

With increased industry regulations for environmental monitoring, the Thermo Scientific AquaMate™ Plus spectrophotometer provides the flexibility needed for changing requirements. Covering the full wavelength range from 190 to 1100 nm, this system satisfies the requirements for heavy metals, inorganic and organic constituents, biological materials, and water color.

AquaMate Plus

Dependable, complete water analysis
Vis and UV-Visible spectrophotometers



Reliable Water Analysis with Maximum Flexibility

For over 60 years, customers in world-renowned research institutions, industrial laboratories, and teaching institutions have relied on Thermo Scientific UV-Visible spectrophotometers. We continue this tradition with the AquaMate Plus, a high-quality, reliable instrument designed to meet the needs of the water analysis laboratory.

The AquaMate Plus includes built-in methods from a variety of water kit manufacturers for easy and convenient measurements. The standard software caters to an extensive range of additional laboratory requirements, from fixed wavelength measurements and concentration to wavelength scanning and multicomponent analysis. The wide range of sampling accessories available for the AquaMate Plus will exceed your expectations.

Quality and Value

The compact design, incorporating minimal optical components, provides excellent light throughput for the price. The optical resolution of 2 nm is ideal for measuring a wide range of water analysis constituents from chlorophyll and biological materials to routine metals analysis. The dual-source tungsten and deuterium lamp system guarantees maximum performance for both UV and Visible water analysis methods.

Complete Software Tools

For laboratories requiring color measurements for water color or Pt-Co/APHA color, we offer VISION*lite*™ ColorCalc PC software. For regulated environments where 21 CFR Part 11 compliance is a requirement or if you have internal SOP's requiring electronic signatures and audit trails, VISION*lite* SE or VISION*security*™ software provides integrated tools to ensure compliance.



Increase Laboratory Productivity without Compromising Performance

Up and Running in Minutes with Intuitive Design

The intuitive, built-in keypad and graphically displayed SoftKeys ensure that methods can be set up and executed in only a few key-strokes. The AquaMate Plus ships with over 400 pre-programmed test kit methods, complete with calibration curves or factors from the leading test kit manufacturers such as Merck®, Hach®, CHEMetrics®, and Dr. Lange. Choose to customize the software display with only those methods applicable to your laboratory. Routine methods and calibrations are stored in internal non-volatile memory and can be saved to a USB memory device for transfer or archiving. Whether you choose from one kit manufacturer or from several, you can decide which offers the best combination of speed, sensitivity, selectivity, and cost of analysis for your particular needs.

Catering to Varying Skill Levels

The AquaMate Plus is designed for a wide variety of skill levels. Performing routine water analysis methods requires only 4 simple steps:

1. Select a test from the method menu
2. Insert your vial, cell, or ampule in the sample compartment accessory holder.
3. Enter a sample ID and press RUN
4. View the results and calibration curve on the graphical display and automatically print a hard copy and/or archive to a memory device.

For industrial laboratories, lab managers and more advanced users have the flexibility to set up measurements involving wavelength scanning and multiple fixed wavelength measurements. Application software packages for enzymatic food analysis, color measurement, and kinetics are also available.

Expand your Tests to Meet Industry Requirements

Reliance on pre-programmed test kit methods is not a requirement with the AquaMate Plus. You have the flexibility to set-up your own methods or modify an existing test kit supplier's methods. An existing test kit method which only uses a single factor can be changed to include a calibration curve.

- Run calibration curves with up to 20 standards, each with 3 replicates, and choose from 4 curve fits
- Measure up to 20 discrete wavelengths
- Control events, such as the time required for the sample color to develop, with the built-in procedural timers.
- Enter QC control limits for Pass/Fail criteria. These requirements appear on both the display and printed hard copy
- Using the built-in UVcalc feature, apply calculations to your raw data to change the reported units or to correct for different sample weights, volumes, or dilutions.
- Find the correct analytical wavelength – the AquaMate Plus will determine and show the peak profile and peak wavelength on the graphical display.

