

# Water analysis instruments



# Accurate results, within your reach.

## We've got you covered.

At Thermo Fisher Scientific, we combine intelligent design with quality craftsmanship to give you the tools you need for effective water analysis, whether in the lab or in the field.

Recognized worldwide, our water analysis instruments combine accuracy and precision with intuitive operation, dependability, and ease of use. And our products are backed by substantial research and development and built with an unmatched standard of excellence.

### Spectrophotometers

#### Lab intelligence

##### **A good lab depends on expert equipment.**

Thermo Scientific™ Orion™ AquaMate™ Spectrophotometers are designed specifically for water and wastewater analysis labs, and combine innovative technology with compact design for accurate results.

- Your choice of wavelengths — choose the AquaMate 7100 Visible or AquaMate 8100 UV-Visible instrument
- Includes over 260 preprogrammed methods for common chemistries
- One-point calibration ensures the highest accuracy from preprogrammed methods
- User-customizable absorbance, % transmittance, and concentration testing methods
- Performance verification tests ensure wavelength accuracy and instrument function

### Colorimeters/Turbidity Meters

#### Fieldwork essentials

##### **Portable design with uncompromised performances.**

Thermo Scientific™ Orion™ AQUAfast™ Colorimeters and Turbidity Meters are accurate, dependable, and easy to use, with handheld portability, a wide range of methods, optimum wavelengths, user-friendly displays, and easy calibration.

- Rugged and waterproof for fieldwork convenience
- User-friendly interface for quick and easy result processing
- Compatible with multiple test parameters and reagent types
- Methods comply with most regulatory requirements for wastewater and drinking water analysis

# Powerful accuracy in the lab or field

## Orion AquaMate 7100 Visible Spectrophotometer

The cost-effective solution for accurate, visible-only measurements

The AquaMate 7100 Visible Spectrophotometer is ideal for most routine concentration measurements. It offers wavelengths from 325 to 1100nm with a 5nm spectral bandwidth. The intuitive user interface and simple, single-beam optical geometry enable accurate results. Despite its relatively small footprint and lightweight design, it boasts numerous features at a competitive price.

## Orion AquaMate 8100 UV-Visible Spectrophotometer

The ideal instrument for extensive, full wavelength measurement options

The AquaMate 8100 UV-Visible Spectrophotometer is designed to deliver unsurpassed data quality throughout the entire UV to the near-IR regions of the spectrum. Dual-beam optical geometry provides accurate measurements and the high-intensity, instant-on xenon lamp has a five-year lifespan. Superior signal-to-noise performance and fast wavelength scanning let you quickly and reliably acquire high-quality spectral data.



## Thermo Scientific Orion Colorimetry and Turbidity Meters

Colorimeters measure the light transmitted through a sample to determine the concentration of a solution. Turbidity meters test for water clarity or cloudiness by measuring the light that is scattered by any suspended solid particles, including microorganisms.

Colorimeters can be used to measure the amounts of disinfectants and their byproducts, and the concentration of various inorganic and organic chemicals. Turidimeters help to determine the number of microorganisms in the water, or to measure cloudiness caused by flooding and run-off.

Regulations help to ensure that drinking water is safe and that wastewater has been adequately treated to not alter or destroy local ecosystems and oceans. Testing is typically performed for microorganisms, disinfectants and disinfectant byproducts, inorganic chemicals, organic chemicals and radionuclides.



# Clearly intuitive

Orion AquaMate Spectrophotometers are pre-programmed with over 260 methods for easy and convenient measurements. Both Orion AQUAfast reagents and chemistries from other leading reagent manufacturers can be used with the AquaMate. The adjustable vial holder (included) holds tube diameters from 12 to 25mm. Purchase accessory vial holders to accommodate 10mm square cuvettes, tall test tubes and long path (20-100mm) vials.

AquaMate Spectrophotometers also offer performance verification tests for internal and standards wavelength accuracy, photometric accuracy, noise, and stray light from filters or liquids. Run these tests regularly or as needed to verify reliability and identify potential problems.



