature for stress, monitor animal bedding to detect spoiling.



Range:	-18 to 260°C/0 to 500°F
Resolution:	1°C/1°F
Accuracy:	25 to 260°C (77 to 500°F): ±2% or ±2°C (±3°F) whichever is greater -1 to 25°C (30 to 77°F): ±3°C (±5°F) -18 to -1°C (0 to 30°F): ±4°C (±7°F)
Repeatability:	±2% of reading, or ±2°C (±3°F)
Operating Temperature:	0 to 50°C (32 to 120°F) 10 to 95% RH noncondensing, at up to 30°C (86°F)
Storage Temperature:	-20 to 65°C (-4 to 150°F) without battery
Response Time:	500mSec, 95% response
Spectral Response:	7 to 18mm
Emissivity:	pre-set at 0.95
Distance-to-Spot Size:	6:1
Power:	One 9V alkaline or NiCd battery
Battery Life (alkaline):	12 hours
Dimensions:	7¼ x 1¾ x 1½ inches (185 x 45 x 38 mm)
Weight:	0.5 lbs. (227g)



ECONOMICAL FIELD METERS



LaMotte pH, CON, TDS Meters

Features:

- Push button operation
- Three point calibration
- Temperature readout
- Automatic Temperature Compensation
- Auto-off after 17 minutes
- Hold function
- Buffer recognition (pH 5 meter)
- Adjustable conductivity to TDS factor (TDS 6 meter)

Microprocessors have enabled meter manufacturers to combine many features into smaller designs with better accuracy. The 5 and 6 Series meters are good examples (see specifications below). All meters include electrodes and temperature probes, and are available with or without a carrying case.

- The pH 5 without case includes pH 4, 7 and 10 buffer tablets.
- The pH 5 with case includes pH 4, 7 and 10 buffer liquids.
- The TDS 6 and Con 6 with carrying cases include two calibration standards.
- All meters have two-year warranties.

SPECIFICATIONS

Model	pH 5 (pH)	pH 5 (Temperature)	CON 6 Meter (Conductivity)	TDS 6 Meter (TDS)	CON 6 & TDS 6 Meters (Temperature)
Order Code	w/out case 5-0034 with case 5-0035		w/out case 5-0038-01 with case 5-0039-01	w/out case 5-0036-01 with case 5-0037-01	
Range:	0.00 to 14.00 pH	0.0 to 100.0°C	0.0 to 20.00, 200, 2,000.0 μ S 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
Resolution:	0.01 pH	0.1°C	0.01, 0.1, 1 μ S 0.01, 0.1 mS	0.01, 0.1, 1.0 ppm 0.01, 0.1 ppt	0.1°C
Accuracy:	± 0.01 pH	± 0.5 °C	$\pm 1\%$ full scale or ± 1 digit	$\pm 1\%$ full scale	± 0.5 °C
Calibration:	Up to 3 Buffer Values (pH 4.01, 7.00, 10.0)	Offset 0.1°C increments	up to 5 points (1 per range) for multi-point calibration; or 1 point for single point for entire range		Offset 0.1°C increments
Temperature Compensation:	Automatic Temperature Compensation (ATC)		Automatic Temperature Compensation (ATC) fixed 2% per °C factor, adjustable 73%		
Power:	Four AAA alkaline batteries (supplied) >70 hours continuous use		Four AA alkaline batteries (supplied) >100 hours continuous use		
Display:	Single Custom LCD		Single Custom LCD		
Auto shut-off:	After 17 minutes		After 17 minutes		
Operating Temperature:	32 to 122°F; 0 to 50°C		32 to 122°F; 0 to 50°C		

pHPLUS DIRECT - DIGITAL pH METER with direct reading ISE display

pHPLUS DIRECT Digital pH/ISE Meter

Laboratory precision in a water-resistant design! Read pH, mV, temperature, and concentration with accuracy – ISEs read concentration in ppm. Easy-to-use in any test mode. Includes pH probe, temperature probe, buffers and rubber boot with stand.

Specifications

pH

Range:	0.00 to 14.00
Resolution:	0.01
Accuracy:	0.01
Calibration:	2 or 3 point automatic
Electrode:	Epoxy, Ag/AgCl

Temperature

Range:	0 to 100°C
Resolution:	0.1°C
Accuracy:	±0.1°C

Concentration

Range:	0.00 to 100
Resolution:	± LSD
Accuracy:	±0.5% or ±1 LSD

mV

Range:	±500mV
Accuracy:	±1 mV
Resolution:	1 mV

Inputs: 1 BNC, Temp probe, power, ref. pin

Power: 4 AAA batteries

Size (LxWxH): 2.75W x 5.75H x 1.375D in.

pHPLUS DIRECT Meter

Code	Description
5-1936	pHPLUS DIRECT Meter, liquid buffers (4, 7, 10) w/case
1904	pH Electrode, gel-filled
1909	Temperature Probe



Optional ISE Electrodes

Although the pHPLUS Direct reads directly in ppm, an initial calibration is required. The standard solution, replacement electrolyte, ionic strength adjustor and pipet are included in the Accessory Kit. The ammonia accessory kit also contains replacement membranes.

Accessory Kits

Code	Description
5-0098	Ammonia
5-0099	Fluoride
5-0100	Nitrate

Ion Selective Electrodes

Code	Description
5-0043	Ammonia
5-0048	Fluoride
5-0052	Nitrate

DPD TesTabs[®] Instrument Grade

LaMotte has developed a new rapid dissolve instrument grade DPD tablet system. Instrumental analyses require a clear, particle-free testing solution. In the past, it was necessary to use a crusher to dissolve the instrument grade tablets. Now, free and total chlorine samples can be done with instrument grade tablets that dissolve without crushing.

Quantity/Order Code

Tablet	50	100	1000	Ship Code
Chlorine DPD #1 Instrument	6903A-H	6903A-J	6903A-M	NH
Chlorine DPD #3 Instrument	6197A-H	6197A-J	6197A-M	NH
Chlorine DPD #4 Instrument	6906A-H	6906A-J	6906A-M	NH

**NEW
FAST DISSOLVING
INSTRUMENT GRADE
TABLET!**



DPD Liquid Reagents

The liquid alternative to DPD tablets can be used with existing LaMotte chlorine comparators or colorimeters. DPD 1A and DPD 1B are added to a 5 or 10 mL sample to test Free Available Chlorine. DPD 3 is added to the reacted sample to measure Total Chlorine. Liquid reagents are also available to measure pH, Hardness, Alkalinity, and Copper.

30 mL (1 oz.)	Code	Ship Code
DPD 1A	P-6740-G	NH
DPD 1B	P-6741-G	R2
DPD 3	P-6743-G	NH

60 mL (2 oz.)	Code	Ship Code
DPD 1A	P-6740-H	NH
DPD 1B	P-6741-H	R2
DPD 3	P-6743-H	NH



pH BUFFERS/ELECTRODE SOAKER



Standardized pH Buffer Solutions

For use in calibration of pH meters.
Ordering information for all buffers is listed below.

pH Value	Code	Size
4.01	2866-J	120 mL
	2866-L	500 mL
6.86	2808-L	500 mL

Note: Other pH values available

pH Value	Code	Size
7.00	2881-J	120 mL
	2881-L	500 mL
9.18	2809-J	120 mL
	2809-L	500 mL
10.00	2896-J	120 mL
	2896-L	500 mL



Color-Coded pH Buffer Solutions

Minute amount of color permits immediate visual distinction of different buffer values.

pH Value	Code	Color	Size
4.01	3771-L	Red	500 mL
7.00	3772-L	Yellow	500 mL
10.0	3773-L	Blue	500 mL

Buffer Tablets

Add one tablet to 20 mL of Deionized Water to produce buffers. Available in 50, 100, and 1000 tablet packs. In foil strips of 10 tablets each.

pH Value	Code
4.0	3983A
7.00	3984A
10.0	3985A



Electrode Soaker Bottle

ORDER CODE
0668

Continuously soaks pH electrode in a storage solution to prevent probe dry out. Twist top "O" ring seal prevents leaks.



CONDUCTIVITY SOLUTIONS



Conductivity/ TDS Solutions

The following potassium chloride solutions can be used to standardize conductivity meters. TDS values are based on a 0.7 conversion from conductivity.

Code	Description	Size
6416-L	74 µS/cm, 52 ppm	500 mL
6312-L	84 µS/cm, 59 ppm	500 mL
6417-L	718 µS/cm, 503 ppm	500 mL
6354-L	1,413 µS/cm, 989 ppm	500 mL
6420-L	3,000 µS/cm, 2,100 ppm	500 mL
6418-L	6,668 µS/cm, 4668 ppm	500 mL
6317-L	12,880 µS/cm, 9016 ppm	500 mL
6419-L	58,640 µS/cm, 4148 ppm	500 mL

Conductivity Neutralizing Solutions

Code	Description	
6483	Conductivity Neutralizing Solution	Contains citric acid and phenolphthalein. Add liquid until sample changes color. Available in 60 mL, pint, and gallon sizes.
6479	Gallic Acid Powder	Organic acid powder; indicator must be purchased and added separately. Add raw powder to sample containing indicator until color changes. Available in 100 g and 1 lb. sizes.
3705	Acid Indicator	Contains acetic acid and phenolphthalein. Add liquid until sample changes color. Available in 30 mL, pint, and gallon sizes.



www.lamotte.com
TO SEE THE FULL LINE OF PRODUCTS IN THIS INDUSTRY

LaMotte offers a convenient, economical way to perform spot checks for several water quality factors. LaMotte test strips are a great way to monitor water without having to use reagents or field kits. Strips are available for the factors below...and we're working on more!



SINGLE FACTOR TEST STRIPS

TEST FACTOR	CODE	RANGE (ppm)	WATER TESTING APPLICATION*	# OF TESTS PER FACTOR/PER VIAL	VALUES (ppm)
ALKALINITY	2997	0-180	Drinking, Food/Beverage, Pool	50	0, 40, 80, 120, 180
BORATE	3017-G	0-80	Pool	25	0, 15, 30, 50, 80
CHLORINE DIOXIDE	2999LR	0-10	Drinking, Food/Beverage	50	0, 0.25, 0.5, 1, 3, 10
CHLORINE DIOXIDE	3002	0-500	Medical, Food/Beverage	50	0, 10, 25, 50, 100, 250, 500
CHLORINE, FREE, LOW RANGE	2964-G	0-10	Drinking, Food/Beverage, Medical	25	0, 0.25, 0.5, 1, 3, 5, 10
CHLORINE, TOTAL, LOW RANGE	2963LR-G	0-10	Drinking, Food/Beverage, Medical	25	0, 0.1, 0.25, 0.5, 1, 3, 10
CHLORINE, HIGH RANGE	3031	0-800	Drinking, Food/Beverage, Medical, Pool	50	0, 50, 100, 250, 500, 800
CHLORINE, TOTAL	2979	0-5	Drinking, Food/Beverage	50	0, 0.5, 1, 3, 5
COPPER	2991-G	0-3.0	Drinking, Pool	25	0, 0.3, 0.6, 1, 3
HARDNESS, LOW RANGE	2981	0-180	Drinking, Food/Beverage	50	0, 30, 60, 120, 180
MOLYBDENUM KIT*	3628	0-5	Industrial	50	0, 0.5, 1, 2, 5
pH, WIDE RANGE	2974	4-10 (pH)	Drinking, Food/Beverage, Pool	50	4, 5, 6, 7, 8, 9, 10
PERACETIC ACID	3000	0-160	Food/Beverage	50	0, 10, 20, 40, 60, 85, 160
PERACETIC ACID, LOW RANGE	3000LR	0-50	Food/Beverage	50	0, 5, 10, 20, 30, 50
HYDROGEN PEROXIDE HR	2984	0-90	Pool	25/50	0, 15, 30, 50, 90
HYDROGEN PEROXIDE	2984LR	0-50	Drinking, Food/Beverage	25/50	0, 1, 3, 10, 30, 50
PHOSPHATE, LOW RANGE	3021	0-2500	Pool	25/50	0, 100, 200, 300, 500, 1000, 2500
SODIUM CHLORIDE	2998	1500-5000	Pool	5, 10, 50	1500, 2000, 2500, 3000, 3500, 4000, 5000

* Kit includes a pre-treatment reagent.





ACCURATE & RELIABLE 30-month shelf-life for the easiest test strips to read.

CONNECTED CAP Can't fall into the water or be lost.

HINGE GUARANTEE Rated for 1000+ openings.

LEAKPROOF Airtight seal meets USDA and FDA requirements.

DESICCANT LINER Stays in the vial – not discarded and can't fall onto wet hands.

6 GRAMS (NOT 3) Desiccant liner is double the industry standard for moisture protection.

DOUBLE DUTY High-density outer shell, combined with desiccant liner, ensure less moisture and light.

HDPP PROTECTION High density polypropylene plastic protects better than the common HDPE bottles.

MULTI-FACTOR TEST STRIPS

TEST FACTOR	CODE	RANGE	WATER TESTING APPLICATION*	# OF TESTS PER FACTOR/ PER VIAL	VALUES (ppm)
COPPER, pH, & ALKALINITY	3001-G	0-3 (Copper)	Pool	25	0, 0.3, 0.6, 1, 3
		6.8-8.4 (pH)		25	6.8, 7.0, 7.2, 7.4, 7.6, 7.8, 8.0, 8.2, 8.4
		0-180 (Alkalinity)		25	0, 40, 80, 120, 180
IRON & COPPER	2994	0-5 (Iron)	Drinking, Pool	25	0, 0.3, 0.5, 1, 3, 5
		0-3 (Copper)		25	0, 0.3, 0.6, 1, 3
IRON, pH, & HARDNESS	2980	0-5 (Iron)	Drinking	25	0, 0.3, 0.5, 1, 3, 5
		4-10 (pH)		25	4, 5, 6, 7, 8, 9, 10,
		0-400 (Hard)		25	0, 50, 100, 200, 400
WIDE RANGE (pH & TOTAL CHLORINE)	2987	4-10 (pH)	Drinking, Pool, Food/Beverage	25, 50	4, 5, 6, 7, 8, 9, 10
		0-50 (TCl)		25, 50	0, 1, 5, 10, 20, 50
NITRATE & NITRITE	2996	0-50 (Nitrate)	Drinking	50	0, 5, 10, 25, 50 (NO ₃ -N)
		0-10 (Nitrite)		50	0, 0.5, 1, 5, 10 (NO ₂ -N)

*Strips shown have been evaluated for use in these applications. Use in other applications is subject to potential interferences. Contact LaMotte Technical Services for more information.



MICROBIOLOGICAL TESTING

Micro Testing without a Macro Investment!

Bacteria Testing Kits

Welcome to the world of microbes—a brand new product line and technology for your comprehensive water quality program. Count the E. coli and coliforms in your favorite swimming hole. Use for ponds, streams, rivers, lakes, ocean water, tap water.