USB Connectivity

The built-in USB interface lets you easily transfer data and methods onto memory devices for unlimited storage and archiving. Communication connectivity for PC-controlled applications is provided using an optional USB interface cable.

Designed to Last

- Precision, die-cast aluminum chassis provides robustness and stability
- Quartz-overcoated, sealed-optics maintain performance throughout the instrument's lifetime
- Minimal moving parts improve reliability, reduce maintenance, and cost of ownership
- Sealed and chemically-resistant keypad withstands the harsh, multi-user laboratory environment

Designed for Productivity

Each spectrophotometer is equipped with sample accessories to accommodate tubes, vials, ampoules, 1" square cells, and cuvettes of 1 to 50 mm pathlength.

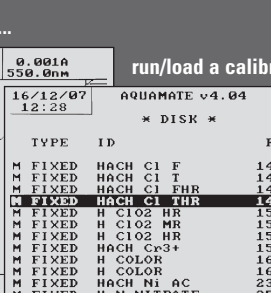
- Large sample compartment offers easy access to a wide range of sample handling accessories
- Long pathlength cell holders, for cells up to 100 mm, allow low concentration measurements
- Optional 7-position cell changer provides automatically generated calibration curves
- Easy access to built-in application software methods
- Built-in data and methods storage via USB memory devices
- Integrated and automated sipper delivery systems with flow cell options from 10 to 100 mm pathlength
- Optional CETAC® auto-samplers for maximum liquid handling automation



Log on...

16/12/07 12:26	0.002A 550.0nm	choose a method...
* CURRENT USERS *		
NAME	PASSWORD	PRIU E C
ADMIN	ADMIN	✓
LORD	ANALYSIS	✓
GRONKIEWICZ	SCIENCE	✓
MORENO	CHEMISTRY	✓
-----	-----	-----
E=EDIT METHODS	H=HISTOR	
C=CALIBRATIONS	L=RESET	
F=DELETE FILES		
I=INITIALISATIONS		
CANCEL	ACCEPT	USE 11

16/12/07 12:23	* QUANT GRAPH *	0.001A 550.0nm
3.069	ID:Water	
run/load a calibration...		
16/12/07 12:23	AQUAMATE v4.04	0.001A 550.0nm
* DISK *		
TYPE	ID	FI
M FIXED	HACH C1 F	148
M FIXED	HACH C1 T	148
M FIXED	HACH C1 FHR	147
M FIXED	HACH C1 THR	147
M FIXED	H C102 HR	150
M FIXED	H C102 MR	151
M FIXED	H C102 HR	152
M FIXED	HACH Cr3+	155
M FIXED	H COLOR	167
M FIXED	H COLOR	168
M FIXED	HACH NH AC	235
M FIXED	H N NITRATE	250
M FIXED	H O DISS LR	265
94% DISK SPACE REMAINING HIGHLIGHT A FILE AND PRESS EN		
SAVE	PRINT	STAND-
METHOD	GRAPH	ARDS
		QUAR
		PAGE
COPY	PRINT	FORMAT
ALL	DIR	DISK
		REA
		DIS



16/12/07 12:21	* FIXED RESULTS *	0.001A 220.0nm
2	Boiler Feed	
	ABS	ABS
	λ1: 3.376	λ2: 0.659
	CONC220=17.2160 mg/L	PASS
	CONC275=3.3624 mg/L	PASS

Four-step operation provides maximum ease-of-use for varying skill levels

LIMS EXPORT	PRINT LIST	SAVE DATA	FIXED PAGE	CLEAR RESULTS
-------------	------------	-----------	------------	---------------

Additional Flexibility with Application Software

A range of optional software application programs are available for the AquaMate Plus spectrophotometer.