## AquaMate 7100 Visible Spectrophotometer

- Visible wavelengths from 325 to 1100nm
- Single-beam optics and tungsten-halogen lamp
- 5nm spectral bandwidth
- Easy-to-use glove-friendly touchscreen user interface
- 1-year warranty

## AquaMate 8100 UV-Visible Spectrophotometer

- UV-Visible wavelengths from 190 to 1100nm
- Dual-beam optics and xenon flash lamp (no warm-up required)
- 2nm spectral bandwidth
- Wavelength scanning at speeds up to 1,600nm per minute
- Easy-to-use glove-friendly touchscreen user interface
- 1-year warranty

Depending on the needs of your lab, choose the **AquaMate 7100 Visible Spectrophotometer** for 325 to 1100nm wavelengths or choose the **AquaMate 8100 UV-Visible Spectrophotometer** with full 190 to 1100nm wavelengths for a greater range of measurement options.

Use your current chemistry reagents — no need to change. The AquaMate preprogrammed methods are compatible with many leading reagent manufacturers. Or you can create your own methods, so virtually any brand of reagent can be used.

Specifications	AquaMate 8100 UV-Visible Spectrophotometers	AquaMate 7100 Visible Spectrophotometers
<b>Optical Design</b>	Dual beam	Dual beam
<b>Spectral Bandwidth</b>	2nm	5nm
<b>Light Source (Typical Lifetime)</b>	Xenon flash lamp (5 years)	Tungsten-halogen lamp (1000 hours)
<b>Detector</b>	Dual silicon photodiodes	Dual silicon photodiodes
<b>Wavelength Range</b>	190 to 1100nm	325 to 1100nm
<b>Accuracy</b>	±0.5nm	±0.5nm
<b>Repeatability</b>	±0.2nm	±0.2nm
<b>Scanning Speed</b>	Slow/Medium/Fast - up to 1600nm/min.	Automatic up to 1800nm/min.
<b>Data Resolution</b>	0.2, 0.5, 1, 2, and 5nm	0.2, 0.5, 1, 2, and 5nm
<b>Photometric Measurement Modes</b>	Absorbance, % transmittance, concentration	Absorbance, % transmittance, concentration
<b>Range</b>	-2A to 3.5A; >1000 %T; to 0%T; 9999C	-3A to +3.5A; > 1000 %T to 0 %T; 9999 C
<b>Repeatability<sup>1</sup></b>	±0.001A at 1A	±0.001A at 1A
<b>Accuracy</b>	±0.002A at 0.5A ±0.004A at 1.0A ±0.008A at 2.0A	±0.002A at 0.5A ±0.004A at 1.0A ±0.008A at 2.0A
<b>Noise<sup>2</sup></b>	≤0.00020A at 0A at 260 and 500nm ≤0.00030A at 1A at 260 and 500nm ≤0.00040A at 2A at 260 and 500nm	≤0.00020A at 0A at 260 and 500nm ≤0.00030A at 1A at 260 and 500nm ≤0.00040A at 2A at 260 and 500nm
<b>Drift<sup>3</sup></b>	<0.0005A/Hr	<0.0010A/Hr
<b>Display</b>	7-inch high-definition color touchscreen, 800 × 1280 pixels	7-inch high-definition color touchscreen, 800 × 1280 pixels
<b>Keypad</b>	Glove compatible touchscreen	Glove compatible touchscreen
<b>Connectivity</b>	<ul style="list-style-type: none"> <li>- Single USB-A supports flash memory devices for method and data storage</li> <li>- Duplex USB-A supports connection to a Windows computer running optional remote control software, keyboard, mouseExport data to network or PC via Ethernet or Wi-Fi</li> <li>- Print via USB, ethernet, or Wi-Fi</li> </ul>	<ul style="list-style-type: none"> <li>- Single USB-A supports flash memory devices for method and data storage</li> <li>- Duplex USB-A supports connection to a Windows computer running optional remote control software, keyboard, mouse</li> <li>- Export data to network or PC via Ethernet or Wi-Fi</li> <li>- - Print via USB, ethernet, or Wi-Fi</li> </ul>
<b>Dimensions</b>	35.5 × 38.5 × 19.5cm (L × W × H)	35.5 × 38.5 × 19.5cm (L × W × H)
<b>Weight</b>	7.5kg	7.5kg
<b>Power Requirements</b>	100–240 volts, 50–60 Hz (auto-selected) External AC/DC converter	100–240 volts, 50–60 Hz (auto-selected) External AC/DC converter