ColiQuant EZ

Ideal for sample sizes of 1-5 mL of river water or other samples with many coliforms or E. coli expected. The sample is collected with a sterile syringe (included) and added directly into a bottle of Coliscan® Easygel®, swirled, and poured into a pretreated Petri dish (included). Under warm conditions (32-37°C) results can be ready in 24 hours. 10 tests per kit.

- Patented combination of color-producing nutrients and enzymes that mark coliforms purple-blue, E. coli pink, and other non-coliform bacteria colorless
- Easy method for conducting microbiology testing
- Eliminates need for autoclave, water bath, and balance
- Saves preparation time
- All materials supplied except water sample
- Adds valuable quantitative capability
- EPA approved for outdoor surface water monitoring (ColiQuant EZ) and potable water (ColiQuant MF)



Test	Code
ColiQuant EZ	3-0034

MacroLens

MacroLens with 5X magnification covers the entire petri dish.

Test	Code
MacroLens	5508
MacroLens 6 Pack	5508-6



ColiQuant MF

Ideal for large quantities of potable water or treated wastewater that contains a low level of coliforms or E. coli. Up to 100 mL of water is filtered through a membrane filter and placed on a Coliscan-MF nutrient rich pad in a Petri dish. 20 tests per kit. Refill package contains enough materials to do 20 tests (refill does not include membrane filtration apparatus).

Test	Code
ColiQuant MF	3-0035
ColiQuant MF Refill	3-0036

See www.lamotte.com
to view the EPA Approved
Method for ColiQuant MF



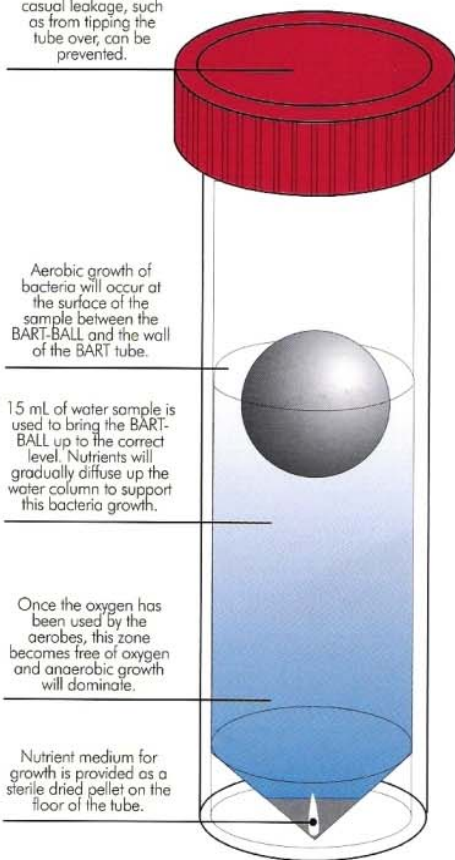
BIOLOGICAL ACTIVITY REACTION TEST

A simple yet effective method for monitoring the population size and/or activity of specific groups of bacteria.

BART Biodetector

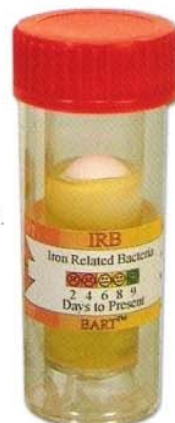
With BART, you can monitor for Iron Related Bacteria (IRB), Sulfate Reducing Bacteria (SRB) and Heterotrophic Aerobic Bacteria (HAB) – the three most important agents involved in biofouling. Other BART systems are described below. These bacteria can cause corrosion, clogging, fouling of the water, and increased hygiene risks, so it is important to have an easy and accurate method of determining their presence and level of activity.

The screw-cap should be tightened on the BART tube so that casual leakage, such as from tipping the tube over, can be prevented.



Easy to use

The BART Biodetector requires no microscope, no laboratory, and no incubator! The test is done at room temperature in your office or treatment room, on a desk, shelf, or in a cupboard, and is viewed daily. Different microorganisms like to grow at different heights in a column of water to which nutrients have been added. BART biodetectors contain nutrients in the base of a column and a ball. The ball restricts the amount of oxygen entering the water column, so that aerobic organisms grow around the ball and anaerobic organisms grow deep down in the water column. By changing the nutrients in the base of the column, different organisms are encouraged to grow. BART determines presence and activity levels.



Easy to analyze

The time taken for a color change (reaction) to occur gives a measure of the population size and activity. A color change occurs in the BART tube as a result of the oxygen gradient diffusing from the bottom upward. The change of color indicates a presence of bacteria within that sample. Interpretation is provided with the kit.

The Test

Full instructions for the use of BART biodetectors are included with your purchase. Each individual test consists of:

- Test vial with media and BART ball
- Outer tube for spill containment, odor control, disinfection, and disposal

To Order

Each kit number below includes nine (9) BARTs, except the 5-0031 which contains seven (7) BARTs and reaction caps. Each BART test is color-coded for quick and easy recognition.

BART Color	Test	Order
Red	Iron Related Bacteria - IRB-BART	5-0024
Black	Sulfate Reducing Bacteria - SRB-BART	5-0025
Lime green	Slime Forming Bacteria - SLYM-BART*	5-0026
Combo	Three each of IRB-, SRB-, and SLYM-BART	5-0032
Blue	Heterotrophic Aerobic Bacteria - HAB-BART	5-0027
Dark green	Micro-Algae - ALGE-BART	5-0028
Gray	Denitrifying Bacteria - DN-BART	5-0030
White	Nitrifying Bacteria - N-BART	5-0031

*The SLYM-BART requires the use of a fluorescent lamp (Order Code 5-0033)

BACTERIA & COLIFORM TESTING KITS

BACTERIA

LaMotte distributes the Biosan line of kits for various microbiological analyses. Results are obtained usually after 24-36 hours of room temperature incubation. Please contact us for more information.

Code	Test System	# of Tests	Shipping Code (Wgt./lbs)
3-0017	Aerobic Bacteria	25	NH (1)
3-0018	Sulfate Reducing Bacteria	25	NH (1)
3-0019	Bacteria and Fungi	10	NH (1)
3-0020	Bacteria	10	NH (1)



COLIFORM

The 4-3616 is an easy-to-use, disposable 5-tube method to indicate the presence of Total Coliform Bacteria in a water supply. The water sample is placed in test vials containing the special coliform indicating tablets and stored at room temperature for a predetermined time period. After the required storage period, the vials are examined to determine the presence of coliform bacteria. The test method and results closely parallel the standard Total Coliform Multiple-Tube Presumptive Test (MPN) as outlined in *Standard Methods for the Examination of Water and Wastewater*.

Code	Test System	Range/Sensitivity	# of Tests (# of Reagents)	Shipping Code (Wgt./lbs)
4-3616	Tableted nutrient based on 5 tube MPN	Presence/Absence	1 (1)	NH (1)



ACIDITY - ALUMINUM



In cleaning applications, P alkalinity is sometimes referred to as active alkalinity. The difference between the P reading and the T reading is "inactive" alkalinity.

INDIVIDUAL TEST KITS

ORDER CODE MODEL	TEST SYSTEM (DETAILED ON PAGES 6-7)	RANGE/SENSITIVITY	# OF TESTS (# REAGENTS)	SHIPPING CODE (WEIGHT/LBS)
ACIDITY A standard base titrates acidity to the phenolphthalein endpoint. The 7182 uses different sample sizes and a 1:10 dilution to test hydrochloric, sulfuric and phosphoric acids with either a 1 drop = 0.1% or 1 drop = 1.0 % equivalence.				
7182	HCl, H ₂ SO ₄ , H ₃ PO ₄ Dropper Bottle	1 drop = 0.1 or 1.0% (as the particular acid)	50 at 10% (2)	R1 (1)
ALKALINITY Kits use titrations with standard acid to the phenolphthalein(P) and/or total(T) alkalinity endpoint. The mixed indicator, BCG-MR, is used for total alkalinity determinations. Where hydroxyl(OH) alkalinity is determined directly, as with kit #7515, the sample is pre-treated with barium to precipitate carbonate alkalinity. All results are expressed as CaCO ₃ . To convert results to Na ₂ O, multiply the answer by 0.62.				
4491-DR	Total Alkalinity	0-200 ppm/4ppm as CaCO ₃	50 at 200 ppm (2)	NH (1)
WAT-DR	Direct Reading Titrator			
4533-DR	P & T Alkalinity	0-200 ppm/4 ppm as CaCO ₃	50 at 200 ppm (3)	NH (1)
WAT-MP-DR	Direct Reading Titrator			
4533	P & T Alkalinity	1 drop = 10 ppm as CaCO ₃	50 at 200 ppm (3)	NH (1)
WAT-MP-DC	Dropper Pipet			
7240-01	P & T Alkalinity	1 drop = 10, 25, or 50 ppm as CaCO ₃	100 at 500 ppm (3)	R1 (2)
	Dropper Bottle			
3467*†	P & T Alkalinity	0-200 ppm/4 ppm as CaCO ₃	50 at 200 ppm (3)	R1 (1)
DR-A	Direct Reading Titrator			
7515	P, T, & OH Alkalinity	1 drop = 10 ppm as CaCO ₃	50 at 200 ppm (4)	R1 (1)
WAT-MPH-DC	Dropper Pipet			
ALUMINUM A pink to red color will form when aluminum reacts with Eriochrome Cyanine R, at pH 6.				
3569	Octet Comparator	0, 0.1, 0.15, 0.2, 0.25, 0.3, 0.4, 0.5 ppm Al ³⁺	50 (2)	NH (1)
AL-2				

AMMONIA NITROGEN - BROMINE

Sample size is inversely proportional to equivalence.
1 drop = 2 ppm in 25 mL,
5 ppm in 10 mL and 10 ppm in 5 mL.



Arsenic Kit Code 4053

ORDER CODE MODEL	TEST SYSTEM (DETAILED ON PAGES 6-7)	RANGE/SENSITIVITY	# OF TESTS (# REAGENTS)	SHIPPING CODE (WEIGHT/LBS)
AMMONIA NITROGEN Two colorimetric methods are available. Nessler's reagent reacts with ammonia to form a yellow to brown color; salicylate reacts to form a blue color, which in combination with the yellow reagent color produces colors from yellow to blue. The salicylate method is preferred for salt water analysis and does not contain mercury salts as does the Nessler method.				
3304	Salicylate Octa-Slide	0.0, 0.05, 0.1, 0.25, 0.5, 1.0, 2.0 ppm NH ₃ -N	50 (3)	R2 (1)
5864	Salicylate ColorRuler	0.1, 0.25, 0.50, 1.0, 2.0, 4.0 ppm NH ₃ -N	50 (2)	R1 (1)
3315 SL-PAN	Nessler Octa-Slide	1.0, 2.0, 3.0, 4.0, 5.0, 6.0, 7.0, 8.0 ppm NH ₃ -N	50 (2)	R1 (1)
3680-01 DC1200-NH	Nessler Colorimeter	0-5 ppm/0.05 ppm NH ₃ -N	100 (2)	R1 (1)
ARSENIC The procedure requires about 15 minutes and employs a test strip. Inorganic As ⁺³ and As ⁺⁵ are converted to arsine gas. This reacts with the test strip in a closed container and produces yellow to brown colors on the strip. The strip color is compared to a color chart to determine concentration in ppb.				
4053	Test Strip	4, 6, 8, 10, 12, 14, 16, 18, 20, 30, 40, 50, 60, 70, 80, 100, 140, 160 ppb	50	R1 (8)
BACTERIA See Microbiological Testing section pages 36-38.				
BIOCHEMICAL OXYGEN DEMAND (BOD) This is a determination of the amount of organic material in wastewater by measuring and comparing the dissolved oxygen content before and after incubating the sample for 5 days at 20°C. All reagents, including seed capsules and glassware needed to perform this test, are included in the kit. Incubator and DO meter are not included. See pages 84-85 for BOD accessories.				
7420 BOD	Buret Titration	1 mL = 0.2 mg O ₂ 0-1000 mg/L	100 (10)	HF (12)
BLEACH (See Chlorine Bleach)				
BROMINE Bromine may be tested using color development with DPD, or by a ferrous ammonium sulfate titration in the presence of DPD indicator. The 6824 kit uses glycine to enable the user to separate bromine and chlorine. The 3624 titration kit uses one sample size to test chlorine and one to test bromine. It includes a 1:10 dilution for determination of concentrations of 100 ppm or higher.				
6955 LP-5	DPD Tablet Octet Comparator	0.2, 0.4, 0.6, 0.8, 1.0, 1.5, 2.0, 3.0 ppm Br	50 (1)	NH (1)

BROMINE - CHLORIDE



The total chelant determination is limited to 50 ppm or 10 drops of titrant. The test is pH dependent. Because the titrant is very acidic, it can decrease the pH of the endpoint.

INDIVIDUAL TEST KITS

ORDER CODE MODEL	TEST SYSTEM (DETAILED ON PAGES 4-7)	RANGE/SENSITIVITY	# OF TESTS (# REAGENTS)	SHIPPING CODE (WEIGHT/LBS)
BROMINE (Continued)				
6824 LP-29	DPD Tablet Bromine in Chlorine Octet Comparator	0.2, 0.4, 0.6, 0.8, 1.0, 1.5, 2.0, 3.0 ppm Br	50 (3)	NH (1)
3672-01 DC1200-BR	DPD Tablet Colorimeter	0-7.0 ppm/0.05 ppm Br	100 (1)	NH (5)
3624 CL-BR	FAS Chlorine or Bromine Direct Reading Titrator	0-10 ppm/0.2 ppm Cl or Br 0-100 ppm/2 ppm Cl or Br	50 at 10 ppm (3)	NH (1)
CADMIUM A dithizone extraction of cadmium produces a pink to red color.				
7839-01 P-53	Octet Comparator	0.1, 0.2, 0.3, 0.4, 0.5, 0.6, 0.8, 1.0 ppm Cd	20 (4)	HF (1)
CALCIUM (See Hardness)				
CARBON DIOXIDE A standard alkali is used to titrate samples to the phenolphthalein endpoint.				
7297-DR PCO-DR	Direct Reading Titrator	0-50 ppm/1.0 ppm CO ₂	50 at 50 ppm (2)	R1 (1)
7525 PCO-DC	Dropper Pipet	1 drop = 2.5 ppm CO ₂	50 at 50 ppm (2)	R1 (1)
CAUSTIC A sample is reacted with barium to precipitate any carbonates, then is titrated with a standard acid to the phenolphthalein endpoint. The 7181 includes a 1:10 dilution, resulting in a 1 drop = 0.1% or 1 drop = 1% equivalence.				
7516-DR-01 DCA-DR	Direct Reading Titrator	0-10%/0.2% NaOH	50 at 10% (4)	R1 (1)
7181	Dropper Bottle	1 drop = 0.1 or 1% NaOH	50 at 10% (3)	R1 (1)
CHELANT Free chelant is determined by using the back titration of a hardness test, with magnesium as the titrant. Since bismuth will displace other metals from chelants, it is used for total chelant determinations. Both tests use different sample sizes to determine NTA or EDTA.				
7144	Free Chelant Dropper Bottle	1 drop = 2 ppm EDTA 1 drop = 2 ppm NTA	100 (3)	R1 (1)
7143	Total Chelant Dropper Bottle	1 drop = 5 ppm EDTA 1 drop = 5 ppm NTA	100 (3)	HF (1)
CHLORIDE The argentometric method is used with all kits. This employs a chromate indicator and silver nitrate titrant. Hydrogen peroxide is included with kits 7172 and 7247 to eliminate sulfite interference.				
3468*† DR-C	Direct Reading Titrator	0-50 ppm/1 ppm Cl ⁻	50 (2)	NH (1)
4503-DR-01 PSC-DR	Direct Reading Titrator	0-200 ppm/4 ppm Cl ⁻ 0-20,000 ppm/400 ppm	50 at 200 ppm (4)	R1 (1)

Ship Codes: (NH) Non-Hazardous Material - No Fees • (R1) Small Qty. Hazardous Material - No Fees • (R2 & R3) Hazardous Material - Air Fees Only • (HF) Hazardous Material - Air & Ground Fees
* (NPDWR) EPA Accepted • † (NPDES) EPA Accepted • Direct Reading Titrators have a specific range, but may be refilled to test higher concentrations.

