

# Water Analysis Colorimetry

## LaMotte SMART3 Colorimeter®

The compact SMART3 Colorimeter® is ideal for water analysis in the field or in the lab. Easy to use software allows the analyst to choose a test factor from over 75 preprogrammed calibrations for LaMotte reagent systems. The reacted sample is always scanned at the optimum wavelength which is automatically selected from the multiple LED optical system and the test result is presented on the large, backlit display.

The test result is displayed directly in units of concentration, as well as Absorbance and %T, in one of seven languages. The analyst also has the option of entering up to 25 additional calibrations for analysis with custom reagent systems. Test factors can be arranged in any of three sequences that can be modified at any time to meet changing testing needs. The data logger holds up to 500 time and date stamped data points. A USB connection allows an interface of the colorimeter with a computer for real-time data acquisition and data transfer. The meter logs up to 500 data points.

### FEATURES

- Large graphical liquid crystal display
- Simple, menu-driven operation
- Alphabetical test selection
- Pre-programmed tests
- Lithium-ion rechargeable battery or computer / wall adapter
- IP67 Waterproof
- Data logger for 500 data points
- 25 User tests
- Backlit display
- Auto-off
- USB port
- European CE mark
- Superior narrow band-width interference filters
- Super Twist Backlit LCD display for improved readability
- Optional software for data storage and manipulation
- Includes: Colorimeter, 6 sample tubes, COD/UDV adapter, USB wall/computer adapter, USB cable, Quick Start Guide, manual.



### SPECIFICATIONS

<b>Readout:</b>	160 x 100 backlit LCD, 20 x 6 line graphical display
<b>Wavelengths:</b>	428 nm, 525 nm, 568 nm, 635 nm
<b>Wavelength Accuracy:</b>	±2% FS
<b>Wavelength Bandwidth:</b>	10 nm typical
<b>Photometric Range:</b>	-2 to +2 AU
<b>Photometric Precision:</b>	±0.001 AU at 1.0 AU
<b>Photometric Accuracy:</b>	±0.005 AU at 1.0 AU
<b>Light Sources:</b>	4 LEDs
<b>Detectors:</b>	4 silicon photodiodes with integrated interference filters
<b>Modes:</b>	Pre-programmed tests, absorbance, %T
<b>Languages:</b>	English, Spanish, French, Portuguese, Italian, Chinese, Japanese
<b>Sample Chamber:</b>	25 mm diameter flat bottom test tubes, 10 mm square cuvettes, 16 mm COD tubes

<b>USB Port:</b>	Mini B
<b>Power:</b>	Lithium ion rechargeable battery, 3.7V, 2.5 x .75 inches, 1.7 oz. or USB computer cable or wall adapter
<b>Battery:</b>	Charge Life: Approx. 380 tests with backlight on to 1000 tests with backlight off (Signal averaging disabled)
<b>Battery Life:</b>	Approx. 500 charges
<b>Auto Shut-off:</b>	Disabled, 5, 10, 50 minutes
<b>CE Mark:</b>	Yes
<b>Dimensions:</b>	3.5 x 7.5 x 2.5 inches (8.84 x 19.05 x 6.35 cm)
<b>Weight:</b>	13 ounces (362 g)
<b>Ship Dimensions:</b>	11.5 x 11 x 4.5 inches (29.2 x 27.9 x 11.43 cm)
<b>Ship Weight:</b>	4 lbs. (1.18 kg)

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Geotech Environmental Equipment, Inc.

