LaMotte

SMART Spectro™ Spectrophotometer

An affordable, pre-programmed spectrophotometer with automatic wavelength selection

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!

SMART
very smart *Spectro*™
Spectrophotometer

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

SMART Spectro™ Spectrophotometer

Order Code 2000   **NH (17)**

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

- Advanced Features
- Wide wavelength range
- Menu-driven display
- High resolution, exceptional accuracy
- Automatic wavelength selection
- Unique optical design system using a 1200 lines/mm grating
- Pre-programmed tests
- Portable
- Supplied with 6 sample tubes (25mm round), 2 sample cell holders (25mm round and COD, 10 mm cuvettes), AC adapter, battery charger, instruction manual including test procedures, and quick start guide
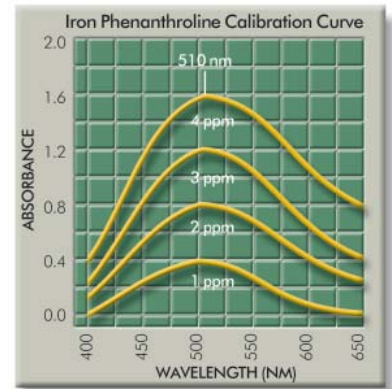

The user calibration software automatically calculates the best straight line fit.

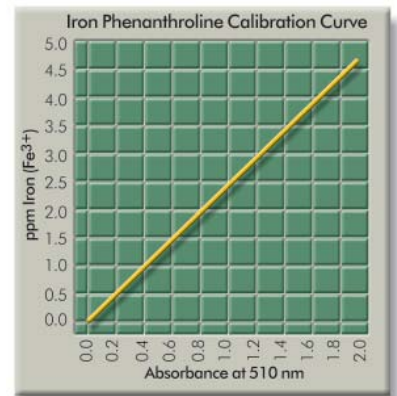## How to order:
Call 1-800-344-3100
410-778-3100

Code 2000 • SMART Spectro™ •

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

Code 2000-CS • Carrying Case •
Code 2000-BP • Battery Pack with holder (rechargeable) •
Code 1912-CD • SMARTLink 2 software with cable •

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

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.