1. Measured at 1A at 546nm.

2. RMS at 500nm (60 consecutive measurements). 3. At 500nm after 1-hour warm-up.

Description	Cat. No.
AquaMate 8100 Visible Spectrophotometer, adjustable round vial holder (12 to 25mm), 10mm square vial holder, dust cover, USB cable, with North America, Europe, and UK power cords	AQ8100
AquaMate 8100 Visible Spectrophotometer, adjustable round vial holder (12 to 25mm), 10mm square vial holder, dust cover, USB cable, with China, India, and Australia/NZ power cords	AQ8100APAC
AquaMate 7100 Visible Spectrophotometer, adjustable round vial holder (12 to 25mm), dust cover, USB cable, with North America, Europe, and UK Power cords	AQ7100
AquaMate 7100 Visible Spectrophotometer, adjustable round vial holder (12 to 25mm), dust cover, USB cable, with China, India, and Australia/NZ Power cords	AQ8100APAC
Vial/tube holder, 12 to 25mm	AQX1RNDVH
Standard 10mm square single-cell holder	AQX1SQVH
Long path rectangular cell holder (20 to 100mm cuvettes)	AQX1LWL VH
Tall test tube cover (up to 150mm)	AQX1TTTCVR
Film/filter holder for filters/lenses, max. size: 50 × 80 × 10mm	AQX1FLTRHDR
Replacement tungsten-halogen lamp, for AquaMate 7100	AQ71LMPTGST
Replacement xenon lamp assembly, AquaMate 8100	AQ81LMPXEN
Snap-on printer for AquaMate 7100 and 8100 models	AQX1PRNTR
Replacement 16mm vials, 10/pack	AC2V16
Replacement 24mm vials, 12/pack	AC2V24
Replacement 25mm vials, 3/pack	AC3V25

# Colorimeters

## Thermo Scientific™ Orion™ AQ3700 Colorimeter

### Featuring tests for nitrogen, phosphate, and COD

This portable meter offers over 90 preprogrammed method options.

- Multi-parameter colorimeter with six wavelength options
- Preprogrammed powder, tablet, and liquid reagent chemistry tests
- Compatible with reaction tubes, COD, and acid digestion tubes, including those for nitrogen and phosphate
- Wavelength auto-selected by the method chosen
- IP67 waterproof with 1000 data-point memory and long battery life
- User interface languages include English, French, German, Indonesian, Italian, Polish, Portuguese, and Spanish

Preprogrammed for most colorimetry reagents and digestion tests.



## Thermo Scientific™ Orion™ AQ4000 Colorimeter

### Offers multiple preprogrammed reagent chemistries

Take the guesswork out of sample preparation and measurement with the Auto-Test ampules and exclusive Auto-ID feature.

- Multi-parameter colorimeter with four wavelength options
- Wavelength auto-selected by the method chosen
- IP67 waterproof with 100 data-point memory and 2,500 hour average battery life
- Compatible with powder, tablet, and liquid reagent chemistries, Auto-Test ampules and COD digestion tubes
- Instrument identifies the pre-filled Auto-Test ampule test method, selects the wavelength, and starts the assay
- RS232 interface port

Easily create and store your own calibration curve for up to 10 new tests.



## Product specifications

AQ3700 Colorimeter	Specifications
Incident Light Source	6 light emitting diodes (LED)
Fixed Wavelengths	430, 530, 560, 580, 610, 660 nm
Wavelength Accuracy	±1nm
Photometric Accuracy	±0.005 Abs
Sample Cell Compatibility	13 mm, 16mm and 24 mm round
Power	4 AA batteries
Warranty	2 years

## Product specifications

AQ4000 Colorimeter	Specifications
Incident Light Source	4 light emitting diodes (LED)
Wavelengths	420, 520, 580, 610 nm
Wavelength Accuracy	±2nm
Photometric Accuracy	±0.005 A
Sample Cell Compatibility	13, 16, and 24mm round cells
Power	4 AA batteries
Warranty	2 years

## Ordering information

Description	Cat. No.
AQ3700 meter with 4 AA batteries, 24 mm vials, 16 mm vials, 16 mm vial adapter, 13 mm vial adapter, field case, user guide with test methods, tablet tampering stir rod and vial cleaning brush	AQ3700
Replacement 16mm vials, 10/pack	AC2V16
Replacement 24mm vials, 12/pack	AC2V24
Sealing rings for 24mm vials, 12/pack	AC3SR24
Verification standard kit, set of 6	AC3VSK
Vial cleaning brush, 5/pack	AC3CBR
Digestion methods thermoreactor, pre-set for 100°, 120°, 150°, 160°, and 165°C	COD165
COD standard, 1000ppm, 475mL	CODS01
COD standard, 10000ppm, 475mL	CODS10