- Designed for multi-user laboratories, the VISION/ite series consists of a single window format providing applications for wavelength scanning, fixed multi-wavelength analysis, quantitative analysis, and kinetics.
- For food and beverage customers, EnzLab, an analyzer software application for enzymatic food analysis is available.
- Industrial liquid color and transmission color measurements can be performed using the VISION/ite ColorCalc software.
- VISIONpro™ is a full-featured, flexible software interface designed for general-purpose, research laboratories. VISION/ite™ adds additional flexibility for monitoring single and multicell kinetics.
- VISIONsecurity and VISION/ite SE are available for laboratories requiring user authentication, audit trails, electronic records, and signatures for 21 CFR Part 11 compliance.

Each of these application packages completely controls the AquaMate Plus spectrophotometer and appropriate accessories.



Automatic APHA color measurements are available with the VISION/ite ColorCalc application software.



Sample throughput is fast and convenient using the AquaMate Plus sipper systems. Long path-length flowcells, up to 100 mm pathlength, provide enhanced sensitivity.



With continually changing requirements, no other supplier in the industry can provide a more comprehensive selection of calibration and verification tools to keep your AquaMate Plus up to regulatory standards. The Calibration Verification Carousel (CVC) completely automates the performance verification of your spectrophotometer.



Increase your laboratories productivity by combining the AquaMate Plus spectrophotometer and the CETAC 200/500 series autosamplers. The VISION/ite Auto SE software provides 21 CFR Part 11 compliance for the regulated laboratory.

Accessories for Your Sample



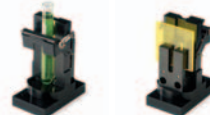
TPS-1500W Peltier Water Circulation Bath



Water Thermo 7-cell Changer with Thermostatting Kit



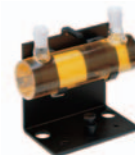
Water-Thermostatable Single Position Cell Holder for 1-50 mm Pathlength Rectangular Cells



Combination Test Tube Holder and Cell Holder



Variable Pathlength Cell Holder



100 mm Pathlength Cylindrical Cell Holder



Holder for 1" Square Hach Cells and Accuvac Ampule



CETAC Autosamplers



Calibration Validation Carousel



SuperSipper



MiniSipper



NanoCell



Single Cell Peltier



Solid Sample Holder with Universal Sample Holder

Product Specifications

Specification	AquaMate Plus
Optical Design	Single-beam Seya-Namioka Monochromator
Spectral Bandwidth (SBW)	2 nm
Light Source (typical service life)	Deuterium: 1,000 hours (UV-Vis version only) Tungsten: 2,000 hours
Detector	Silicon Photodiode
Wavelength	
Range	190 - 1100 nm (UV-Vis); 315-1100 nm (Vis only)
Accuracy	± 1.0 nm
Repeatability	± 0.2 nm
Slew Speed	3,800 nm/min
Scanning Speed	1 - 3,800 nm/min
Data Intervals	0.2, 0.5, 1.0, 2.0, 4.0, 10.0 nm
Photometric	
Range	-0.1 - 200 %T; -0.3 - 3.0 A; 0 - 9999 C
Readout	Absorbance, % Transmittance, Concentration
Accuracy	0.005A at 1A
Repeatability	0.002A at 1A
Noise	< 0.0002 A, 500 nm, RMS
Drift	< 0.002 A/hour (after warm-up)
Stray Light	< 0.05 %T at 220 and 340 nm
Display (Local Control)	VGA-Quality LCD, 4.5" x 3.3"
Keypad	Sealed Membrane Keypad
Printer	Optional USB compatible printers
Communications	RS232C, USB output for printers and storage
Method and Data Storage	Up to 30 methods, calibrations, or results in non-volatile memory. Unlimited data and method storage via external USB memory devices.
Sample Handling Accessories (supplied as standard)	Combination test tube/cuvette holder: accommodates tubes up to 125 mm high and 18 mm diameter and 10 mm pathlength glass or quartz cuvettes. Variable pathlength cell holder: accommodates glass or quartz cuvettes from 1 - 50 mm pathlength. Cell holder for Hach 1" square cells and AccuVac® ampoules.
Water Analysis Methods	Supplied with over 400 methods on USB memory stick
Main Software Functionality	Simple λ : Absorbance, %T or Conc Factor Quantitation: 1-20 standards up to 3 replicates; 4 curve fits, and display of calibration equation and correlation coefficient; re-measure and delete standards. Timers: 4 user selectable procedural timers Wavelength scanning with peak picking Multi λ : up to 20 wavelengths Serial λ : up to 9 wavelengths Sample identification: 11 character alphanumeric sample ID via user prompt or incremental seeding. User log-on: set user privileges for multiple users Auto-print and Auto-save results History file: online, lifetime user maintenance, and service maintenance log.
Power Requirements	100 - 240 V
Dimensions	45.5 W x 39.5 D x 21.5 H cm (18" x 15.5" x 8.5")
Weight	10 kg (22.1 lb)
Warranty	1 year