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### SMART3 REAGENT SYSTEMS

Test Name	Test Method (# of reagents)	Smart3 Range	MDL	# of Tests	Order Code#
Alkalinity UDV	Unit Dose Vial (1)	0-200	10	100	4318-J
Aluminum	Eriochrome Cyanine R (4)	0.00-0.30	0.01	50	3641-01-SC
Ammonia Nitrogen LR, Fresh	Salicylate (3)	0.00-1.00	0.05	25	3659-01-SC
Ammonia Nitrogen LR, Salt	Salicylate (3)	0.00-1.00	0.10	25	3659-01-SC
Ammonia Nitrogen HR	Nesslerization (2)	0.00-4.00	0.05	50	3642-SC
Benzotriazole	UV Photolysis (3)	0.0-30.0	0.5	50	4047
Biguanide	Colorimetric (1)	0-70	2	50	4044
Borate UDV	Unit Dose Vial (1)	0.00-80.00	5.0	100	4322-J
Boron	Azomethine-H (2)	0.00-0.80	0.05	50	4868
Bromine LR	DPD Tablets (2)	0.00-9.00	0.10	100	3643-SC
Bromine UDV	Unit Dose Vial (1)	0.0-20.0	0.25	100	4311-J
Cadmium	PAN (4)	0.00-1.00	0.04	50	4017-01
Carbohydrazide	Iron Reduction (3)	0.000-0.900	0.01	100	4857
Chloride TesTab	Argentometric (1)	0.0-30.0	0.4	50	3693-SC
Chlorine (Free & Total)	DPD Tablets (3)	0.00-4.00	0.03	100	3643-SC
Chlorine - Free UDV	Unit Dose Vial (1)	0.00-10.00	0.10	100	4311-J
Chlorine - Liquid DPD	DPD (3)	0.00-4.00	0.03	144	4859
Chlorine - Total UDV	Unit Dose Vial (1)	0.00-10.00	0.10	100	4312-J
Chlorine Dioxide	DPD Tablet / Glycine (2)	0.00-8.00	0.10	50	3644-SC
Chromium Hexavalent	Diphenylcarbohydrazide (1)	0.00-1.00	0.01	50	3645-SC
Chromium (Total, Hex & Trivalent)	Diphenylcarbohydrazide (5)	0.00-1.00	0.01	50	3698-SC
Cobalt	PAN (3)	0.00-2.00	0.04	50	4851
COD LR w/Mercury*	Digestion (1)	0-150	7.5	25	0075-SC
COD LR w/o Mercury*	Digestion (1)	0-150	7.5	25	0072-SC
COD SR w/Mercury*	Digestion (1)	0-1,500	40	25	0076-SC
COD SR w/o Mercury*	Digestion (1)	0-1,500	40	25	0073-SC
COD HR w/Mercury*	Digestion (1)	0-15,000	400	25	0077-SC
COD HR w/o Mercury*	Digestion (1)	0-15,000	400	25	0074-SC
Color	Platinum Cobalt (0)	0-1,000	20	∞	NA
Copper BCA	Bicinchoninic Acid (1)	0.00-3.50	0.04	50	3640-SC
Copper Cuprizone	Cuprizone (2)	0.00-2.50	0.03	50	4023
Copper DDC	Diethyldithiocarbamate (1)	0.00-7.00	0.10	50	3646-SC
Copper UDV	Unit Dose Vial, Bicinchoninic Acid (1)	0.0-4.0	0.1	100	4314-J
Cyanide	Pyridine-Barbituric Acid (5)	0.00-0.50	0.01	50	3660-SC
Cyanuric Acid	Melamine (1)	5-200	10	100	3661-01-SC
Cyanuric Acid UDV	Unit Dose Vial Melamine (1)	5-150	10	100	4313-J
DEHA	Iron Reduction (3)	0.000-0.700	0.01	100	4857
Dissolved Oxygen (DO)	Winkler Colorimetric (3)	0.0-10.0	0.6	100	3688-SC
Erythorbic Acid	Iron Reduction (3)	0.00-3.00	0.02	100	4857
Fluoride	SPADNS (2)	0.00-2.00	0.10	50	3647-02
Hardness (Total), UDV	UDV (1)	0-450	10	100	4309-J
Hydrazine	P-dimethylaminobenzaldehyde (2)	0.00-1.00	0.01	50	3656-01-SC

