

# UV/VIS Spectrophotometer



80+ Test Factors including:

ALUMINUM  
 AMMONIA  
 CADMIUM  
 CHROMIUM  
 COBALT  
 COD LR  
 COD HR  
 COPPER  
 CYANIDE  
 FLUORIDE  
 IRON  
 LEAD  
 MANGANESE LR  
 MANGANESE HR  
 NICKEL  
 NITRATE  
 NITRITE  
 PHENOL  
 PHOSPHATE  
 SULFATE  
 ZINC

The UV-Vis Spectrophotometer is an expandable, easy-to-use instrument that provides maximum performance in a compact, benchtop package. The instrument includes a high precision optical bench, full programming capabilities, customizable standard curves, and over 80 preprogrammed tests. Available options include a variety of sample holders as well as software-based wavelength scanning and kinetics.

#### Order Code 7-2000-UV

- Programmable wide range spectrophotometer can accept up to 200 user curves in memory
- Pre-programmed to analyze selected tests on a direct-reading digital display
- Advanced key pad with 22 buttons simplifies data entry
- Includes one 10 mm quartz glass cuvette, six round 25 mm 10 mL test vials, universal sample holder and square sample holder

Wavelength Range	190-1100nm
Wavelength Accuracy	±2nm
Wavelength Repeatability	±1nm
Bandwidth	4nm
Optical System	Single beam, grating 1200 lines/nm
Photometric Accuracy	±0.004 A at 0.5 A
Communication Ports	USB, RS-232
Power Requirements	100-220V
Instrument Weight & Size	14kg [31 lbs.], 73x60x34cm [26x21x15"]
Shipping Weights & Size	17.5kg [39 lbs.], 104x82x60cm [26x21x15"]

# Instrument Reagent Listing

New tests are being developed for the SMART 3 Colorimeter. Please contact our Technical Service Department for information regarding additions.