Ordering Information

AquaMate Plus	Part Number
AquaMate Vis	9423AQA2600E
AquaMate Plus UV-Vis	9423AQA2100E

Optional Software	Part Number
VISION <i>lite</i> software	335993-000
VISION <i>lite</i> SE software with 21 CFR Part 11	869-127300
VISION <i>lite</i> Auto	869-127200
VISION <i>lite</i> Auto SE	869-128400
VISION <i>lite</i> ColorCalc Basic	869-124300
VISION <i>lite</i> ColorCalc Advanced	869-124400
EnzLab Enzymatic Food Analysis	10041001
VISION <i>pro</i> software	10040101
VISION <i>life</i> software	10040201
VISION <i>security</i> software with 21 CFR Part 11	10040301

Accessories	Part Number
Combination test tube and cell holder	9423UV52250E
Variable pathlength rectangular cell holder	9423UV51200E
100 mm pathlength rectangular cell holder	9423UV51240E
100 mm pathlength cylindrical cell holder	9423UV51210E
Holder for 1" square Hach cells and AccuVac ampule	9423UV52300E
Water thermostatted single cell holder (up to 50 mm pathlength)	9423UV52200E
Peltier thermostatted single cell holder	222-238200
SuperSipper	9423UV64250E
MiniSipper	9423UV64270E
TPS-1500W Sealed Peltier Water Recirculator	222-238800
Sample Slide Holder/Baseplate	222-247600

©2008 Thermo Fisher Scientific Inc. All rights reserved. CETAC is a registered trademark of SD Acquisition, Inc. AccuVac and Hach are registered trademarks of Hach Company. Merck is a registered trademark of Merck & Co. Inc. CHEMetrics is a registered trademark of CHEMetrics, Inc. All other trademarks are the property of Thermo Fisher Scientific Inc. and its subsidiaries. Specifications, terms and pricing are subject to change. Not all products are available in all countries. Please consult your local sales representative for details.

www.thermo.com/selectuv

PS51575_E 03/08M

Africa +43 1 333 5034 127	Denmark +45 70 23 62 60	Japan +81 45 453 9100	Sweden/Norway/Finland +46 8 556 468 00
Australia +61 2 8844 9500	Europe-Other +43 1 333 5034 127	Latin America +1 608 276 5659	Switzerland +41 61 48784 00
Austria +43 1 333 50340	France +33 1 60 92 48 00	Middle East +43 1 333 5034 127	UK +44 1442 233555
Belgium +32 2 482 30 30	Germany +49 6103 408 1014	Netherlands +31 76 579 55 55	USA +1 800 532 4752
Canada +1 800 530 8447	India +91 22 6742 9434	South Africa +27 11 570 1840	www.thermo.com
China +86 10 8419 3588	Italy +39 02 950 591	Spain +34 914 845 965	

Thermo
SCIENTIFIC