CHLORIDE - CHLORINE

DPD can be partially or completely bleached by chlorine or bromine concentrations greater than 6-10 ppm, depending on the sample size.



ORDER CODE MODEL	TEST SYSTEM (DETAILED ON PAGES 8-11)	RANGE/SENSITIVITY	# OF TESTS (# REAGENTS)	SHIPPING CODE (WEIGHT/LBS)
CHLORIDE (Continued)				
7459-01 POL-H	Salinity Direct Reading Titrator	0-20 ppt/0.4 ppt Salinity	50 at 20 ppt (2)	NH (1)
7172-01	Dropper Bottle	1 drop = 10, 25, or 50 ppm Cl ⁻	120 at 100 ppm (5)	R1 (2)
7247	Dropper Bottle	1 drop = 2, 5, or 10 ppm Cl ⁻	120 at 10 ppm (5)	R1 (1)
CHLORINE Free, Combined and Total Chlorine may be determined using DPD with either colorimetric or titrimetric methods. These determinations are generally limited to concentrations of 0-10 ppm, although the FAS titration can test higher concentrations by dilution or with the addition of more DPD indicator. Higher concentrations require the iodometric titration, whereby the sample is acidified and iodide is added, which is oxidized by chlorine to iodine and is titrated with a standard thiosulfate solution. Iodometric determinations will only test total chlorine.				
Free & Total				
3308* SL-26	DPD Tablet Octa-Slide	0.2, 0.4, 0.6, 0.8, 1.0, 1.5, 2.0, 3.0 ppm Cl	50 (2)	NH (1)
3308-LI	DPD Liquid Octa-Slide	0.2, 0.4, 0.6, 0.8, 1.0, 1.5, 2.0, 3.0 ppm Cl	144 (3)	R1 (1)
3312* SL-MW	DPD Tablet Octa-Slide	0.1, 0.2, 0.3, 0.4, 0.5, 0.6, 0.8, 1.0 ppm Cl	50 (2)	NH (1)
3313* SL-SWS	DPD Tablet Octa-Slide	1.0, 1.5, 2.0, 2.5, 3.0, 4.0, 5.0, 6.0 ppm Cl	50 (2)	NH (1)
3314* SL-16	DPD Tablet 2 Octa-Slides	Low: 0.1-1.0 ppm Cl High: 1.0-6.0 ppm Cl	100 (2)	NH (1)
3328 SL-60	DPD Tablet Octa-Slide	1.0, 2.0, 3.0, 4.0, 5.0, 6.0, 8.0, 10.0 ppm Cl	50 (2)	NH (1)
3670-01 DC1200-CL	DPD Tablet Colorimeter	0-4.0 ppm/0.05 ppm Cl	100 (2)	NH (4)
3670-01-LI DC1200-CL-LI	DPD Liquid Colorimeter	0-4.0 ppm/0.05 ppm Cl	144 (3)	R1 (5)
DPD Free Chlorine, Monochloramine, Dichloramine, & Total Chlorine				
3316 SL-1	DPD Tablet Octa-Slide	0.2, 0.4, 0.6, 0.8, 1.0, 1.5, 2.0, 3.0 ppm Cl	50 (4)	NH (1)
DPD Free, Mono & Dichloramines, Total Chlorine, pH				
6980 LP-8	DPD Tablet/ Phenol Red Tablet 3 Octet Comparators	Low: 0.1-1.0 ppm Cl High: 1.0-6.0 ppm Cl pH: 6.8-8.2	200 (5)	NH (7)

Ship Codes: (NH) Non-Hazardous Material - No Fees • (R1) Small Qty. Hazardous Material - No Fees • (R2 & R3) Hazardous Material - Air Fees Only • (HF) Hazardous Material - Air & Ground Fees
*(NPDWR) EPA Accepted • †(NPDES) EPA Accepted • Direct Reading Titrators have a specific range, but may be refilled to test higher concentrations.

CHLORINE - CHLORINE TEST PAPERS

Clean sample cells used in DPD test reactions as soon as possible. DPD can stain!



INDIVIDUAL TEST KITS

ORDER CODE MODEL	TEST SYSTEM (DETAILED ON PAGES 6-7)	RANGE/SENSITIVITY	# OF TESTS (# REAGENTS)	SHIPPING CODE (WEIGHT/LBS)
CHLORINE ...Continued				
DPD-FAS Titration for Free and Total Chlorine				
3176-01*† DT-DR	Direct Reading Titrator	0-10 ppm/0.2 ppm Cl	50 at 10 ppm (4)	R1 (2)
3624 CL-BR	Chlorine or Bromine Direct Reading Titrator	0-10 ppm/0.2 ppm Cl or Br 0-100 ppm/2 ppm Cl or Br	50 at 10 ppm (3)	NH (1)
7514 CC-25	FAS Dropper Bottle Titration	1 drop = 0.2 or 0.5 ppm Cl	50 (3)	NH (1)
Iodometric Titration (For higher total chlorine levels)				
4497-DR PCT-DR	Direct Reading Titrator	0-200 ppm/4 ppm Cl	50 at 200 ppm (3)	R2 (1)
4497 PCT-DC	Dropper Pipet	1 drop = 10 ppm Cl	50 at 200 ppm (3)	R2 (1)
4501	Dropper Pipet	1 drop = 1 ppm Cl	50 (3)	R2 (1)
Chlorine Bleach, Iodometric Titration				
7105-02	Direct Reading Titrator	0-10%/0.2% Cl	50 at 10% (3)	R1 (2)
7894 LB	Dropper Pipet	1 drop = 0.005%, 0.05%, or 0.5% Cl	50 at 0.1, 1.0, or 10% (3)	R1 (1)
CHLORINE TEST PAPERS See other Chlorine test strips on page 34.				
4250-BJ	Chlorine Test Papers	10, 50, 100, 200 ppm	200 (1)	NH (1)

CHLORINE DIOXIDE - COPPER

Determine when your reagent was made and bottled.

The first 3 numbers of a lot number signify the week and the year the reagent was made.

The last 3-4 numbers signify the month and day of the month it was bottled. Thus 5041219 was made in the 50th week of 2004 and bottled on Dec 19th.



ORDER CODE MODEL	TEST SYSTEM (DETAILED ON PAGES 6-7)	RANGE/SENSITIVITY	# OF TESTS (# REAGENTS)	SHIPPING CODE (WEIGHT/LBS)
CHLORINE DIOXIDE The colorimetric kits use DPD to determine chlorine dioxide. Glycine is added in the method to remove free chlorine interferences. Chlorite up to 1,000 ppm and chlorine up to 2 ppm will not interfere with the test strip determinations.				
3622	Octa-Slide	0.0, 0.2, 0.6, 0.8, 1.0, 2.0, 3.0, 5.0 ppm ClO ₂ (0-10 by dilution)	50 (2)	NH (1)
3671-01 DC1200-CLO	Colorimeter	0-7 ppm/0.05 ppm ClO ₂	100 (2)	NH (3)
2999LR	Test Strip	0, 0.25, 0.50, 1.0, 3.0, 10 ppm	50	NH (1)
3002	Test Strip	0, 10, 25, 50; 100, 250, 500 ppm	50	NH (1)
CHROMATE Diphenylcarbazide reacts with chromate (hexavalent chromium) to form a red to violet color in an acid solution.				
4430 LSC	Diphenylcarbazide Octet Comparator	5, 10, 15, 20, 25, 30, 35, 40 ppm Na ₂ CrO ₄ (lower or higher ranges by dilution)	50 (1)	R1 (1)
CHROMIUM Total, hexavalent and trivalent chromium are determined by this method. First, the hexavalent chromium is determined by reaction with diphenylcarbazide, as above. A second sample is heated in the presence of an oxidizer, to determine total chromium. The difference between total and hexavalent is trivalent. The heat source is not included.				
7678-01 LSCV	Octet Comparator	0.1, 0.2, 0.4, 0.6, 0.8, 1.0, 1.2, 1.5 ppm Cr	20 (5)	HF (2)
COLIFORM See also Microbiological Testing section pages 36-38.				
COLOR The color of water is measured by comparing the water to platinum cobalt color standards representing APHA Standard Color Units. See also TC-3000, pages 8-9.				
3528 CW-HR	Octet Comparator with Axial Reader	0, 20, 50, 80, 110, 140, 170, 200 APHA color units	Unlimited (0)	NH (2)
COPPER A yellow color is formed when copper reacts with diethyldithiocarbamate (DDC). A blue color is formed when copper reacts with cuprizone.				
6616 PCL	DDC Octet Comparator with Axial Reader	0, 0.05, 0.10, 0.15, 0.20, 0.30, 0.40, 0.50 ppm Cu	50 (1)	NH (1)

COPPER - GLUTARALDEHYDE



2 CHOICES FOR REFILLS:

1. For a complete set, add "R-" to the kit number.
2. For individual reagents, order by the code on the reagent.

See pages 76-83 for a list of kit reagents.

INDIVIDUAL TEST KITS

ORDER CODE MODEL	TEST SYSTEM (DETAILED ON PAGES 4-7)	RANGE/SENSITIVITY	# OF TESTS (# REAGENTS)	SHIPPING CODE (WEIGHT/LBS)
COPPER (Continued)				
3619 EC-70	Cuprizone Color Chart	0.05, 0.10, 0.15, 0.20, 0.30, 0.50, 0.70, 1.0 ppm Cu	50 (2)	R1 (1)
3673-01 DC1200-CO	DDC Colorimeter	0-8 ppm/0.03 ppm Cu	100 (1)	NH (7)
CYANIDE The cyanide is first reacted with a chlorine donor to form cyanogen chloride, which then reacts with pyridine-barbituric acid to form a red-blue color. The test is also applicable as a screening test for concentrations up to 250 ppm.				
7387-01 CY	Octet Comparator	0.0, 0.10, 0.15, 0.20, 0.25, 0.30, 0.35, 0.40 ppm Free CN ⁻	50 (5)	R1 (3)
DEHA Diethylhydroxylamine reacts with ferric iron to form ferrous iron, which is then measured by a standard iron test.				
4790	Octa-Slide	0.05, 0.1, 0.2, 0.4, 0.6, 0.8, 1.0, 1.5 ppm DEHA	100 (3)	R1 (1)
DETERGENTS Anionic surfactants are extracted with toluene and break up an ion pair, releasing bromphenol blue into a water layer. A standard color reagent is then used to determine the concentration.				
4507-01 DS-1-DC	Dropper Pipet	1 drop = 1.0 ppm Detergent	60 at 5.0 ppm (3)	R1 (2)
4515	Dropper Pipet	1 drop = 0.1 ppm Detergent	30 (4)	HF (2)
FLUORIDE A red zirconium lake reacts with fluoride to form a colorless solution, which decreases the red color of the solution in proportion to concentration.				
4227-R CC-F3	Octet Comparator with Axial Reader	0.2, 0.4, 0.6, 0.8, 1.0, 1.2, 1.4, 1.6 ppm F ⁻	50 (2)	NH (1)
3674-01 DC1200-FL	Colorimeter	0-2.0 ppm/0.03 ppm F ⁻	100 (2)	HF (7+5)
FORMALDEHYDE The colorimetric analysis uses a modified Schiff reaction in which an acidified pararosaniline and dichlorosulfiteformate II complex form a violet color.				
6701 FMD	Octet Comparator	0.0, 0.5, 1.0, 2.0, 4.0, 6.0, 8.0, 10.0 ppm Formaldehyde	100 (3)	HF (2+5)
GLUTARALDEHYDE High concentrations are determined by a titration with sulfuric acid after reaction with sulfite.				
7064	Direct Reading Titrator	1 mL = 250 ppm Glutaraldehyde	25 (5)	R2 (3)

HARDNESS - HYDRAZINE

Hardness originally referred to the ability of water to lather with soap. The more calcium and magnesium ions present, the "harder" it was to produce a lather.



ORDER CODE MODEL	TEST SYSTEM (DETAILED ON PAGES 4-7)	RANGE/SENSITIVITY	# OF TESTS (# REAGENTS)	SHIPPING CODE (WEIGHT/LBS)
HARDNESS EDTA titration is used for all hardness determinations, with a red to blue endpoint. Both total and calcium hardness buffers include inhibitors to eliminate metal interferences. All results are as CaCO_3 ; some kits also express results as gpg. The 3609, which is recommended for salt water analysis, includes a conversion factor for Ca^{++} . The -LI suffix indicates an all liquid kit; -LT indicates a liquid buffer and tablet indicator.				
3609 CA-DR	Fresh & Salt Water Calcium Hardness Direct Reading Titrator	0-200 ppm/4 ppm CaCO_3 0-2,500 ppm by dilution	50 (3)	R1 (1)
4482-DR-LI PHT-DR-LI	Total Hardness Direct Reading Titrator	0-200 ppm/4ppm CaCO_3 Liquid indicator	50 at 200 ppm (3)	R1 (1)
4482-LI-01 PHT-DC-LI	Total Hardness Dropper Bottle	1 drop = 10 ppm or 1 gpg CaCO_3 Liquid indicator	50 at 200 ppm or 20 gpg (3)	R1 (1)
4482-DR-LT PHT-DR-LT	Total Hardness Direct Reading Titrator	0-200 ppm/4 ppm CaCO_3 Tablet indicator	50 at 200 ppm (3)	R1 (1)
4824-LT-01 PHT-CMD-LT	Calcium, Magnesium, Total Hardness Dropper Bottle	1 drop = 10 ppm or 1 gpg CaCO_3 Tablet indicator	50 at 200 ppm or 20 gpg (5)	R1 (1)
4824-DR-LT PHT-CM-DR-LT	Calcium, Magnesium, & Total Hardness Direct Reading Titrator	0-200 ppm/4 ppm CaCO_3 Tablet indicator	50 at 200 ppm (5)	R1 (1)
3037-DR HCM-DR	Low Range Total Hardness Direct Reading Titrator	0-10 ppm/0.2 ppm CaCO_3	50 at 10 ppm (3)	R1 (1)
7171-01	Total Hardness Dropper Bottle	1 drop = 10, 25, or 50 ppm CaCO_3	100 (3)	R1 (1)
7246-01	Total Hardness Dropper Bottle	1 drop = 2, 5, or 10 ppm CaCO_3	100 (3)	R1 (1)
HYDRAZINE A yellow color is formed in the reaction of hydrazine and paradimethylaminobenzaldehyde.				
4850 PHZ-R	Bi-Color Reader with Octet Comparator	0.00, 0.01, 0.05, 0.10, 0.20, 0.30, 0.40, 0.50 ppm N_2H_4	50 (2)	R2 (1)

HYDROGEN PEROXIDE - LEAD



Many iodometric titrations use starch to enhance the endpoint. This should only be added near the end of the titration. High iodine concentrations, present early in the determination, can decompose starch.