Test Name	Test Method (# of reagents)	Smart3 Range	MDL	# of Tests	Order Code#
Hydrogen Peroxide LR	DPD (2)	0.00-1.50	0.02	100	3662-SC
Hydrogen Peroxide HR	DPD (2)	0.0-80.0	0.05	50	4045-01
Hydrogen Peroxide Shock	DPD (2)	0-300	5	100	4045-01
Hydroquinone	Iron Reduction (3)	0.00-2.00	0.01	100	4857
Iodine	DPD Tablets (2)	0.00-14.00	0.15	100	3643-SC
Iron	Bipyridyl (2)	0.00-6.00	0.10	50	3648-SC
Iron UDV	Unit Dose Vial Bipyridyl (1)	0.00-10.00	0.05	100	4315-J
Iron Phenanthroline	1,10 Phenanthroline (2)	0.00-5.00	0.06	50	3668-SC
Lead	PAR (5)	0.00-5.00	0.10	50	4031
Manganese LR	PAN (3)	0.00-0.70	0.01	50	3658-01-SC
Manganese HR	Periodate (2)	0.0-15.0	0.3	50	3669-SC
Mercury	TMK (3)	0.00-1.50	0.01	50	4861
Methylethylketoxime	Iron Reduction (3)	0.00-3.00	0.01	100	4857
Molybdenum HR	Thioglycolate (3)	0.0-50.0	0.6	50	3699-03-SC
Nickel	Dimethylglyoxime (6)	0.00-8.00	0.15	50	3663-SC
Nitrate Nitrogen LR	Cadmium Reduction (2)	0.00-3.00	0.10	20	3649-SC
Nitrate TesTabs	Zinc Reduction (1)	0-60	5	50	3689-SC
Nitrite Nitrogen LR	Diazotization (2)	0.00-0.80	0.02	20	3650-SC
Nitrogen, Total*	Chromotropic Acid/Digestion (6)	3-25	mg/L	25	4026
Ozone	DPD (3)	0.00-3.00	0.03	100	4881
Ozone LR	Indigo Trisulfonate (3)	0.00-0.40	0.02	100	3651-SC
Ozone HR	Indigo Trisulfonate (3)	0.00-2.50	0.05	20	3651-SC
pH CPR	Chlorophenol Red (3)	5.0-6.8	-	100	3700-01-SC
pH PR	Phenol Red (3)	6.6-8.4	-	100	3700-01-SC
pH TB	Thymol Blue (3)	8.0-9.6	-	100	3700-01-SC
Phenol	Aminoantipyrine (3)	0.00-6.00	0.05	50	3652-SC
Phosphate LR	Ascorbic Acid Reduction (2)	0.00-3.00	0.05	50	3653-SC
Phosphate HR	Vanodomolybdophosphoric Acid (1)	0.0-70.0	0.5	50	3655-SC
Phosphate, ppb	Ascorbic Acid/Digestion (2)	0-3000 ppb	50 ppb	50	3653-SC
Phosphorus, Total - LR*	Ascorbic Acid/Digestion (5)	0.00-3.50	0.50	25	4024-01
Phosphorus, Total - HR*	Molybdovanadate/Digestion (5)	0.0-70.0	5	25	4025-01
Potassium	Tetraphenylboron (2)	0.0-10.0	0.8	100	3639-SC
Silica LR	Heteropoly Blue (4)	0.0-4.0	0.05	100	3664-SC
Silica HR	Silicomolybdate (3)	0.0-75.0	0.5	50	3687-SC
Sulfate HR	Barium Chloride (1)	0-100	3	100	3665-SC
Sulfide LR	Methylene Blue (3)	0.00-1.50	0.06	50	3654-02-SC
Surfactants	Bromphenol Blue (3)	0.00-8.00	0.75	100	4876
Tannin	Tungsto-Molybdophosphoric Acid (3)	0.0-10.0	0.1	50	3666-01-SC
Tolytriazole	UV Oxidation/Dichromate (3)	0.0-30.0	0.5	50	4047
Turbidity	Absorptimetric (0)	0-500 FAU	3 FAU	∞	NA
Zinc LR	Zincon (6)	0.00-3.00	0.05	50	3667-SC

\* Requires COD Heater Block, sold separately.