## Ordering information

Description	Cat. No.
AQ4000 Meter with 4 AA batteries, 16mm vial, zero vial kit, 13 and 16mm vial adapters, field case, user guide, tablet tamping stir rod, and vial cleaning brush	AQ4000
Replacement 16mm vials, 10/pack	AC2V16
Replacement 24mm vials, 12/pack	AC2V24
Vial cleaning brush, 5/pack	AC3CBR
RS232 cable for data download and software update	AQ4CBL
AQUAfast Zero Kit	AQ4ZER
Digestion methods thermoreactor, pre-set for 100°, 120°, 150°, 160°, and 165°C	COD165
COD standard, 1000ppm, 475mL	CODS01
COD standard, 10000ppm, 475mL	CODS10

# Turbidity meters

## Thermo Scientific™ Orion™ AQ4500 Turbidity Meter

**All-in one capability, featuring both white and infrared light sources**

The AQ4500 Turbidity Meter includes a dual source LED for readings that comply with both EPA 180.1 and ISO 7027 methods.

- Visible (white) LED light meets U.S. EPA 180.1 method requirements
- Infrared (IR) LED light meets ISO 7027 method requirements
- Orion Method AQ4500 for Turbidity meets U.S. EPA regulatory reporting requirements
- Portable and IP67 waterproof with 100 data-point memory and 2,500 hour average battery life
- RS232 interface port

The only meter you need for all your turbidity testing.



## Thermo Scientific™ Orion™ AQ3010 Turbidity Meter

**Faster calibration with step-by-step prompts**

Easily determine the clarity of your sample with a user-friendly interface, large display and 0 to 1000 NTU auto-ranging.

- Infrared (IR) LED light meets ISO 7027 method and DIN 27027 method requirements
- Portable and IP67 waterproof with long battery life
- Easy vial indexing with continuous measurement mode
- Simple interface and low cost-of-ownership

Includes a field case for easy storage and transport.



## Product specifications

AQ4500 Turbidity Meter	Specifications
Incident Light Source	Dual source - white and IR LED lights
Measurement Modes	Nephelometric: EPA 180.1, ISO Absorbance: ISO Radiometric: IR % Transmittance EPA GLI method 2 EBC (European Brewing Chemists) ASBC (American Society of Brewing Chemists)
Measurement Ranges	0 to 4000 NTU EPA: 0 to 2000 NTU GLI range: 0 to 40 NTU ISO-7027: 0 to 150 FAU IR Ratio: 0 to 4000 NTU EBC: 0 to 24.5 ASBC: 0 to 236
Resolution	0.01 (0 to 9.99 NTU), 0.1 (10 to 99.9), 1 (100 to 4000)
Sample Cell Compatibility	24mm round cell
Power	4 AA batteries
Warranty	2 years

## Product specifications

AQ3010 Turbidity Meter	Specifications
Incident Light Source	IR LED
Measurement Modes	ISO nephelometric
Measurement Ranges	0.01 to 1000 NTU
Resolution	0.01 (0.01 to 19.99 NTU), 0.1 (20 to 99.9), 1 (100 to 1000)
Sample Cell Compatibility	25 mm round
Power	4 AAA batteries
Warranty	3 years

## Ordering information

Description	Cat. No.
AQ4500 Meter with 4 AA batteries, primary standard calibration kit, 24mm turbidity vials, field case, user guide, silicone oil, and cloth	AQ4500
Replacement 24mm turbidity vials, 12/pack	AC2T24
Primary turbidity standard calibration, set of 5	AC45ST
4000 NTU formazin turbidity standard, 475mL	AC45FZ
Silicon oil and cloth	AC45S1
Vial cleaning brush, 5/pack	AC3CBR
RS232 cable for data download and software update	AQ4CBL

## Ordering information

Description	Cat. No.
AQ3010 Meter with 4 AAA batteries, EPA approved primary standard kit, 25mm turbidity vials, field case, user guide, silicone oil, and cloth	AQ3010
Replacement 25mm vials, 3/pack	AC3V25
EPA approved and ISO accepted polymer-based primary turbidity standard kit, set of 4	AC301S
Silicon oil and cloth	AC3SIL
Vial cleaning brush, 5/pack	AC3CBR

Visit [thermofisher.com/opticalwateranalysis](https://www.thermofisher.com/opticalwateranalysis) to review colorimetry and turbidity approvals and our approved Orion AQ4500 turbidity method approved for EPA compliant reporting. Other application notes and briefs are also available to assist you with troubleshooting and testing.