INDIVIDUAL TEST KITS

ORDER CODE MODEL	TEST SYSTEM (DETAILED ON PAGES 6-7)	RANGE/SENSITIVITY	# OF TESTS (# REAGENTS)	SHIPPING CODE (WEIGHT/LBS)
HYDROGEN PEROXIDE Although peroxide may be tested colorimetrically with DPD, the most common method is iodometric titration using a standard thiosulfate solution. Both methods are offered.				
3188 HP-40	DPD Tablet Octet Comparator	Low: 0.1, 0.3, 0.5, 0.75, 1.0, 1.25, 1.5, 2.0 ppm H ₂ O ₂ High: 2, 6, 10, 15, 20, 25, 30, 40 ppm H ₂ O ₂	50 (2)	NH (1)
7138-DB	Iodometric Dropper Bottle	1 drop = 5 ppm H ₂ O ₂	50 (4)	HF (2)
7150	Iodometric Dropper Bottle	1 drop = 0.5% H ₂ O ₂	50 (4)	HF (2)
2984LR-H	Test Strips	0, 1, 3, 10, 30, 50	50 (1)	NH (1)
IODINE As with many other oxidizers, iodine may be titrated with a standard thiosulfate solution, hence the name iodometric titration.				
7253-DR PIT-DR	Direct Reading Titrator	0-50 ppm/1 ppm I ₂	50 at 50 ppm (3)	R1 (1)
7253 PIT-DC	Dropper Pipet	1 drop = 2.5 ppm I ₂	100 at 25 ppm (3)	R1 (1)
2948-BJ	Test Papers	12, 25, 50, 100 ppm I ₂	200	NH (1)
IRON Bipyridyl is a ferrous iron indicator that tests total iron after any ferric iron is reduced to ferrous in the sample. Ferrous and ferric may be tested separately by eliminating the reduction step. A similar ferrous indicator, 1,10 phenanthroline, is used in the DC1200 kit.				
7787 P-62	Total Iron Octet Comparator with Axial Reader	0.05, 0.10, 0.20, 0.30, 0.40, 0.60, 0.80, 1.0 ppm Fe	30 (2)	R1 (1)
3318 SL-P61	Total Iron Octa-Slide	0.5, 1.0, 2.0, 3.0, 4.0, 6.0, 8.0, 10.0 ppm Fe	90 (2)	R1 (1)
3347 SL-P-63	Ferrous/Ferric Iron Octa-Slide	0.5, 1.0, 2.0, 3.0, 4.0, 6.0, 8.0, 10.0 ppm Fe	100 (2)	R1 (1)
3681-01 DC1200-FE	Total Iron 1, 10 Phenanthroline Colorimeter	0-4.0 ppm/0.25 ppm Fe	100 (2)	R1 (1)
LEAD The presence of lead in solder is detected by the reaction of a solder sample with acid and sodium rhodizonate.				
3582 PBS	Spot Plate Plumbing Inspector Kit	Yes/No	100 (3)	R1 (2)

MANGANESE - NICKEL

Molybdenum x 1.6
= Molybdate

Sodium Molybdate
Dihydrate x 0.4
= Molybdenum

Molybdate x 0.63
= Molybdenum



ORDER CODE MODEL	TEST SYSTEM (DETAILED ON PAGES 6-7)	RANGE/SENSITIVITY	# OF TESTS (# REAGENTS)	SHIPPING CODE (WEIGHT/LBS)
MANGANESE The 1-(2-pyridylazo)-2-naphthol(PAN) method forms an orange complex with manganese. Metal interferences with the PAN method can be eliminated using the #7104 Cyanide Inhibitor Package, sold separately.				
3588-01 LMN	PAN Octet Comparator	0.05, 0.1, 0.2, 0.4, 0.6, 0.8, 1.0 ppm Mn	50 (4)	HF (2)
3682-01 DC1200-MN	PAN Colorimeter	0-0.7 ppm/0.01 ppm Mn	100 (3)	R2 (7+5)
METHYLENE BIS THIOCYANATE MBT is used as a microbiocide in water systems and wood treatment products. The method uses a titration of excess silver ions after their reaction with the thiocyanate.				
7148	Dropper Bottle	0-30 ppm/2 ppm MBT	50 at 25 ppm(5)	R1 (1)
MICROBIOLOGICAL TESTING See section pages 36-38.				
MOLYBDATE/MOLYBDENUM There are three colorimetric methods and one titration method available. The 6628 uses Xanthogonate to form a pink color with molybdate. Thioglycolate forms a yellow color for low to high determinations. The 3628 uses a new test strip technology that reads 0, 0.5, 1, 2 and 5 ppm. Results are available in about 1 minute. The 3632 titration employs citric acid with a red to yellow color change. The sample size may be changed to vary the equivalence.				
3628	Test Strip	0, 0.5, 1.0, 2.0, 5.0 ppm	50 (1)	R1 (1)
6628 PMO	Xanthate, Sodium Molybdate Octet Comparator	1, 2, 3, 4, 5, 6, 8, 10 ppm Sodium Molybdate	100 (2)	R1 (1)
3346 SL-MHR	Thioglycolate, Molybdate Octa-Slide	30, 60, 90, 120, 150, 180, 240, 300 ppm Molybdate	50 (2)	NH (1)
3160 MBD	Thioglycolate, Molybdenum Octet Comparator with Axial Reader	2, 5, 8, 10, 12, 15, 18, 20 ppm Molybdenum	50 (3)	R3 (2)
3632	Molybdenum Dropper Pipet	1 drop = 2 or 20 ppm Molybdenum	50 (3)	HF (2+5)
3676-01 DC1200-MO	Thioglycolate Colorimeter	0-30 ppm/0.1 ppm Molybdenum	50 (3)	R3 (7)
NICKEL Under acidic conditions, nickel reacts with dimethylglyoxime to form an orange-red complex.				
7802 P-54	Octet Comparator	0.5, 1.0, 2.0, 3.0, 4.0, 5.0, 7.5, 10.0 ppm Ni	20 (7)	HF (9)

NITRATE NITROGEN - NITRITE, SODIUM

The current EPA limit for nitrate is 10 ppm as nitrogen. Multiply nitrogen readings by 4.4 to convert reading to nitrate.



INDIVIDUAL TEST KITS

ORDER CODE MODEL	TEST SYSTEM (DETAILED ON PAGES 6-7)	RANGE/SENSITIVITY	# OF TESTS (# REAGENTS)	SHIPPING CODE (WEIGHT/LBS)
NITRATE NITROGEN The nitrate is reduced to nitrite by cadmium or zinc and this undergoes diazotization/coupling to form a pink color. All kits below use cadmium except #3354, which uses zinc and which also contains a reagent that eliminates nitrite interference. Kit #3519 tests both nitrate and nitrite. The kit #3119 uses one comparator that contains both nitrate and phosphate standards. The phosphate method in kit #3119 is an ascorbic acid reduction. See page 14 for Total Nitrogen Digestion Tube Test.				
3319 SL-NCR	Cadmium Reduction Octa-Slide	0.25, 0.5, 1.0, 2.0, 4.0, 6.0, 8.0, 10.0 ppm NO_3^- -N	40 (2)	R1 (2)
3119 NPL	Cadmium Reduction Nitrate/Phosphate Octet Comparator with Axial Reader	0.2, 0.4, 0.6, 1.0 ppm NO_3^- -N; 0.2, 0.4, 0.6, 1.0 ppm PO_4^{3-}	Nitrate: 40 (2) Phosphate: 50 (2)	R3 (2)
3615 NCL	Cadmium Reduction Octet Comparator with Axial Reader	0, 0.2, 0.4, 0.6, 0.8, 1.0 ppm NO_3^- -N	50 (2)	R1 (2)
3519 NCR-2	Cadmium Reduction Octet Comparator	0.25, 0.5, 1.0, 2.0, 4.0, 6.0, 8.0, 10.0 ppm NO_3^- -N	40 (3)	R1 (1)
3354	Zinc Reduction Octa-Slide	0, 1, 2, 4, 6, 8, 10, 15 ppm NO_3^- -N	50 (2)	NH (2)
3677-01 DC1200-NA	Cadmium Reduction Colorimeter	0-3.0 ppm/0.05 ppm NO_3^- -N	50 (2)	R1 (7)
NITRITE NITROGEN As with nitrate, above, the diazotization/coupling reaction is used to form a pink color with nitrite.				
3352 SL-LNR	Octa-Slide	0.05, 0.10, 0.20, 0.30, 0.40, 0.50, 0.60, 0.80 ppm NO_3^- -N	50 (3)	NH (2)
NITRITE, SODIUM Sodium nitrite is titrated using one of two methods. After acidifying the sample, permanganate will oxidize nitrite. When all of the nitrite is oxidized, the permanganate turns the sample pink. Ceric Ammonium Nitrate (CAN) also oxidizes the nitrite in the presence of ferroin indicator. The endpoint is orange to blue. The CAN method is preferred if glycol is present.				
7101-DR PRI-DR	Permanganate Direct Reading Titrator	0-1000 ppm/20 ppm NaNO_2	50 at 1000 ppm (2)	R1 (1)
7101 PRI-DC	Permanganate Dropper Pipet	1 drop = 50 or 100 ppm NaNO_2	50 at 1000 or 2000 ppm (2)	R1 (1)
3036-DR-01 NAC-DR	CAN Direct Reading Titrator	0-1000 ppm/20 ppm NaNO_2	50 at 1000 ppm (2)	R1 (1)
7183-01	CAN Dropper Bottle	1 drop = 50 ppm NaNO_2	50 at 1000 ppm (2)	R1 (1)

OXYGEN, DISSOLVED - PHENOLS

It is important in all drop titrations to hold the titrant vertically. This ensures proper drop size.



ORDER CODE MODEL	TEST SYSTEM (DETAILED ON PAGES 6-7)	RANGE/SENSITIVITY	# OF TESTS (# REAGENTS)	SHIPPING CODE (WEIGHT/LBS)
OXYGEN, DISSOLVED The azide modification of the Winkler method is a modified iodometric titration whereby oxygen, in the presence of a strong alkali, oxidizes manganese, which in turn reacts with iodide to form iodine. This is titrated with a standard thiosulfate solution in the presence of a starch indicator to enhance the endpoint. Azide eliminates nitrite interference.				
7414† EDO	Direct Reading Titrator	0-10 ppm/0.2 ppm O ₂	50 at 10 ppm (5)	R3 (2)
5860	All liquid reagents Direct Reading Titrator	0-10 ppm/0.2 ppm O ₂	50 at 10 ppm (5)	R1 (2)
OZONE DPD reacts with ozone, but any other oxidizers will interfere. The Indigo Trisulfonate method includes a step to eliminate chlorine interference, but bromine will interfere. It is preferred for the analysis of salt water samples.				
3526 LP-62	DPD Tablet Octet Comparator with Axial Reader	0.01, 0.03, 0.07, 0.11, 0.2, 0.4, 0.7, 1.0 ppm O ₃	50 (2)	NH (1)
3678-01 DC1200-OZ	Indigo Trisulfonate Colorimeter	0-0.4 ppm/0.04 ppm O ₃	100 (3)	NH (7)
PERACETIC ACID/HYDROGEN PEROXIDE This test is a combination of two separate titrations. The first is a cerium titration of peroxide. The second is an iodometric titration of peracetic acid.				
7191-01	Dropper Bottle	1 drop = 50 ppm Peroxide 1 drop = 15 ppm Peracetic Acid	50 (5)	R1 (2)
PERACETIC ACID TEST STRIP				
3000	Test Strips	0, 10, 20, 40, 60, 85, 160 ppm	50	NH (1)
3000-LR	Test Strips	0, 5, 10, 20, 30, 50 ppm	50	NH (1)
pH TEST PAPERS				
2907	Test Papers	6.8-8.4 pH/0.2 pH	1 Roll	NH (1)
2912	Test Papers	3.0-10.0 pH/1 pH	200 Strips	NH (1)
2953	Test Papers	4.5-7.5 pH/0.5 pH	1 Roll	NH (1)
2954	Test Papers	0-13 pH/1 pH	1 Roll	NH (1)
2955	Test Papers	9-14 pH/0.5 pH	1 Roll	NH (1)
2956	Test Papers	1-11 pH/1 pH	1 Roll	NH (1)
2959	Test Papers	8-12 pH/0.5 pH	2 Rolls	NH (1)
3-2950	pH Indicator Sticks	0-14/1 pH	100 Strips	NH (1)
PHENOLS 4-aminoantipyrine is oxidized in the presence of ortho and meta substituted phenols to form a reddish colored complex.				
7824 P-52-R	Octet Comparator with Axial Reader	0.1, 0.2, 0.3, 0.4, 0.5, 0.6, 0.8, 1.0 ppm Phenol	50 (3)	N (1)

pH indicators work in a specific range. Samples with a pH above the range of an indicator may match the highest standard on the comparator; samples below the range may match the lowest standard.



pH must be controlled and monitored because it plays an essential role in almost all chemical and biological processes.

LaMOTTE pH TEST KITS

The "Precision Wide Range" pH kit includes two octet comparators and reagents to provide 100 tests. Other pH test kits consist of an Octet Comparator, and a reagent for 50 tests. LaMotte Company has been supplying laboratory quality pH indicator tests to professional analysts for more than eighty years; these are the most reliable, economical pH test kits available. Simply fill the tube to the mark with the sample water, add several drops of indicator, and compare the resulting color against the eight permanent color standards in the comparator.