Test Factor	Test Method [# of reagents]	SMART 3 Range†	Spectro / UV-VIS Range†	# Tests	Code	Ship
Alkalinity UDV	Unit Dose Vial [1]	10-250	15-200	100	4318-J	NH
Aluminum	Eriochrome Cyanine R [4]	0.01-0.30	0.01-0.30	50	3641-01-SC	NH
Ammonia Nitrogen LR, Fresh	Salicylate [3]	0.05-1.00	0.02-1.00	25	3659-01-SC	R2
Ammonia Nitrogen LR, Salt	Salicylate [3]	0.10-1.00	0.10-1.00	25	3659-01-SC	R2
Ammonia Nitrogen HR	Nesslerization [2]	0.05-4.00	0.05-4.00	50	3642-SC	R1
Barium	Barium Chloride [1]	5-200	—	50	3638-SC	NH
Benzotriazole**	UV Photolysis [3]	0.5-30.0	—	50	4047-01	R1
Biguanide	Colorimetric [1]	2-70	5-70	50	4044	NH
Borate UDV	Unit Dose Vial [1]	5-80	—	100	4322-J	NH
Boron	Azomethine-H [2]	0.05-0.80	0.05-0.80	50	4868-01	NH
Bromine, Liquid DPD	DPD Liquids [3]	0.10-9.00	—	144	4859	R2
Bromine	DPD Tablets [2]	0.10-9.00	0.04-9.00	100	3643-SC	NH
Bromine UDV	Unit Dose Vial DPD [1]	0.1-22.0	0.3-22.0	100	4311-J	NH
Cadmium	PAN [4]	0.02-1.00	0.02-1.00	50	4017-01	R1
Carbohydrazide	Iron Reduction [3]	0.04-0.900	0.005-0.900	100	4857	R1
Chloride TesTab	Argentometric [1]	0.4-30.0	0.5-30.0	50	3693-SC	NH
Chlorine, Liquid DPD	DPD Liquids [3]	0.03-4.00	0.30-4.00	144	4859	R1
Chlorine, Tablet DPD	DPD Tablets [3]	0.03-4.00	0.02-4.00	100	3643-SC	NH
Chlorine, Free, UDV	Unit Dose Vial [1]	0.10-10.00	0.10-10.00	100	4311-J	NH
Chlorine, Total, UDV	Unit Dose Vial [1]	0.10-10.00	0.1-10.0	100	4312-J	NH
Chlorine Dioxide	DPD Tablet/Glycine [2]	0.06-8.00	0.04-7.00	50	3644-SC	NH
Chromium Hexavalent	Diphenylcarbohydrazide [1]	0.01-1.00	0.01-1.00	50	3645-SC	HA
Chromium [Total, Hex & Trivalent]	Diphenylcarbohydrazide [5]	0.01-1.00	0.03-1.00	50	3698-SC	HF
Cobalt	PAN [3]	0.04-2.00	0.02-2.00	50	4851-01	LQ
COD LR w/ Mercury*	Digestion [1]	5-150 mg/L	5-150 mg/L	25	0075-SC	R1
COD LR w/o Mercury*	Digestion [1]	5-150 mg/L	5-150 mg/L	25	0072-SC	R1
COD SR w/ Mercury*	Digestion [1]	50-1,500 mg/L	50-1,500 mg/L	25	0076-SC	R1
COD SR w/o Mercury*	Digestion [1]	50-1,500 mg/L	500-1,500 mg/L	25	0073-SC	R1
COD HR w/ Mercury*	Digestion [1]	500-15,000 mg/L	500-15,000 mg/L	25	0077-SC	R1
COD HR w/o Mercury*	Digestion [1]	500-15,000 mg/L	50-15,000 mg/L	25	0074-SC	R1
Color	Platinum Cobalt [0]	20-1,000	15-1,000	∞	NA	NH
Copper, BCA	Bicinchoninic Acid [1]	0.04-3.50	0.05-3.50	50	3640-SC	NH
Copper, Cuprizone	Cuprizone [2]	0.03-2.00	0.01-2.00	50	4023	R1
Copper, DDC	Diethyldithiocarbamate [1]	0.10-6.00	0.05-6.00	50	3646-SC	NH
Copper UDV	Unit Dose Vial, Bicinchoninic Acid [1]	0.1-4.0	0.20-4.00	100	4314-J	NH
Cyanide	Pyridine-Barbituric Acid [5]	0.03-0.35	0.05-0.50	50	3660-01-SC	R1
Cyanuric Acid	Melamine [1]	10-200	16-200	100	3661-01-SC	R1
Cyanuric Acid UDV	Unit Dose Vial, Melamine [1]	10-150	5-150	100	4313-J	NH
DEHA	Iron Reduction [3]	0.01-0.70	0.005-0.700	100	4857	NH
Dissolved Oxygen [DO]	Winkler Colorimetric [3]	0.6-11.0	0.3-12.0	100	3688-SC	R1
Erythorbic Acid	Iron Reduction [3]	0.02-3.00	0.02-3.00	100	4857	R1
Fluoride	SPADNS [2]	0.1-2.0	0.1-2.0	50	3647-02-SC	R1
Hardness [Total] UDV	UDV [1]	10-500	10-500	100	4309-J	NH
Hydrazine	P-dimethylaminobenzaldehyde [2]	0.01-1.00	0.010-0.750	50	3656-01-SC	R2
Hydrogen Peroxide LR	DPD [2]	0.02-1.50	0.02-1.50	100	3662-SC	NH

†As ppm except as otherwise indicated \*Requires COD Adapter Code 5-0087 and Heater Block  
 \*\*UV lamp 31041-1; UV lamp power source 31041-2; UV safety goggles 31041