# Dedicated colorimetry meters

## Thermo Scientific™ Orion™ AQ3170 Chlorine Meter

### Robust design for accurate chlorine measurements

Measure free and total chlorine in the range of 0.02 to 2.00mg/L;  
measure from 0.1 to 8.00mg/L with the short path length vial (included).

- Easy-to-read, back-lit display
- Calibration to regulatory standards (NIST, ISO)
- 16-point internal automatic data storage with date/time stamp
- One-time zero function
- IP-67 waterproof design
- Accounts for interferences known to be present in the samples



Your dedicated instrument for fast, accurate chlorine determinations

## Thermo Scientific™ Orion™ AQ3140 COD Meter

### Portable easy to use chemical oxygen demand

- Dual LED light sources: 430nm and 610nm
- Three COD testing ranges:
  - Low range (0 to 150mg/L)
  - Middle range (0 to 1500mg/L)
  - High range (0 to 15000mg/L)
- IP-67 waterproof design
- Accounts for interferences known to be present in the sample
- Angled, ergonomic design for bench top or hand-held use
- Ideal COD meter for testing water, wastewater, and industrial wastewater
- Real-time clock and date



Includes a field case for easy storage and transport.

## Product specifications

AQ3170 Chlorine Meter	Specifications
Light Source	LED, interference filter (IF) and photosensor in transparent cell chamber
Measurement Modes	Free and total chlorine
Range	0.02 to 2.00mg/L (regular path) 0.1 to 8.0mg/L (short path)
Accuracy	±0.05mg/L (0.02 to 1.00mg/L) ±0.10mg/L (1.01 to 2.00mg/L) ±0.20mg/L (2.01 to 3.00mg/L) ±0.30mg/L (3.01 to 4.00mg/L) ±0.40mg/L (4.01 to 8.00mg/L)
Photometric Resolution	0.1A
Sample Cell Compatibility	10mm or 24mm round
Power	4 AA batteries

## Product specifications

AQ3140 COD Meter	Specifications
Incident Light Source	LED, interference filter (IF) and photosensor in transparent cell chamber
Measurement Modes	Chemical oxygen demand
Measurement Ranges	Low Range: 0 – 150mg/L O <sub>2</sub> Mid Range: 0 – 1500mg/L O <sub>2</sub> High Range: 0 – 15000mg/L O <sub>2</sub>
Resolution	0.01A
Testing Reagents	Digestion vial tubes
Power	4 AAA batteries

## Ordering information

Description	Cat. No.
AQUAfast AQ3170 Chlorine Colorimeter with free and total chlorine powder packs (100 each), sample vials with lids, field case, batteries, and user guide	AQ3170
Free chlorine DPD powder packs, 100/pack	AC4P71
Replacement 24mm glass sample vials, 12/pack	AC2V24
AQUAfast 10mm short path length plastic vials for high-level chlorine, 12/pack	AC2V10
Free chlorine DPD bulk powder, includes dispenser with one vial, 250 tests	AQ250F
Total chlorine DPD bulk powder, includes dispenser with one vial, 250 tests	AQ250T
Chlorine primary standard kit for 1.5mg/L NIST-traceable chlorine standard	CLSK100
Chlorine secondary standards (0.0, 0.2, and 1mg/L)	CLSK200
Vial cleaning brush, 5/pack	AC3CBR

## Ordering information

Description	Cat. No.
AQUAfast AQ3140 COD Colorimeter with field case, batteries, and literature	AQ3140
Low range COD digestion tubes, 0 to 150mg/L O <sub>2</sub> , 150/pack	CODL150
Mid range COD digestion tubes, 0 to 1500mg/L O <sub>2</sub> , 150/pack	CODM150
High range COD digestion tubes, 0 to 15000mg/L O <sub>2</sub> , 150/pack	CODH150
COD165 Thermoreactor, for COD digestion, choice of preset temperatures and run times	COD165