HOW TO SELECT THE RIGHT pH KIT: SINGLE OR WIDE RANGE?

Single range kits cover a range of 1.4 pH units in 0.2 unit increments (0.1 unit sensitivity). Wide range kits cover pH units in increments of 0.5.

WHICH RANGE?

Choose a kit in which the midpoint of the range covered is as close to the average or optimum pH value of the sample water. If this value is unknown, choose the Precision Wide Range Kit. Indicators specific to a particular pH range allow colorimetric determination of pH. If the water to be tested is cloudy, one may wish to employ the Bicolor Reader (see page 6) or pH meter.



See Instrument Section, pages 22-30 for pH meters.

ORDER CODE/MODEL	pH INDICATOR	OCTET COMPARATOR COLOR STANDARD VALUES IN pH UNITS								HAZARD (SHIPPING WEIGHT/LBS)
pH										
2108/P-CPR	Chlorophenol Red	5.4	5.6	5.8	6.0	6.2	6.4	6.6	6.8	NH (1)
2109/P-BTB	Bromthymol Blue	6.0	6.2	6.4	6.6	6.8	7.0	7.2	7.4	NH (1)
2110/P-PR	Phenol Red	6.8	7.0	7.2	7.4	7.6	7.8	8.0	8.2	NH (1)
2111/P-CR	Cresol Red	7.2	7.4	7.6	7.8	8.0	8.2	8.4	8.6	NH (1)
2112/P-TB	Thymol Blue	8.0	8.2	8.4	8.6	8.8	9.0	9.2	9.4	NH (1)
2113/P-ORB	Oleo Red B	8.6	8.8	9.0	9.2	9.4	9.6	9.8	10.0	R1 (1)
5858	Precision Wide Range	3.0	3.5	4.0	4.5	5.0	5.5	6.0	6.5	R1 (1)
		7.0	7.5	8.0	8.5	9.0	9.5	10.0	10.5	
2124/P-8512	Alkaline Wide Range	8.5	9.0	9.5	10.0	10.5	11.0	11.5	12.0	R1 (1)

PHOSPHATE - PHOSPHONATE

If a treatment uses a blend of phosphonates, the equivalence must be determined by running standards of the treatment.



ORDER CODE MODEL	TEST SYSTEM (DETAILED ON PAGES 4-7)	RANGE/SENSITIVITY	# OF TESTS (# REAGENTS)	SHIPPING CODE (WEIGHT/LBS)
PHOSPHATE There are 3 colorimetric test methods. In two, a phosphomolybdate complex is reduced by stannous chloride or ascorbic acid to produce a blue color. In a third, phosphate forms a yellow complex with vanadomolybdate.				
3679-01 DC1200-PLR	Ascorbic Acid Colorimeter	0–3.0 ppm/0.07 ppm PO_4^{3-}	100 (2)	R2 (7)
3121-01 PAL	Ascorbic Acid Octet Comparator with Axial Reader	0, 0.2, 0.4, 0.6, 0.8, 1.0, 1.5, 2.0 ppm PO_4^{3-}	50 (2)	R1 (1)
3114-01 PAA	Ascorbic Acid Octet Comparator	0.5, 1, 2, 3, 4, 6, 8, 10 ppm and 5, 10, 20, 30, 40, 60, 80, 100 ppm PO_4^{3-}	50 (2)	R1 (1)
7416-01 NVM	Stannous Chloride Octet Comparator with Axial Reader	0.05, 0.1, 0.2, 0.3, 0.4, 0.6, 0.8, 1.0 ppm PO_4^{3-}	50 (2)	R1 (1)
3320-01 SL-VM-12	Stannous Chloride Octa-Slide	Low: 1.0, 2.0, 3.0, 4.0, 5.0, 6.0, 8.0, 10.0 ppm PO_4^{3-} High: 10, 20, 30, 40, 50, 60, 80, 100 ppm PO_4^{3-}	50 (2)	R1 (1)
4408 VM-12	Stannous Chloride Octet Comparator	Low: 1.0, 2.0, 3.0, 4.0, 5.0, 6.0, 8.0, 10.0 ppm PO_4^{3-} High: 10, 20, 30, 40, 50, 60, 80, 100 ppm PO_4^{3-}	50 (2)	HF (1)
7068 P-POR	Stannous Chloride Octet Comparator with BiColor Reader	Low: 1.0, 2.0, 3.0, 4.0, 5.0, 6.0, 8.0, 10.0 ppm PO_4^{3-} High: 10, 20, 30, 40, 50, 60, 80, 100 ppm PO_4^{3-}	50 (2)	HF (1)
4401-01 VM-1	Vanadate Molybdate Octet Comparator	10, 20, 30, 40, 50, 60, 70, 80 ppm PO_4^{3-}	50 (1)	R1 (1)
PHOSPHATE (TOTAL) Polyphosphates (acid-hydrolyzable or condensed) and phosphonates (organic phosphates) are reverted using the reagents and apparatus in the 7884 Auxiliary Phosphate kit . The polyphosphates require boiling or microwaving with acid and subsequent neutralization; the phosphonates require the same, but with the addition of an oxidizer in the boiling/microwaving step. Once reverted to orthophosphate, any of the tests in the orthophosphate section above may be used for analysis. See page 14 for Total Phosphorus Digestion Tube Tests.				HF (2)
PHOSPHONATE The Chromazurol S method may be used for Dequest, Bayhibit, Belcor 575 and Belsperse 161 phosphonates. The indicator changes from yellow to pink at the pH ideal for the reaction, then thorium nitrate is added until the solution turns purple. The Xylenol Orange method titrates all Dequest products and Belcor 575. The pH is adjusted to 2.5–3.0, then thorium nitrate is added until the color changes from yellow to red. The 4068 uses a masked xylenol orange indicator, which produces a green to blue endpoint. It also employs a tablet to adjust the pH to the required 2.5–3.0. An additional liquid acid is included for very high alkalinity samples. It also includes a fluoride inhibitor reagent.				
The 7611 sulfate interference suppressor kit uses barium precipitation and filtration to eliminate sulfate from the phosphonate test.				
7625-DR OPCA-DR	CAS Direct Reading Titrator	0–20 ppm/0.4 ppm HEDP/PBTC	50 at 20 ppm (5)	R1 (1)
7625 OPCA-DC	CAS Dropper Pipet	1 drop = 1.25 ppm HEDP 1 drop = 1.4 ppm PBTC	50 at 20 ppm (5)	R1 (1)

PHOSPHONATE - SALINITY

Many wood treating companies use QAC kits to monitor their products because the wood preservatives react similarly to QAC.



INDIVIDUAL TEST KITS

ORDER CODE MODEL	TEST SYSTEM (DETAILED ON PAGES 6-7)	RANGE/SENSITIVITY	# OF TESTS (# REAGENTS)	SHIPPING CODE (WEIGHT/LBS)
PHOSPHONATE (Continued)				
7530-DR FI-DR	XO Direct Reading Titrator	0-20 ppm/0.4 ppm NaAMP	50 at 20 ppm (5)	R1 (2)
7530-WT	XO Dropper Bottle	1 drop = 1 ppm NaAMP	50 at 20 ppm (5)	R1 (2)
4068	Masked XO Direct Reading Titrator	0-20 ppm/0.4 ppm HEDP	50 at 20 ppm (4)	R1 (2)
POLYPHOSPHATES A colorimetric method is available for waters where metal interference is unlikely. An excess of iron is added to the solution containing polyphosphate. The iron is complexed and the remaining iron is determined. The polyphosphate concentration is derived from the iron concentration.				
7340-R PPK-R	Octet Comparator with Axial Reader	0, 3, 6, 9, 12, 15 ppm Polyphosphate	50 (3)	R2 (1)
POLYQUAT The test is based on the reaction of the cationic polyquat with an anionic polyelectrolyte using Toluidine Blue O as the indicator. The color change is blue to purple.				
7056	Dropper Bottle	1 drop = 1 ppm Polyquat	100+ (5)	R1 (1)
POTASSIUM Sodium tetraphenylboron reacts with potassium to form a white precipitate. The turbidity of the solution is proportional to potassium concentration which is measured in a calibrated tube.				
3138 KIW	Turbidity Reading Tube	6, 8, 10, 20, 30, 40, 50 ppm K ⁺	100 (2)	R1 (1)
QAC Two methods are available. A masked bromphenol blue indicator is added to the sample and turns green. Sodium tetraphenylboron is added to complex the QAC and the color changes to red. This method is best suited to higher QAC concentrations. A polyelectrolytic titration, like the one used for polyquat, is used for low to high concentrations.				
3043-DR QT-DR	BPB Direct Reading Titrator	0-500 ppm/10 ppm Alkyl dimethyl benzyl ammonium chloride	50 at 500 ppm (2)	NH (1)
XX00868	BPB Direct Reading Titrator	0-1,000 ppm/20 ppm 0-5,000 ppm/100 ppm with dilution	50 at 1,000 ppm (2)	NH (1)
7057	Polyelectrolytic Dropper Bottle	1 drop = 2, 5, or 10 ppm Alkyl dimethyl benzyl ammonium chloride	100+ (5)	R1 (2)
2951	Test Papers	50, 100, 200, 400 ppm	100	NH (1)
SALINITY Salinity is based on the concentration of chloride. An argentometric titration with silver nitrate is used to determine the chloride concentration.				
7459-01 POL-H	Direct Reading Titrator	0-40 ppt/0.4 ppt Salinity	50 at 20 ppt (2)	R1 (1)

SILICA - SULFIDE

Sulfide above 20 ppm will bleach the methylene blue method.



ORDER CODE MODEL	TEST SYSTEM (DETAILED ON PAGES 6-7)	RANGE/SENSITIVITY	# OF TESTS (# REAGENTS)	SHIPPING CODE (WEIGHT/LBS)
SILICA The heteropoly blue method tests for "molybdate-reactive" silica. The 4463 uses a 1:10 dilution to expand the range of the kit to 100 ppm.				
4463 PSI	Octet Comparator	0.5, 1.0, 2.0, 3.0, 4.0, 6.0, 8.0, 10.0 ppm or 5, 10, 20, 30, 40, 60, 80, 100 ppm SiO ₂	50 (4)	R1 (1)
3321 SL-PSI	Octa-Slide	0.5, 1.0, 2.0, 3.0, 4.0, 6.0, 8.0, 10.0 ppm SiO ₂	50 (4)	R1 (1)
SODIUM NITRITE (See Nitrite, Sodium)				
SULFATE Barium forms a precipitate with sulfate. The turbidity formed is measured using comparator standards or a meter.				
7778 PSAT	Tablet Octet Comparator	20, 40, 60, 80, 100, 120, 160, 200 ppm SO ₄ ²⁻	50 (1)	R1 (1)
3683-01 DC1200-SU	Colorimeter	0-100 ppm/1.0 ppm SO ₄ ²⁻	100 (1)	R1 (6)
The 7611 sulfate interference suppressor kit uses barium precipitation and filtration to eliminate sulfate from the phosphonate test.				
SULFIDE Both kits use the Pomeroy methylene blue method for analysis. The colorimetric method uses color standards to read total sulfide. Total, dissolved and hydrogen sulfide can be separated in the titration test. The total sulfide is determined using a color dye which is added to an unreacted sample until it matches a reacted sample. The same procedure is used for dissolved sulfide, after insoluble matter is removed by aluminum flocc. Hydrogen sulfide is determined by measuring pH and multiplying the dissolved sulfide concentration by a pH correction factor.				
3322† SL-P70	Total Sulfide Octa-Slide	0.2, 0.5, 1.0, 2.0, 5.0, 10.0, 15.0, 20.0 ppm S ²⁻	50 (3)	R1 (1)
4456	Total Sulfide Octet Comparator	0.2, 0.5, 1.0, 2.0, 5.0, 10.0, 15.0, 20.0 ppm S ²⁻	50 (3)	R1 (1)
4630†* CC-PS	Total, Dissolved & Hydrogen Sulfide Dropper Pipet	1 drop = 1.0 or 0.1 ppm S ²⁻ or H ₂ S	70 at 10 ppm (8)	HF (10)

SULFITE - ZINC



Cooling sulfite samples will cause low results due to sulfite reaction with air. Testing samples that are too hot may decompose the starch indicator, resulting in a brown endpoint.

INDIVIDUAL TEST KITS

ORDER CODE MODEL	TEST SYSTEM (DETAILED ON PAGES 6-7)	RANGE/SENSITIVITY	# OF TESTS (# REAGENTS)	SHIPPING CODE (WEIGHT/LBS)
SULFITE An iodide-iodate titrant oxidizes sulfite to sulfate under acid conditions, until all of the sulfite is reacted. The titrant then reacts with starch to form a blue color signifying the endpoint.				
7175-DR SIT-DR	Direct Reading Titrator	0-100 ppm/2 ppm SO_3^{2-}	50 at 100 ppm (3)	R1 (1)
7175 SIT-DC	Dropper Pipet	1 drop = 5 ppm SO_3^{2-}	50 at 100 ppm (3)	R1 (1)
7132	Dropper Bottle	1 drop = 2, 5, or 10 ppm SO_3^{2-}	100+ (3)	R1 (1)
TANNIN/LIGNIN Tungstophosphoric and molybdophosphoric acids are reduced by tannins and lignins to form a blue color.				
7831 TL	Octet Comparator	1, 2, 3, 4, 5, 6, 8, 10 ppm Tannin or lignin like substances	50 (2)	R1 (1)
TOLCIDE PS BIOCIDE This kit was developed in cooperation with Rhodia, formerly Albright & Wilson, for the determination of tetrakis(hydroxymethyl) phosphonium sulfate (THPS). The iodometric titration may be used for fresh or salt water in oilfields, towers, pulp and paper, etc.				
4-8776	Direct Reading Titrator	0-100/2 ppm THPS	60 (5)	NH (1)
ZINC In a solution buffered to pH 9, zincon reacts with zinc to form a blue color.				
7391-01 ZN	Octet Comparator	0, 1, 2, 3, 4, 6, 8, 10 ppm Zn	50 (2)	NH (1)
7417-01 ZN-LR	Octet Comparator	0, 0.2, 0.4, 0.6, 0.8, 1.0, 1.2, 1.4 ppm Zn	50 (2)	NH (1)

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Fresh Water Outfit

Model AQ-2 • ORDER CODE 3633-03 (Ship Code R3; 16 lbs.)
Reagent Refill • Order Code R-3633-03 (Ship Code R3)

A complete outfit for pond fish culture, ideal for fresh water analysis. Nine critical test factors can be determined on-site, efficiently and accurately. Designed with field analysis as a priority; all reagents, components, and accessories are arranged in pre-drilled foam. Short form instructions are provided in a handy adhesive lid label for easy access. Long form instruction booklet provides detailed instructions and test kit diagram. Unit is supplied complete with labware, accessories, sampling bottle, and reagents.