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
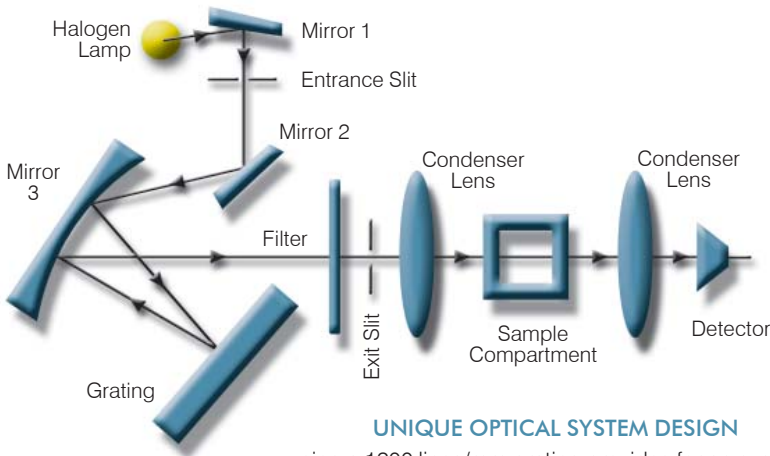
Create

```
    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

UNIQUE OPTICAL SYSTEM DESIGN

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

Halogen Lamp — Mirror 1 — Entrance Slit — Mirror 2 — Mirror 3 — Filter — Exit Slit — Condenser Lens — Sample Compartment — Condenser Lens — Detector — Grating

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

Pre-Programmed Tests

Test Name	Spectro Range ppm
Alkalinity UDV*	15-200
Aluminum	0.01-0.30
Ammonia Nitrogen (Fresh Water)	0.02-1.00
Ammonia Nitrogen (Salt Water)	0.10-1.00
Ammonia Nitrogen HR	0.05-4.00
Benzotriazole	1-30
Biguanide	5-70
Boron	0.05-0.80
Bromine LR	0.04-9.00
Bromine UDV*	0.3-22.0
Cadmium	0.02-1.00
Calcium & Magnesium (Total) Hardness UDV*	10-500
Carbohydrazide	0.005-0.900
Chloride TesTab	0.5-30.0
Chlorine	0.02-4.00
Chlorine - Free UDV*	0.01-10.00
Chlorine - Liquid DPD	0.025-4.000
Chlorine - Total UDV*	0.1-10.0
Chlorine Dioxide	0.04-7.00
Chromium (Hexavalent)	0.01-1.00
Chromium (Total, Hex & Trivalent)	0.01-1.00
Chromium TesTab	0.03-1.00
Cobalt	0.02-2.00
†COD LR with Mercury	5-150
†COD LR without Mercury	5-150
†COD SR with Mercury	50-1500
†COD SR without Mercury	50-1500
†COD HR with Mercury	500-15,000
†COD HR without Mercury	500-15,000
Color	15-1000
Copper BCA - LR	0.05-3.50
Copper - Cuprizone	0.01-2.00
Copper DDC	0.05-6.00
Copper UDV*	0.2-4.0
Cyanide	0.05-0.50
Cyanuric Acid	16-200
Cyanuric Acid UDV*	5-150
DEHA	0.005-0.700
Dissolved Oxygen (DO)	0.25-12.00
Erythorbic Acid	0.02-3.00
Fluoride	0.05-2.00
Hardness (Total) UDV	15-350
Hydrazine	0.01-0.75
Hydrogen Peroxide LR	0.02-1.50
Hydrogen Peroxide HR	1-60
Hydrogen Peroxide Shock	4-225
Hydroquinone	0.01-1.80
Iodine	0.08-14.00
Iron - Bipyridyl	0.06-6.00
Iron UDV*	0.07-10.00

Test Name	Spectro Range ppm
Iron - Phenanthroline	0.04-4.50
Lead	0.1-5.0
Manganese LR	0.02-0.70
Manganese HR	0.3-15.0
Mercury	0.02-1.50
Methylethylketoxime	0.02-3.00
Molybdenum HR	0.2-15.0
Nickel	0.06-8.00
Nitrate Nitrogen LR	0.05-3.00
Nitrate TesTabs	2.5-60.0
Nitrite Nitrogen LR	0.02-0.80
Nitrite TesTabs	0.025-1.250
†Nitrogen, Total	2-25 mg/L
Oxygen Scavengers	Various
Ozone LR	0.02-0.40
Ozone HR	0.05-1.50
pH CPR (Chlorphenol Red)	pH 5.0-7.0
pH PR (Phenol Red)	pH 6.6-8.4
pH TB (Thymol Blue)	pH 8.0-9.5
Phenol	0.05-6.00
Phosphate LR	0.04-3.00
Phosphate HR	1-70
†Phosphorus, Total - LR	0.07-3.50 mg/L
†Phosphorus, Total - HR	5-100 mg/L
Potassium	0.5-10.0
Silica LR	0.03-2.50
Silica HR	1-50
Sulfate HR	5-100
Sulfide LR	0.02-1.00
Surfactants	0.5-8.0
Tannin	0.2-10.0
Tolytriazole	1-30
Turbidity	2-400 FTU
Zinc LR	0.025-3.000

* Requires UDV Adapter Code #5-0086 and Accesory Package 1961 or 1962.
† COD Heater Block required.

Specifications

Wavelength Range	350-1000 nm
Wavelength Accuracy	±2 nm
Wavelength Resolution	1 nm
Wavelength Bandwidth	5 nm (max)

Photometric Range	0-125%T, -0.1-2.5A
Photometric Accuracy	±0.005A
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
CE Mark	Yes (June 2000)

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