## Thermo Scientific Orion AQUAfast Reagent Chemistries

Parameter	Cat. Number	Description	Reagent Type	Range	No. of Tests	AQ8100	AQ7100	AQ4000	AQ3700
Alkalinity	AC2002	Alkalinity-M, Acid/Indicator Method	Tablet	5 - 200mg/L	100	•	•	•	•
	AC3002P	Alkalinity-P, Acid/Indicator Method	Tablet	5 - 300mg/L	100	•	•		•
Aluminum	AC2027	Aluminum, Eriochrome Cyanine R Method	Tablet	0.01 - 0.3mg/L	50	•	•	•	•
	AC4027	Aluminum, Eriochrome Cyanine R Method	Ampoule	0.2 - 3mg/L	30			•	
	AC4P27	Aluminum, Eriochrome Cyanine R Method	Powder & Liquid	0.01 - 0.25mg/L	100	•	•		•
Ammonia	AC2012	Ammonia as Nitrogen (N), Indophenol Blue Method	Tablet	0.02 - 1mg/L	50	•	•	•	•
	AC4010	Ammonia as Nitrogen (N), Ultra Low Range, Salicylate Method	Ampoule	0.2 - 3mg/L	30			•	
	AC4011	Ammonia as Nitrogen (N), High Range, Nesslerization Method	Ampoule	1 - 14mg/L	30			•	
	AC4012	Ammonia as Nitrogen (N), Low Range, Nesslerization Method	Ampoule	0.5 - 7mg/L	30			•	
	AC4P12	Ammonia as Nitrogen (N), Salicylate Method	Powder	0.01 - 0.8mg/L	100	•	•	•	•
	ACR011	Ammonia as Nitrogen (N), High Range, Salicylate Method	Reaction Tube	1 - 50mg/L	50	•	•		•
	ACR012	Ammonia as Nitrogen (N), Low Range, Salicylate Method	Reaction Tube	0.02 - 2.5mg/L	50	•	•		•
Boron	AC3089	Boron, Azomethine Method	Tablet	0.1 - 2mg/L	100				•
Bromine	AC2035	Bromine, DPD Method	Tablet	0.05 - 13mg/L	100	•	•		•
Chloride	AC2017	Chloride, Silver Nitrate/Turbidity Method	Tablet	0.5 - 25mg/L	50	•	•	•	•
	AC4017	Chloride, Ferric Thiocyanate Method	Ampoule	2.5 - 40mg/L	30			•	
Chlorine	AC2070	Chlorine, Free & Total, DPD Method	Tablet	0.01 - 6mg/L	100	•	•	•	•
	AC2071	Chlorine, Free, DPD Method	Tablet	0.01 - 6mg/L	100	•	•	•	•
	AC2072	Chlorine, Total, DPD Method	Tablet	0.01 - 6mg/L	100	•	•	•	•
	AC3072	Chlorine, Total, High Range, KI / Acid Method	Tablet	5 - 200mg/L	100	•	•		•
	AC4070	Chlorine, Free & Total, DPD Method	Ampoule	0.4 - 5mg/L	30			•	
	AC4P71	Chlorine, Free, DPD Method	Powder	0.02 - 2mg/L	100	•	•	•	•
	AC4P72	Chlorine, Total, DPD Method	Powder	0.02 - 2mg/L	100	•	•	•	•