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Hydrogen Peroxide HR	DPD [2]	1-60	1-60	50	4045-01	NH
Hydrogen Peroxide Shock	DPD [2]	10-225	4-225	100	4045-01	NH
Hydroquinone	Iron Reduction [3]	0.01-2.00	0.01-1.80	100	4857	R1
Iodine	DPD Tablets [2]	0.2-14.0	0.08-14.00	100	3643-SC	NH
Iron	Bipyridyl [2]	0.10-6.00	0.06-6.00	50	3648-SC	R1
Iron, Phenanthroline	1,10 Phenanthroline [2]	0.1-5.0	0.04-4.50	50	3668-SC	R1
Iron UDV	Unit Dose Vial, Bipyridyl [1]	0.1-10.0	0.07-10.00	100	4315-J	NH
Lead	PAR [5]	0.1-5.0	0.1-5.0	50	4031-01	
Manganese LR	PAN [3]	0.01-0.70	0.02-0.70	50	3658-01-SC	HF
Manganese HR	Periodate [2]	0.3-15.0	0.3-15.0	50	3669-SC	R1
Mercury	TMK [3]	0.01-1.50	0.02-1.50	50	4861-01	LQ
Methylethylketoxime	Iron Reduction [3]	0.01-3.00	0.02-3.00	100	4857	R1
Molybdenum HR	Thioglycolate [3]	0.6-50.0	0.2-15.0	50	3699-03-SC	R1
Nickel	Dimethylglyoxime [6]	0.15-8.00	0.06-8.00	50	3663-01-SC	LQ
Nitrate Nitrogen LR	Cadmium Reduction [2]	0.10-3.00	0.05-3.00	20	3649-SC	R1
Nitrate TesTabs	Zinc Reduction [1]	5-60	3-60	50	3689-SC	NH
Nitrate UDV	Unit Dose Vial, Zinc Reduction	2-80	—	100	4321-J	NH
Nitrite Nitrogen LR	Diazotization [2]	0.02-0.80	0.020-0.800	20	3650-SC	NH
Nitrogen, Total*	Chromotropic Acid/Digestion [6]	3-25 mg/L	2-25 mg/L	25	4026-01	R1
Oxygen Scavengers	Iron Reduction [3]	various	various	100	4857	R1
Ozone	DPD Liquid [4]	0.03-3.00	—	100	4881	R1
Ozone LR	Indigo Trisulfonate [3]	0.01-0.40	0.02-0.40	100	3651-SC	NH
Ozone HR	Indigo Trisulfonate [3]	0.05-2.50	0.05-1.50	20	3651-SC	NH
pH, CPR	Chlorophenol Red [3]	5.0-6.8 pH	5.0-7.0 pH	100	3700-01-SC	NH
pH, PR	Phenol Red [3]	6.6-8.4 pH	6.8-8.4 pH	100	3700-01-SC	NH
pH, TB	Thymol Blue [3]	8.0-9.5 pH	8.0-9.5 pH	100	3700-01-SC	NH
Phenol	Aminoantipyrine [3]	0.05-6.00	0.05-6.00	50	3652-01-SC	NH
Phosphate LR	Ascorbic Acid Reduction [2]	0.05-3.00	0.04-3.00	50	3653-SC	R2
Phosphate HR	Vanadomolybdophosphoric Acid [1]	0.5-70.0	1.0-70.0	50	3655-SC	R1
Phosphate, ppb	Ascorbic Acid/Digestion [2]	50-3000 ppb	—	50	3653-SC	R2
Phosphorus, Total - LR*	Ascorbic Acid/Digestion [5]	0.50-3.50 mg/L	0.07-3.50 mg/L	25	4024-01	R1
Phosphorus, Total - HR*	Molybdovanadate/Digestion [5]	5-100 mg/L	5.0-100.0 mg/L	25	4025-01	R1
Potassium	Tetraphenylboron [2]	0.8-10.0	0.5-10.0	100	3639-SC	R1
Silica LR	Heteropoly Blue [4]	0.05-4.00	0.03-2.50	100	3664-SC	R1
Silica HR	Silicomolybdate [3]	1-75	1-50	50	3687-SC	R1
Sulfate HR	Barium Chloride [1]	3-100	5-100	100	3665-SC	R1
Sulfide LR	Methylene Blue [3]	0.06-1.50	0.02-1.00	50	3654-02-SC	R1
Surfactants	Bromphenol Blue [3]	0.5-8.0	0.5-8.0	100	4876-01	LQ
Tannin	Tungsto-Molybdophosphoric Acid [3]	0.1-10.0	0.2-10.0	50	3666-01-SC	R1
Tolyltriazole**	UV Oxidation/Dichromate [3]	0.5-30.0	—	50	4047-01	R1
Turbidity	Absorptimetric [0]	3-400 FAU	2-400 FTU	∞	NA	NH
Zinc LR	Zincon [6]	0.05-3.00	0.03-3.00	50	3667-01-SC	LQ

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\*\* UV lamp 31041-1; UV lamp power source 31041-2; UV safety goggles 31041

Ship Codes: (NH) Non-Hazardous Material - No Fees · (R1) Small Qty, Hazardous Material - No Fees · (LQ, R2, R3) Hazardous Material - Air Fees Only · (HF) Hazardous Material - Air & Ground Fees