Factor	Method	Range (# Tests)
Ammonia Nitrogen	Nessler	0.2–3.0 (50)
Nitrite Nitrogen	Diazotization/ Coupling	0.05–0.8 (50)
pH	Wide Range	5.0–10.0 (50)

Factor	Method	Range (# Tests)
Alkalinity, Total	Neutralization	0–200 ppm (50)
Carbon Dioxide	Neutralization	0–50 ppm (50)
Chloride	Argentometric	0–200 ppm (50)
Dissolved Oxygen	Azide Modification of Winkler Method	0–10 ppm (50)
Hardness (Total)	Complexometric	0–200 ppm (50)

Temperature

Armored Thermometer	–5° to 45°C
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Salt Water Outfit

MODEL AQ-4 • ORDER CODE 3635-03 (Ship Code R2; 16 lbs.)
Reagent Refill • Order Code R-3635-03 (Ship Code R2)

Provides equipment to monitor nine parameters most critical for the salt water aquaculturalist. Reagents, labware, and accessories are mounted in foam for convenient test selection and portability. Short form lid label instructions are always available for quick reference, and a long form booklet provides detailed instructions with kit diagram. Unit is supplied complete with labware, accessories, sampling bottles, and reagents.

Factor	Method	Range (# Tests)
Alkalinity*	Neutralization	0–200 ppm (50)
Carbon Dioxide	Neutralization	0–50 ppm (50)
Dissolved Oxygen	Azide Modification of Winkler Method	0–10 ppm (50)
Salinity	Argentometric	0–20 ppt (50)

*Often referred to as carbonate hardness in aquarium industry.

Factor	Method	Range (# Tests)
Armored Thermometer	0.5C	–5° to 45°C



Factor	Method	Range (# Tests)
Ammonia Nitrogen	Salicylate	0.05–2.0 ppm (50)
Nitrate Nitrogen	Cadmium Reduction	0.25–10.0 ppm (40)
Nitrite Nitrogen	Diazotization/Coupling	0.05–0.8 ppm (50)
pH	Wide Range	5.0–10.0 (50)

Water Quality Educator Monitoring Outfit

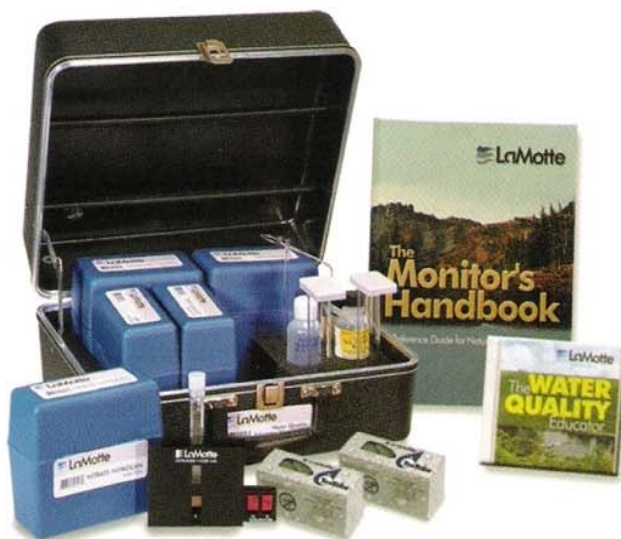
ORDER CODE 5870 (Ship Code R3; 14 lbs.)

Always the first kit recommended for beginning a water quality monitoring study. The Water Quality Educator and Monitoring Outfit provides kits for seven basic water quality test factors and exceptional support material, all housed in a rugged field carrying case.

The Monitor's Handbook, a 71-page reference guide, includes all the information needed to set up a water quality monitoring program. The handbook covers test procedures and means to interpret results.

The Water Quality Educator CD-ROM, now for PC and Macintosh computers, incorporates Quick Time™ animations, still photos, written and audio information to provide step-by-step instructions for the tests included. Students receive both visual and verbal instructions and can repeat material as often as necessary. This effective "pre-lab" activity helps prepare students for water quality testing in the field or in the classroom.

The CD also provides benchmark data for each test factor for comparison of results obtained using LaMotte test kits in the field. Students enter their results and receive information on what type of water quality is indicated by their data as well as typical causes and effects of higher and lower levels.



Factor	Range (# Tests)	Factor	Range (# Tests)
pH	pH 3.0-10.5 (100)	Alkalinity, Total	0-200 ppm (50)
Nitrate-Nitrogen	0-15 ppm (50)	Turbidity	0-200 JTU (50)
Phosphate	0-2.0 ppm (50)	Temperature	-5° to 45°C
Dissolved Oxygen	0-10.0 ppm (50)		



Leaf Pack Experiments Stream Ecology Kit

ORDER CODE 5882 (Ship Code NH; 10 lbs.)

Students performing the Leaf Pack Experiments learn to design, implement, and analyze a scientific investigation by discovering how aquatic macroinvertebrates indicate the overall health of a stream ecosystem. The Leaf Pack Experiments Kit is totally reusable and flexible. Adaptable to varying time constraints, number of students, and grade levels, it is geographically friendly and complete. All the apparatus and guides necessary for collecting, sorting and identifying are included. The kit includes a comprehensive Instructor's Manual - featuring background material on stream ecology, a glossary, diagramed instructions, experiment ideas, and full color macroinvertebrate flash cards. Developed by the Stroud Water Research Center in cooperation with LaMotte Company.

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Plankton Net

15" (38.1 cm) tall, 5" (12.7 cm) dia. mouth
ORDER CODE 1063
(2 lbs.)

Cone-shaped net of 10 mesh, 153 micron nylon cloth. Minute plankton are collected and can be observed in the removable, clear conical graduated tube. Two tubes provided. Net mouth is braced by a sturdy stainless steel ring and harness.

Kick-Net

Kick-Net, complete with poles
ORDER CODE 0021-P (8 lbs.)

Kick-Net only ORDER CODE 0021 (4 lbs.)

This 1x1 meter square, 500 micron, tan mesh net is designed to meet the requirements of groups performing USEPA Rapid Bioassessment Protocols for benthic invertebrates.



Secchi Disk

Disk with black & white quadrants & calibrated line
ORDER CODE 0171-CL (3 lbs.)

Determine turbidity or degree of visibility in natural waters. Weighted 20 cm diameter disk has a braided stretch-resistant line marked every half meter and at every meter up to 20 meters.



Limnology Outfit

ORDER CODE 5902-01
(Ship Code HF; 13 lbs.)

Reagent Refill
ORDER CODE R-5902-01
(Ship Code HF; 4 lbs.)

A popular outfit for the testing and study of freshwater systems such as ponds, lakes, wetlands, rivers, streams, etc. This field-friendly outfit contains individual test modules, water sampling bottles, three supplemental handbooks, and data sheets.

Octet Comparator Tests

Factor	Range (# Tests)
Nitrate-Nitrogen	0.2–1.0 ppm (40)
Phosphate	0.2–1.0 ppm (50)
pH	3.0–10.0 pH (50)
Silica	0.5–1.0 ppm (50)

Direct Reading Titrator Tests

Factor	Range (# Tests)
Carbon Dioxide	0–50 ppm (50)
Dissolved Oxygen	0–10 ppm (50)
Hardness	0–200 ppm (50)

Marine Science Outfit

ORDER CODE 5903-02
(Ship Code HF; 13 lbs.)

Reagent Refill
ORDER CODE R-5903-02
(Ship Code HF; 4 lbs.)

For testing and study of saline systems – oceans, bays, salt marshes, etc. Includes the *Lab Manual for Marine Science, Investigating Water Problems* and data sheets.

Colorimetric Tests

Factor	Range (# Tests)
pH	3–10 (50)
pH	7.7–8.4 (50)

Titration Tests

Factor	Range (# Tests)
Dissolved Oxygen	0–10.0 ppm (50)
Hardness	0–200 ppm (50)
Carbon Dioxide	0–50 ppm (50)
Alkalinity	0–200 ppm (50)
Salinity	0–20 ppm (50)



The Tour Series

Each Tour is a complete, hands-on, science curriculum with safe, simple TesTabs® tablet tests. Each Tour includes lecture materials, illustrated hand-outs, teacher tips, test procedures, TesTab reagents, data sheets, and games to reinforce key concepts. The Tour Series is designed for grades 4 through 8 environmental science education. The Goal of the Tour series is for students to discover, examine, measure, and compare physical and chemical properties. Students learn basic analytical methods while performing a scientific investigation.



Shore Tour

Shore Tour • ORDER CODE 5939 (Ship Code NH; 5 lbs.)
Reagent Refill • Order Code R-5939 (Ship Code NH; 1 lb.)

Five units teach students through classroom lectures and activities how their everyday actions affect the ocean. Topics include an introduction to coastal ecosystems, oil spills, shoreline development and marine debris. Includes teacher tested activities from EPA, NOAA, and The Marine Mammal Center, links to activities and information from ocean experts, CD with printable handouts, data sheets, and more. Materials for 40 students working in groups.



Watershed Tour

Watershed Tour • ORDER CODE 5419 (Ship Code NH; 4 lbs.)
Reagent Refill • Order Code R-5419 (Ship Code NH; 1 lb.)

A classroom-based tour of a virtual watershed, designed for teachers who are unable to visit a stream with their students. Students will "test" four stations along a river continuum to study how the river changes and how human activities can influence water quality. Developed by the Stroud Water Research Center in cooperation with LaMotte Company. Materials for 30 students working in groups.



Topsoil Tour

Topsoil Tour • ORDER CODE 5425-01 (Ship Code NH; 4 lbs.)
Reagent Refill • Order Code R-5425-01 (Ship Code NH; 1 lb.)

Investigate the physical and chemical properties of soil. Each student on the Topsoil Tour completes seven units while conducting his/her own soil tests for soil texture, pH, nitrogen, phosphorus, and potassium. Tablets and sample test bags for 50 students.



Pondwater Tour

Pondwater Tour • ORDER CODE 5418 (Ship Code R1; 4 lbs.)
Reagent Refill • Order Code R-5418 (Ship Code R1; 1 lb.)

A great introduction to the study and measurement of changes in the water quality of a lake, stream, pond, aquarium, or even a fish bowl. Tests are included for pH, dissolved oxygen, nitrate, and ammonia. Students test variables and investigate natural processes that create changes in water quality. Tablets and sample test bags for 50 students.



Tapwater Tour

Tapwater Tour • ORDER CODE 3608 (Ship Code NH; 4 lbs.)
Reagent Refill • Order Code R-3608 (Ship Code NH; 1 lb.)

An exciting investigation of water quality examining the chemical properties of water directly from the tap. Students learn the relationships between good and poor water quality while examining the pH, chlorine, hardness, copper, and iron of tapwater from their homes. Tablets and sample test bags for 50 students. Ideal for educational outreach for public health/utilities.

CALL FOR OUR SCIENCE EDUCATION PRODUCTS CATALOG



Inspector Hector

ORDER CODE 5944 (Ship Code NH; 4 lbs.)

Reagent Refill • Order Code R-5944 (Ship Code NH; 1 lbs.)

Join Inspector Hector, the soft-boiled detective and health inspector, and his Siamese cat Ajax, in unraveling clues to solve mysteries from everyday life. Why does everyone in Tank Top Tommy's pool have red eyes? Did Pop's Pickle Emporium pollute the storm drain?

Students enter the amazing world of health inspectors and learn how these behind-the-scenes heroes make our world a safer place to live. Teams use safe and fun hands-on TestTabs® and test strip methods to analyze samples from the scenes and interpret the results to solve the cases!

- Ideal for Public Health Inspector community outreach programs - great activities and ideas
- CD with printable handouts and data sheets, links and more
- Complete, hands-on curriculum
- Entertaining and informative lecture material - fun makes learning easier!
- Classroom activities, team data sheets and handouts
- Scene photos, puzzles and games, teacher tips
- Classroom poster
- Links to over 100 resources with FREE stuff
- Grades 3-9, for 40 students

GREEN Low-Cost Water Monitoring Kit

ORDER CODE 3-5886 (Ship Code NH; 1 lb.)

A popular, economical tool for learning the basics of water quality. Students will have fun analyzing sample water for pH, Dissolved Oxygen, Biochemical Oxygen Demand, Temperature, Turbidity, Nitrate, Phosphate, and Coliform Bacteria. Includes a manual with step-by-step diagramed instructions and easy-to-use laminated color chart. All the necessary apparatus and non-hazardous TestTabs to test ten water samples (three samples for Coliform). Ideal for educational outreach.





Food Sanitizer Kits

For Caustic Soda

Model TK-10 • ORDER CODE 8225 (Ship Code R2; 2 lbs.)

Reagent Refill • Order Code 8228-H (Ship Code R2; 2 lbs.)

This simple, single-reagent dropper pipet kit measures caustic soda for cleaning dairy bottles, cans, storage tanks, etc. Reagents for 50 tests. Kit uses neutralization test method.

Dilution step permits measurement of two ranges:

0.25%/drop caustic soda by weight

0.01%/drop sodium oxide



Also Available...

Factor	Order Code	Method	Range (# Test)	Ship Codes
Sulfuric Acid	8205	Neutralization	0.05 oz. per gal/drop (50)	R2
Chlorine	4497	Iodometric	10 ppm/drop (50)	R2
Chlorinated Cleaner	8226	Neutralization	0.01% NaOH/drop (50)	R2



Standard pH Test Papers

Order Code	pH Range	Order Code	pH Range
2907	6.8-8.4	2955	9-14
2912	3.0-10.0	2956	1-11
2953	4.5-7.5	2959	8-12
2954	0-13		

Sanitizer Test Papers

Chemically treated paper strips change to indicate sanitizer level. Strips and color chart are packaged in a waterproof plastic vial. 2951 is specifically formulated to read all types of QAC.

Factor	Order Code	Range
Chlorine	4250-BJ	10, 50, 100, 200 ppm (200 papers)
Iodine	2948-BJ	12, 25, 50, 100 ppm (200 papers)
QAC	2951	50, 100, 200, 400 ppm (100 strips)
High Range Chlorine	3031	0, 50, 100, 250, 500, 800 ppm (50 strips)



Look for additional chlorine, iodine, & QAC kits in the Individual Test Kit section

FOOD/LAUNDRY

Dairy Producers, Food Processors, Commercial Launderers...



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Laundry Outfit

For control of water supplies, cleaning operations, and rinses

Model LDR • ORDER CODE 3095-01 (Shipping Code HF)

Reagent Refill • Order Code R-3095-01 (Shipping Code HF)

Seven important factors for monitoring incoming water supplies, break, suds and bleach operations; also rinse and sour operations. The pH (alkaline) test uses a LaMotte Octet Comparator. The alkalinity tests, chlorine bleach and hardness test utilize dropper pipet test methods. Reagents are supplied for 50 tests of each factor.