Chlorine Dioxide	AC2099	Chlorine Dioxide, DPD Method	Tablet	0.02 - 11mg/L	100	•	•		•
	AC4099	Chlorine Dioxide, DPD Method	Ampoule	0.8 - 11mg/L	30			•	
COD	CODL00	COD, Low Range, Dichromate Digestion Method	Digestion Tube	0 - 150mg/L	25	•	•	•	•
	CODH00	COD, Mid Range, Dichromate Digestion Method	Digestion Tube	0 - 1500mg/L	25	•	•	•	•
	CODHP0	COD, High Range, Dichromate Digestion Method	Digestion Tube	0 - 15000mg/L	25	•	•	•	•
Color	-----	Color, Pt-Co Scale, Direct Reading	-----	0 - 500 Pt-Co units	-----	•	•		•
Copper	AC2029	Copper, Free & Total, Biquinoline Method	Tablet	0.05 - 5mg/L	50	•	•	•	•
	AC4029	Copper, Soluble, Bathocuproine Method	Ampoule	0.5 - 12mg/L	30			•	
	AC4P29	Copper, Free, Bicinchoninate Method	Powder	0.05 - 5mg/L	100	•	•	•	•
Cyanide	AC4P06	Cyanide, Pyridinebarbituric Acid Method	Powder & Liquid	0.01 - 0.5mg/L	100				•
	AC4006	Cyanide, Isonicotinic-Barbituric Acid Method	Ampoule	0.04 - 0.4mg/L	30			•	
Cyanuric Acid	AC2098	Cyanuric Acid, Melamine Method	Tablet	0 - 160mg/L	100	•	•		•
DEHA	AC3088	DEHA, PPST Method	Tablet & Liquid	0.02 - 0.5mg/L	100				•
	AC4P88	DEHA, PPST Method	Powder & Liquid	0.02 - 0.5mg/L	100				•
Fluoride	AC2009	Fluoride, SPADNS Kit Method	Liquid	0.05 - 2mg/L	50	•	•	•	•
Hardness	AC3032C	Hardness, Calcium, High Range, Murexide Method	Tablet	50 - 900mg/L	100				•
	AC3032C2	Hardness, Calcium, Low Range, Murexide Method	Tablet	0 - 500mg/L	100				•
	AC3032T	Hardness, Total, Metallaphthalein Method	Tablet	2 - 50mg/L	100	•	•		•
Hydrazine	AC3030LQ	Hydrazine, 4-(Dimethyl-amino)-Benzaldehyde Method	Liquid	0.005 - 0.6mg/L	50				•
	AC2030	Hydrazine, 4-(Dimethyl-amino)-Benzaldehyde Method	Powder	0.05 - 0.5mg/L	30	•	•	•	•
Hydrogen Peroxide	AC3069	Hydrogen Peroxide, DPD/Catalyst Method	Tablet	0.03 - 3mg/L	100				•
Iron	AC2078	Iron (II & III), PPST Method	Tablet	0.02 - 1mg/L	100	•	•	•	•
	AC4078	Iron, Total & Soluble, Phenanthroline Method	Ampoule	0.2 - 6mg/L	30			•	
	AC4P78	Iron, Ferro, 1,10-Phenanthroline Method	Powder	0.02 - 3mg/L	100	•	•	•	•
	AC4P79	Iron, Total, TPTZ Method	Powder	0.02 - 1.8mg/L	100	•	•	•	•