Factor	Range	Application
pH (Alkaline)	pH 10.0–11.4	Break-suds-bleach solutions
pH (Sour)	pH 1.5–8.5	Sour rinse solutions
Alkalinity (Suds)	100 ppm/drop	Free/total alkalinity in break-suds-bleach solutions
Alkalinity (Rinse)	10 ppm/drop	Total alkalinity in rinses

Factor	Range	Application
Chlorine Bleach	0.5%/drop	Available chlorine in bleach solutions
Hardness	10 ppm or 1 gpg/drop	Water Supply
Turbidity	Yes/No (Soil)	Presence of soil in solution



Also Available...

Code	Description	Ship Codes
7250	P Alkalinity 1 drop = 10 ppm or 100 ppm Total Hardness 1 drop = 1 gpg Chlorine Strips 10, 50, 100, 200 ppm	R2
7196	Chlorine 1 drop = 10 ppm Oxygenated Bleach 1 drop = 10 ppm	R2
3541	Spot test for presence/absence of Chlorine and Iron. Wide Range pH	R1
7894	High Range—1 dr = 0.5% Cl_2 Mid Range—1 dr = 0.05% Cl_2 Low Range—1 dr = 0.005% Cl_2	R1



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GENERAL WATER ANALYSIS

Laboratories, Government Agencies...

SMART Water Analysis Laboratory

- MODEL SCL-05 • ORDER CODE 1951-01 (Shipping Code HF; 37 lbs.)**
• ORDER CODE 1951-01EX2 (220V/50Hz AC) (Shipping Code HF; 37 lbs.)
Reagent Refill • ORDER CODE R-1951 (Shipping Code HF; 10 lbs.)

This portable lab measures 24 water quality parameters for pollution detection, environmental studies, and industrial water and wastes. The SMART2 digital colorimeter analyzes test sample color reactions and provides direct readouts for 15 factors. Titration tests performed with LaMotte's Direct Reading Titrators provide results directly in ppm for 6 additional factors. Digital meters measure pH and conductivity.



COMBINATION OUTFITS

GENERAL WATER ANALYSIS

Laboratories, Government Agencies...



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Colorimeter Tests

Factor	Method	Range (# Test)
Ammonia	Nesslerization	0-4.0 ppm (50)
Chlorine	DPD	0-4.0 ppm (100)
Bromine	DPD	0-9 ppm (100)
Iodine	DPD	0-16 ppm (100)
Chromium (Hexavalent)	Diphenylcarbazide	0-1.0 ppm (100)
Copper	Diethyldithiocarbamate	0-6.0 ppm (100)
Fluoride	SPADNS	0-2.0 ppm (50)
Iron	Bipyridyl	0-6.0 ppm (50)
Nitrate	Cadmium Reduction	0-3.0 ppm (20)
Nitrite	Diazotization/Coupling	0-0.8 ppm (20)
Phosphate	Ascorbic Acid Reduction	0-3.0 ppm (50)
Silica	Heteropoly Blue	0-4.0 ppm (50)
Sulfate	Barium Chloride	0-100 ppm (50)
Sulfide	Methylene Blue	0-1.5 ppm (50)
Turbidity	Absorption (No Reagents)	0-400 NTU (∞)

Titration Tests

Factor	Method	Range (# Test)
Alkalinity	Neutralization	0-200 ppm (50 at 200 ppm)
Carbon Dioxide	Neutralization	0-50 ppm (50 at 50 ppm)
Chloride/Salinity	Argentometric	0-200 ppm (50 at 200 ppm)
Dissolved Oxygen	Azide Modification of Winkler Method	0-10 ppm (50 at 10 ppm)
Hardness (Calcium, Magnesium, & Total)	Complexometric	0-200 ppm (50 at 200 ppm)

pH/conductivity Instruments

Factor	Code	Model	Range # Test
pH	5-0034	pH5	pH 0-14
Conductivity	5-0038	CON5	0.0-19.99 mS

Also Available...

Description	Code	Model	Ship Code (Wgt.)
Model SMART2 Colorimeter, without pH & Conductivity Lab Meters	1991	SCL-04	HF (34 lbs.)
Reagent Refill	R-1991		HF (10 lbs.)





Combination Buret Outfits

In addition to our other standard products, LaMotte also packages combination buret style outfits. These outfits are packaged in cases made of rugged ABS plastic in sizes to fit three to five burets and accessories. The automatic burets and accessories are mounted in plastic clips over a white plastic workshelf in one half of the cabinet. The other half of the case is equipped with foam-lined shelves to hold additional tests or accessories. Colorimetric and titrimetric tests may be added to the buret titrations. To order, simply choose the desired test reagents from the list on page 66 and select any additional tests from the A - Z section (pages 34-55) or the instrumentation section (pages 8-33). Squeeze valve (pinchcock) style burets are standard equipment with these kits, but glass or Teflon® stopcock burets may be ordered for an additional charge.



Model AB-152
ORDER CODE 7643 (Ship Code HF)

Factor	Method	Equivalence (# Tests)
pH	Alkaline Wide Range	pH 8.5-12 (50+)
Phosphate	Stannous Chloride	0-10 / 0-100 ppm (50+)

Factor	Method	Equivalence (# Tests)
Alkalinity	Neutralization	1 mL = 1.0 mg (50+)
Chloride	Argentometric	1 mL = 0.5 mg (50+)
Hardness	Complexometric	1 mL = 6 0.25 mg (50+)
Sulfite	Iodometric	1 mL = 1.0 mg (50+)

Model AB-153
ORDER CODE 7644-01 (Ship Code HF)

Factor	Method	Equivalence (# Tests)
Molybdenum	Xanthate	1-10 ppm Sodium Molybdate (50+)
pH	Phenol Red	pH 6.8-8.2 (50+)
pH	Alkaline Wide Range	pH 8.5-12 (50+)
Phosphate	Stannous Chloride	0-10 / 0-100 ppm (50+)

Factor	Method	Equivalence (# Tests)
Alkalinity	Neutralization	1 mL = 1.0 mg (50+)
Chloride	Argentometric	1 mL = 0.5 mg (50+)
Phosphonate	Complexometric	1 mL = 0.2 mg (50+)
Sulfite	Iodometric	1 mL = 1.0 mg (50+)

INDUSTRIAL WATER

Water Treatment Companies, Engineers, Consultants...



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TO SEE THE FULL LINE OF PRODUCTS IN THIS INDUSTRY

Available in a wide
variety of sizes.
Call Customer Service
for assistance.



Industrial Titration Reagents

Factor	Order Code	Reagent
Alkalinity	2246	Phenolphthalein
	2786	Total Alkalinity Indicator
	6068	Sulfuric Acid, 0.02N
	6111	Sulfuric Acid, 0.1N
Chloride	6352	Chromate Indicator, 5%
	8848	Silver Nitrate, 0.0282N
	6346	Silver Nitrate, 0.0141N
	6168	Silver Nitrate, 0.0171N
Hardness	4259	Ca Buffer (w/ metal inhibitors)
	T-5250	Ca Indicator Tablets
	4483	Total Buffer (w/ inhibitor)
	4484	Total Indicator Tablets
	6261	EDTA, 0.01M
Sulfite	6385	Starch Acid Indicator Powder
	7329	Iodide Iodate, N/40
	6106	Iodide Iodate, N/80
	4556	Iodide Iodate, N/63
	8667	Iodide Iodate, N/126



Ship Codes: (NH) Non-Hazardous Material - No Fees • (R1) Small Qty. Hazardous Material - No Fees • (R2 & R3) Hazardous Material - Air Fees Only • (HF) Hazardous Material - Air & Ground Fees
*(NPDWR) EPA Accepted • †(NPDES) EPA Accepted • Direct Reading Titrators have a specific range, but may be refilled to test higher concentration



For additional customer convenience, LaMotte has packaged a variety of combination kits. There are two choices of kit style, depending on the titration method desired - Direct Reading Titration (DRT) or Dropper Bottle (WT).

If the combination needed is not listed below, LaMotte offers a unique custom combination kit program. Simply choose the desired tests from the A - Z listing (pages 39-55) or the instrument section (pages 8-33). If you need a test equivalence or method different from what we offer, please contact us with the specific requirement.

When ordering the combinations below, please designate whether you wish the Direct Reading Titrator (-DRT) or Dropper Bottle (-WT) version.



Combination #1

DRT Version • ORDER CODE 7177-DRT
(Ship Code HF; 7 lbs.)

Reagent Refill • Order Code R-7177-DRT
(Ship Code HF)

WT Version • ORDER CODE 7177-WT
(Ship Code R1; 7 lbs.)

Reagent Refill • Order Code R-7177-WT
(Ship Code R1)

Factor	DRT	WT
P/T Alkalinity	0-200 ppm	1 drop = 10, 25, 50 ppm
Chloride	0-200 ppm	1 drop = 2, 5, 10 ppm
Total Hardness	0-200 ppm	1 drop = 2, 5, 10 ppm
Nitrite	0-1000 ppm	1 drop = 50 ppm
Phosphonate	0-10 ppm	1 drop = 1 ppm

Combination #2

DRT Version • ORDER CODE 7178-DRT
(Ship Code HF; 7 lbs.)

WT Version • ORDER CODE 7178-WT
(Ship Code HF; 7 lbs.)

Reagent Refill • Order Code R-7178-WT
(Ship Code HF)

Factor	DRT	WT
P/T Alkalinity	0-200 ppm	1 drop = 10, 25, 50 ppm
Chloride	0-200 ppm	1 drop = 10, 25, 50 ppm
Total Hardness	0-200 ppm	1 drop = 2, 5, 10 ppm
Sulfite	0-100 ppm	1 drop = 2, 5, 10 ppm
Phosphate	2, 4, 6, 8 (20, 40, 60, 80) ppm	Octet Comparator
pH	4, 6, 8, 10 Octet Comparator	

INDUSTRIAL WATER

Water Treatment Companies, Engineers, Consultants...



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Combination #3

DRT Version • ORDER CODE 7179-DRT
(Ship Code R2; 7 lbs.)

WT Version • ORDER CODE 7179-WT
(Ship Code R1; 7 lbs.)
Reagent Refill • Order Code R-7179-WT
(Ship Code R1)

Factor	DRT	WT
P/T Alkalinity	0-200 ppm	1 drop = 10, 25, 50 ppm
Chloride	0-200 ppm	1 drop = 2, 5, 10 ppm
Total Hardness	0-200 ppm	1 drop = 2, 5, 10 ppm
Sulfite	0-100 ppm	1 drop = 2, 5, 10 ppm
Wide Range pH	3-10 ppm Octet	
Iron	0.5-10 ppm Octet	

Combination #4

DRT Version • ORDER CODE 7180-DRT
(Ship Code R2; 7 lbs.)
Reagent Refill • Order Code R-7180-DRT
(Ship Code R2)

WT Version • ORDER CODE 7180-WT
(Ship Code R2; 7 lbs.)
Reagent Refill • Order Code R-7180-WT
(Ship Code R2)

Factor	DRT	WT
P/T Alkalinity	0-200 ppm	1 drop = 10, 25, 50 ppm
Chloride	0-200 ppm	1 drop = 10, 25, 50 ppm
Total Hardness	0-200 ppm	1 drop = 2, 5, 10 ppm



POOL & SPA WATERS

Pool Professionals, Public Pool or Spa Operators,
Private Pool or Spa Owners...

Insta-Test® Strips

The Insta-Test® 3-, PRO400, and 5-way pool and spa test strips are the only strips of their kind that do not require any specific waiting period. Just swirl three times in the pool or spa for accurate and reliable results. The 3-way test strip tests for Free Chlorine or Bromine, Alkalinity and pH all on one strip. The 5-way test strip measures Free Chlorine or Bromine, Total Chlorine, Alkalinity, pH and Total Hardness. Both are sold in vials containing 50 strips. The PRO-400 provides 100 strips and measures the Free Chlorine or Bromine, Total Chlorine, pH and Alkalinity. The PopTop vial features a patented desiccant liner covering its base and sides, which provides substantially better moisture protection and eliminates the need for a loose desiccant bag. Another feature is the hinged cap, which eliminates the problem of loose caps getting wet. Each bottle has a 30 month shelf life. Individual units are available through local retailers, which can be found on our website www.lamotte.com/insta.

The Sodium Chloride Insta-Test® strip is an easy one step procedure for measuring Sodium Chloride in salt-water pools. Just dip and read to get results in only 30 seconds. The strip measures salt water pool samples over the range of 1,000 to 4,000 ppm. Each vial contains 10 strips in a convenient, black PopTop vial. A desiccant liner inside the vial protects the strips from moisture intrusion and UV light. The Wide Range pH and Total Chlorine Insta-Test® strip identifies how far out of range a pool or spa sample may be, before a variety of treatment chemicals and test reagents are consumed. The Wide Range strip provides quick and reliable results in just 15 seconds. The strips are designed to measure Total Chlorine from 0 to 50 ppm and pH from 4 to 10. The test strips are uniquely packaged in the Pop Top vials with a desiccant liner to protect the strips from moisture.

See pages 34-35 for additional test strips.

**POPTOP
VIALS MAKE
INSTA-TEST STRIPS
EVEN EASIER!**



COMBINATION OUTFITS

Code	Model	Free Chlorine	Bromine	Total Chlorine	Alkalinity	pH	Total Hardness	Salt	Case Pack Size	Ship Code
2976	Insta-Test 3	0 to 10	0 to 20	—	0 to 180	6.8 to 8.4	—	—	12, 24 or 100	NH
2977	Insta-Test 5	0 to 10	0 to 20	0 to 10	0 to 180	6.8 to 8.4	50 to 800	—	12, 60 or 100	NH
2978	Insta-Test PRO 400	0 to 10	0 to 20	0 to 10	0 to 180	6.8 to 8.4	—	—	12 or 100	NH
2998	Insta-Test Low Range Salt	—	—	—	—	—	—	1500 to 5000	5, 10, 50	NH
2987-G	Insta-Test Wide Range	—	—	0 to 50	—	4 to 10	—	—	12	NH

POOL & SPA WATERS

Pool Professionals, Public Pool or Spa Operators,
Private Pool or Spa Owners...



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DipCell Series

The LaMotte DipCell color comparator is available in a competitive lineup of kits for the pool operator and service pro. The DipCell comparator is simple to use. Just dip the comparator into the water to get a sample, add reagents, cap, mix, and read chlorine and pH immediately. Six color standards are provided for wide-range chlorine from 0.5-10.0 ppm. The six standards included for pH range from 6.8 - 8.2.

KEY FEATURES

- A wide range chlorine DipCell measures Chlorine from 0.5 - 10 ppm
- Removable wall dividers inside the carrying case permit an easy upgrade to larger 60 mL reagent sizes
- "Handle-Top" carrying case is compact and rugged (7 1/2" x 4 1/2")
- Liquid DPD and Phenol Red offered in large volumes to do 144 or 288 tests
- Color-coded instructions and reagents simplify analysis
- Separate titration tube for Alkalinity and Hardness avoids cleaning pH cell before each test
- Handbook included



Code/Model	Free Chlorine	Total Chlorine	pH	Calcium Alkalinity	Calcium Hardness	Acid Demand	Base Demand	Cya	Ship Code
7011/DT-3	0.5-10.0	0.5-10.0	6.8-8.2	(This kit includes 50 DPD tablets for each Chlorine test)					NH
# of Tests	50	50	144	—	—	—	—	—	
7013/DL-51	0.5-10.0	0.5-10.0	6.8-8.2	1 drop = 10 ppm	1 drop = 20 ppm	Drop count	Drop count	0-100	R1
# of Tests	144	144	144	70±	70±	70±	70±	50	
7014/DL-60	0.5-10.0	0.5-10.0	6.8-8.2	1 drop = 10 ppm	1 drop = 20 ppm	Drop count	Drop count	—	R2
# of Tests	288	288	288	140±	140±	140±	140±	—	



Pool MGR. Series

All Tablet • Octa-Slide

Our rugged all tablet kit for the public pool operator. The precise Octa-Slide Comparator system is used to comply with regulatory standards. The Pool MGR. Series includes diagrammed instructions, saturation index calculator, water quality handbook, and the eight-standard Octa-Slide Comparator system for chlorine and pH, all in a tough, blow molded carrying case. The Pool MGR. tablet series is supplied with sufficient tablet reagents for 50 tests for Free Chlorine, Total Chlorine, and pH. Tablet reagents for 20 tests are provided for Alkalinity, Hardness, and Cyanuric Acid.

Code/Model	Free Chlorine	Total Chlorine	pH	Total Alkalinity	Calcium Hardness	Acid Demand	Cya	Ship Code
3366-BR	Bromine	0-10.0	6.8-8.2	60-400	60-400	Calc.	—	NH
3366/PM-41	0.2-3.0	0.2-3.0	6.8-8.2	60-400	60-400	Calc.	—	NH
3366-NJ/PM-41-NJ	0.5-10.0	0.5-10.0	6.8-8.2	60-400	60-400	Calc.	—	NH
3368/PM-51	0.2-3.0	0.2-3.0	6.8-8.2	60-400	60-400	Calc.	0-100	NH
3368-NJ/PM-51-NJ	0.5-10.0	0.5-10.0	6.8-8.2	60-400	60-400	Calc.	0-100	NH
3368-ABC/PM-51-NJ	0.5-10.0	0.5-10.0	6.8-8.2	60-400	60-400	Acid/Base drop titration	0-100	NH
# of Tests	50	50	50	20	20	Calc. From Alk test result	20	NH

Ship Codes: (NH) Non-Hazardous Material - No Fees • (R1) Small Qty. Hazardous Material - No Fees • (R2 & R3) Hazardous Material - Air Fees Only • (HF) Hazardous Material - Air & Ground Fees
*(NPDWR) EPA Accepted • †(NPDES) EPA Accepted • Direct Reading Titrators have a specific range, but may be refilled to test higher concentrations



POOL & SPA WATERS

Pool Professionals, Public Pool or Spa Operators,
Private Pool or Spa Owners...



PRO250

Our professional water analysis kits are supplied in durable, cases for years of dependable service. Each unit features liquid reagent systems for chlorine and pH (capable of 280+ tests each). The liquid DPD reagent system is provided to monitor chlorine, while pH is tested with a single liquid indicator. Total Alkalinity, Calcium Hardness, Acid and Base Demand are analyzed with drop count titrations. Cyanuric Acid is measured by turbidity. The PRO250 PLUS outfit includes all of the above plus Copper and Iron tests. Every PRO250 SERIES kit includes color-coded caps to prevent mixups and diagrammed instructions to make testing a breeze. The Pool MGR. Water Quality handbook and saturation index calculator are also included. See the chart below for specifications.

Code/Model	Free Chlorine	Total Chlorine	pH	Total Alkalinity	Calcium Hardness	Acid & Base Demand	Cya	Copper	Iron	Ship Code
7001-NJ/ PRO250-NJ	0.2-3.0 & 0.5-10.0	0.2-3.0 & 0.5-10.0	6.8-8.2	1 drop = 10 ppm	1 drop = 20 ppm	Drop count	0-100	-	-	R2
7002-NJ/ PRO250 PLUS-NJ	0.2-3.0 & 0.5-10.0	0.2-3.0 & 0.5-10.0	6.8-8.2	1 drop = 1 0 ppm	1 drop = 20 ppm	Drop count	0-100	0.1-1.0	0.1- 1.0	R2
# of Tests	288	288	288	140+	140+	70 each	100	50	50	

ColorQ PRO-7

MODEL PRO-7 • ORDER CODE 2056
(Ship Code R2; 2 lbs.)

The unique, multi-test ColorQ pool and spa hand-held photometer reads SEVEN test factors directly on a digital display. Featuring an innovative dual-optic design, the ColorQ provides more accuracy and more test factors. The ColorQ eliminates the need to visually determine slight color variations or use look-up tables, thus taking the guesswork out of poolside water analysis.

Test Factor	Range	Method
Free Chlorine	0-10.0 ppm	Colorimeter
Total Chlorine	0-10.0 ppm	Colorimeter
Bromine	0-20.0 ppm	Colorimeter
pH	6.8-8.2 pH	Colorimeter
Calcium Hardness	0-500 ppm	Direct Reading Titrator
Total Alkalinity	0-200 ppm	Direct Reading Titrator
Cyanuric Acid	10-150 ppm	Colorimeter



POOL & SPA WATERS

Pool Professionals, Public Pool or Spa Operators,
Private Pool or Spa Owners...



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DPD TESTABS® - All new packaging for easier use!

The DPD tablet is the most widely used test for determining Free and Combined Chlorine in pool water. Establishing a Free Chlorine residual is the most important step toward protection of bather health. A DPD #1 Rapid tablet will quickly reveal the precise level of Free Chlorine. (Note: Levels in excess of 10 ppm may bleach out any DPD test method.)

The DPD #3 Rapid tablet measures the level of Combined Chlorine. Combined Chlorine is a sanitizer that has reacted with impurities within the water and is, therefore, less capable of sanitizing pool water. It can cause eye irritation and a strong chlorine odor. To test for Combined Chlorine, simply add a DPD #3 Rapid tablet to the Free Chlorine water sample. A measurable increase in sample color indicates undesirable Combined Chlorine, which should be treated with a chlorine- or oxygen-based shock treatment.



Tablet	Quantity/Order Code				Ship Code
	50	100	1000		
Chlorine DPD #1 Rapid	6999A-H	6999A-J	6999A-M	NH	
Chlorine DPD #1 Instrument*	6903A-H	6903A-J	6903A-M	NH	
Chlorine DPD #3 Rapid	6905A-H	6905A-J	6905A-M	NH	
Chlorine DPD #3 Instrument*	6197A-H	6197A-J	6197A-M	NH	
Chlorine DPD #4 Rapid	6899A-H	6899A-J	6899A-M	NH	
Chlorine DPD #4 Instrument*	6906A-H	6906A-J	6906A-M	NH	
pH (Phenol Red)	6915A-H	6915A-J	6915A-M	NH	
Alk Test	3920A-H	3920A-J	3920A-M	NH	
Cyanuric Acid	6994A-H	6994A-J	6994A-M	NH	
Calcium Hardness	6846A-H	6846A-J	6846A-M	NH	
MPS-OUT (Monopersulfate Eliminator)	6911A-H	6911A-J	N/A	NH	

* Instrument DPD featuring new ultra clear fast dissolving tablets (New for 2007)

DPD LIQUID REAGENTS

The liquid alternative to DPD tablets can be used with existing LaMotte chlorine comparators or colorimeters. DPD 1A and DPD 1B are added to a 5 or 10 mL sample to test Free Available Chlorine. DPD 3 is added to the reacted sample to measure Total Chlorine. Liquid reagents are also available to measure pH, Hardness, Alkalinity, and Copper.

30 mL (1 oz.)	Code	Ship Code
DPD 1A	P-6740-G	NH
DPD 1B	P-6741-G	R2
DPD 3	P-6743-G	NH

60 mL (2 oz.)	Code	Ship Code
DPD 1A	P-6740-H	NH
DPD 1B	P-6741-H	R2
DPD 3	P-6743-H	NH



Ship Codes: (NH) Non-Hazardous Material - No Fees • (R1) Small Qty. Hazardous Material - No Fees • (R2 & R3) Hazardous Material - Air Fees Only • (HF) Hazardous Material - Air & Ground Fees
*(NPDWR) EPA Accepted • †(NPDES) EPA Accepted • Direct Reading Titrators have a specific range, but may be refilled to test higher concentrations



Wastewater Lab

Model SW-04 • ORDER CODE 7946-04
(Ship Code R3; 25 lbs.)

This self-contained laboratory includes a one liter plastic Imhoff Cone with support stand and polycarbonate settleometer for measuring settleability. Critical pH measurements are performed with the pH 5, digital pH meter. A maintenance free, gel-filled combination electrode, and three pH buffers (4.00, 7.00, 10.00) are provided. The Wastewater Lab also includes the Dissolved Oxygen (Code 7414) and Chlorine (Code 3176) test kits.

Factor	Method	Range (# Tests)
Free & Total Chlorine	DPD-FAS	0-10 ppm (50)
Dissolved Oxygen	Winkler	0-10 ppm (50)
Settleable Solids	Gravimetric	0-1000 mL/L (Unlimited)
Settleability	Gravimetric	0-100% (Unlimited)
Temperature	—	-5° to 50°C (Unlimited)
Meters		Range
pH 5 meter		0-14 pH



Storm Drain Monitoring Kit

Model SSDK • ORDER CODE 7446 (Ship Code HF; 8 lbs.)
Reagent Refill • Order Code R-7446 (Ship Code HF)

The Model SSDK Detection Kit was specifically designed and manufactured to meet US EPA requirements for field test procedures approved in the November 16, 1990 Federal Register to monitor illicit storm drain connections. Each unit includes tests for pH, Total Chlorine, Total Copper, Phenols, Detergent surfactants, and Turbidity. The Model SSDK is packaged in a rugged portable carrying case for on-site use. Reagents are provided for 100 tests of each parameter (30 tests for Detergent).

Factor	Method	Range (# Tests)
Phenols	4-Aminoantipyrine Slide	0-5.0 ppm
Copper	Thiocarbamate Slide	0-4.0 ppm
Detergents	Titration	0.1 ppm sensitivity
Chlorine	DPD Slide	0.2-3.0 ppm
Turbidity	Formazin Equivalent	L-M-H

Meters	Range
Waterproof pH 1 PockeTester	0-14 pH, 0.2 pH



Corrosion Control Kit

Model CCK • ORDER CODE 7436-01 (Ship Code R1; 7 lbs.)
Reagent Refill • Order Code R-7436-01 (Ship Code R1)

By determining corrosive conditions in water supplies, this test kit supports a water supplier's lead in drinking water abatement program. Each unit includes tests for P and T alkalinity, calcium hardness, temperature, pH, phosphates, and total dissolved solids. Calculate saturation index by the Langelier method to indicate the corrosive conditions in water supplies. The Model CCK Corrosion Control kit is packaged in a portable carrying case for on-site use.

Factor	Method	Range (# Tests)
Calcium Hardness	Complexometric	0-200 ppm(50)
P & T Alkalinity	Neutralization	0-200 ppm (50)
Orthophosphate	Ascorbic Acid	0.5-10 ppm (50)
Temperature	—	-5° to +45°C (Unlimited)
Corrosion Index	—	By calculation via chart (50)

Meters	Range
Waterproof pH 1 PockeTester	0-14 pH
Waterproof TDS 1 PockeTester	10-1990 ppm



WATER CONDITIONING

Residential & Commercial Water Treatment Specialists...

Model AT SERIES

LaMotte Model AT outfits are the most popular and effective sales tools for onsite demonstration of treated water benefits. Tests are fast and simple with visually dramatic and technically accurate results. Packaging is convenient for the salesperson, impressive to the prospect. Available in two models with all reagents and components for pH, Iron, and Hardness test and Precipitation/Soap demonstrations. AT-38 comes with the single-chamber Model S softener featuring high capacity resin. The all new AT-40 model is supplied with the Duo-Soft dual chambered softener (supplied empty). Both models come in a sturdy carrying case with a literature compartment and pre-cut foam block to hold optional test factors listed below.

CUSTOMIZE YOUR OWN!

Model AT-40

Code 4-3015 - Reagents for 100 tests (50 for pH and Iron)	
pH	pH 5.0-10.0
Iron	0.5-10.0 ppm
Hardness, Drop Count	1 drop = 10 ppm/1 gpg
Precipitation	Before/After
Soap Consumption	Before/After
Comes with Duo-Soft Softener (supplied empty), carrying case (18"x13"x7"), and literature compartment.	

Model AT-38

Code 4-3003-01 - Reagents for 100 tests (50 for pH and Iron)	
pH	pH 5.0-10.0
Iron	0.5-10.0 ppm
Hardness, Drop Count	1 drop = 10 ppm/1 gpg
Precipitation	Before/After
Soap Consumption	Before/After
Comes with Model S Softener, carrying case (18"x13"x7"), and literature compartment.	



Optional Test Modules

Test	Method	Range	Code
Chlorine	Comparator	0.2-3.0 ppm	4-3006
Nitrate	Comparator	0-15 ppm	4-3004
TDS	Electrode	0-1.990 ppm	5-0080

Duo-Soft™

Order Code 1022

The new LaMotte twin-chambered softener clearly demonstrates the advantages of advanced two-part treatment systems. Customize one today to demonstrate the true effectiveness of your treatment system.

- Treat tapwater in one pass with a two-chambered softener
- Fill both chambers with the media of your choice
- Filter screen divider prevents bleeding of media between beds
- Two 4" resin columns (10.25" total height)
Duo-Soft is furnished in the Model AT-40 outfit.
Unit supplied empty without media.

Model S

Order Code 1002

An 8" resin column that softens up to 70 gallons of medium-hard water. Comes with Model AT-38 outfit.

Water Quality Outfit

The simplest, most economical way to measure several water quality factors with a single, portable outfit. Ideal for service applications. Easily customized for your particular analytical needs.

Model AR-42 • ORDER CODE 3590-02 (Ship Code R1, 7 lbs.)

Offers tests for pH, hardness, iron, and sulfide. Includes reagents for 50 tests each for pH, hardness, and sulfide; 100 tests for iron.

Factor	Method	Range (# Tests)
pH	Wide Range	pH 5.0-10.0 (50)
Iron	Bipyridyl	0.5-10.0 ppm (100)
Hardness	Complexometric	1 drop = 10 ppm/1 gpg (50)
Sulfide	Pomeroy	0.2-20.0 ppm (50)