Parameter	Cat. Number	Description	Reagent Type	Range	No. of Tests	AQ8100	AQ7100	AQ4000	AQ3700
Manganese	AC2055	Manganese, Formaldoxime Method	Tablet	0.2 - 4mg/L	50	•	•	•	•
	AC4055	Manganese, Periodate Method	Ampoule	2 - 30mg/L	30			•	
	AC4P54	Manganese, Low Range, PAN Method	Powder & Liquid	0.01 - 0.7mg/L	100	•	•		•
	AC4P55	Manganese, High Range, Periodate Oxidation Method	Powder & Liquid	0.1 - 18mg/L	100	•	•	•	•
Molybdate	AC4P42	Molybdate / Molybdenum, Mercaptoacetic Acid Method	Powder	0.5 - 66mg/L	100	•	•	•	•
Nitrate	AC2007	Nitrate as Nitrogen (N), Zinc Reduction Method	Tablet & Powder	0.08 - 1mg/L	50			•	
	ACR007	Nitrate as Nitrogen (N), Chromotropic Acid Method	Reaction Tube	1 - 30mg/L	50	•	•		•
	AC4004	Nitrate as Nitrogen (N), Cadmium Reduction Method	Ampoule	0.2 - 1.5mg/L	30			•	
	AC4005	Nitrate as Nitrogen (N), Cadmium Reduction Method	Ampoule	0.4 - 3mg/L	30			•	
	AC4007	Nitrate, Cadmium Reduction Method	Ampoule	5 - 50mg/L	30			•	
Nitrite	AC2046	Nitrite as Nitrogen (N), N-(1-Naphthyl)-Ethylenediamine Method	Tablet	0.01 - 0.5mg/L	100	•	•	•	•
	AC4P46	Nitrite as Nitrogen (N), Diazotization (Azo) Method	Powder	0.01 - 0.3mg/L	100	•	•	•	•
	AC4046	Nitrite as Nitrogen (N), Diazotization (Azo) Method	Ampoule	0.08 - 0.8mg/L	30			•	
Nitrogen, Total	ACD004	Nitrogen, Total, Low Range, Persulfate Digestion Method	Digestion Tube	0.5 - 25mg/L	50	•	•		•
	ACD007	Nitrogen, Total, High Range, Persulfate Digestion Method	Digestion Tube	5 - 150mg/L	50	•	•		•
Ozone	AC3048	Ozone, DPD/Glycine Method	Tablet	0.02 - 2mg/L	100	•	•		•
	AC4048	Ozone, DPD Method	Ampoule	0.2 - 5mg/L	30			•	
pH	AC2001	pH, Phenol Red Method	Tablet	6.5 - 8.4	100	•	•	•	•
	AC3001	pH, Phenol Red Method	Liquid	6.5 - 8.4	30	•	•		•
	AC3001BP	pH, Bromocresol Purple Method	Tablet	5.2 - 6.8	100				•
	AC3001TB	pH, Thymol Blue Method	Tablet	8.0 - 9.6	100				•
Phosphate	AC2095-WA	Phosphate, Ortho, Phosphomolybdic Acid/Ascorbic Acid Method	Tablet	0.05 - 4mg/L	50	•	•	•	•
	AC2096	Phosphate, Ortho, Vanadomolybdate Method	Tablet	1 - 80mg/L	50	•	•	•	•
	AC4095	Phosphate, Ortho, Stannous Chloride Method	Ampoule	0.3 - 8mg/L	30			•	
	AC4P95	Phosphate, Ortho, Phosphomolybdenum/Ascorbic Acid Method	Powder	0.06 - 2.5mg/L	100	•	•	•	•
	ACD095	Phosphate as P, Total, Persulfate Digestion/Ascorbic Acid Method	Digestion Tube	0.02 - 1. mg/L	50	•	•		•
	ACD095AH	Phosphate as P, Acid Hydrolyzable, Acid Digestion/Ascorbic Acid Method	Digestion Tube	0.02 - 1.6mg/L	50	•	•		•
	ACR095	Phosphate, Ortho, Phosphomolybdenum/Ascorbic Acid Method	Reaction Tube	0.06 - 5mg/L	50	•	•		•
Potassium	AC3019	Potassium, Tetraphenylborate-Turbidity Method	Tablet	0.7 - 12mg/L	100				•
Silica	AC2060	Silica, Silicomolybdate, Heteropoly Blue Method	Tablet	0.05 - 4mg/L	50	•	•	•	•
	AC2061	Phosphate Removal for AC2060 Method	Tablet	-----	100	•	•	•	•
	AC4060	Silica, Heteropoly Blue Method	Ampoule	0.5 - 10mg/L	30			•	
	AC4P60	Silica, High Range, Silicomolybdate Method	Powder	1 - 90mg/L	100	•	•	•	•
Sodium Hypochlorite	AC3072	Sodium Hypochlorite, Potassium Iodide Method	Tablet	0.2 - 16 %	100				•
Sulfate	AC2082	Sulfate, Barium Sulfate/Turbidity Method	Tablet	5 - 100mg/L	100			•	•
	AC4082	Sulfate, Barium Sulfate/Turbidity Method	Ampoule	8 - 100mg/L	30			•	
	AC4P82	Sulfate, Barium Sulfate/Turbidity Method	Powder	5 - 100mg/L	100	•	•	•	•
Sulfide	AC2016	Sulfide, DPD/Catalyst Method	Tablet	0.04 - 0.5mg/L	50	•	•	•	•
	AC4016	Sulfide, Acid Soluble, Methylene Blue Method	Ampoule	0.2 - 3mg/L	30			•	
Zinc	AC2065	Zinc, Zincon Method	Tablet	0.02 - 1mg/L	50	•	•	•	•
	AC4065	Zinc, Zincon Method	Ampoule	0.3 - 3mg/L	30			•	

Many of the AQUAfast reagent chemistries use U.S. EPA approved methods for drinking water and/or wastewater. Visit [thermoscientific.com/water](http://thermoscientific.com/water) for the most current list of U.S. EPA compliant reagent chemistry methods.

# Resources

for electrochemistry and water analysis equipment

## Thermo Scientific Orion products

Visit [thermofisher.com/water](https://thermofisher.com/water) for additional information on spectrophotometry, colorimetry, and turbidity products plus laboratory and field equipment for pH, ISE, conductivity, and dissolved oxygen analysis

## Water analysis instruments online library

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