

Thermo Scientific Orion DUAL STAR™ Meter



Specifications

pH

Range	-2.000 to 19.999
Resolution	0.1, 0.01, 0.001
Relative Accuracy	± 0.002
Calibration Points	1 to 6
Buffer Recognition	USA, NIST, Euro, DIN, Custom

ISE

Range	0 to 19999
Resolution	1, 2 or 3 significant digits
Relative Accuracy	± 0.2mV or 0.05% whichever is greater
Units	pm, ppb, M, % or unitless
Technique Options	Single known addition and subtraction Double known addition and subtraction
Calibration Points	2 to 6
Calibration Options	Linear, point to point, non-linear selectable auto-blank

mV . Rel mV . ORP

Range	± 1999.9
Resolution	0.1
Relative Accuracy	± 0.2 mV or 0.05% whichever is greater
E _H Calibration Capability	Yes

Temperature

Range	-5 to 105°C
Resolution	0.1°C
Relative Accuracy	± 0.1°C

The Thermo Scientific Orion DUAL STAR meter shows the results of both input channels simultaneously. Screen prompts guide you through measurement and setup menus. The Thermo Scientific Orion EZ Startup™ option and shortcut keys quickly move the meter to key programs for fast startup and measuring.

The Thermo Scientific Orion SMART STABILITY™ and SMART AVERAGING™ functions automatically compensate for measurement conditions, so the meter displays more accurate results faster. Additional meter programs include single and double known addition and subtraction methods and autosampler compatibility.

A variety of features make the DUAL STAR meter feel like it was built for you. Choose from the five available languages to customize the user interface – English, Spanish, French, German or Italian. The 10 methods stored per channel incorporate calibration data and password protection. GLP-compliant benefits include a 1000 point datalogging with time and date stamping, calibration alarm and calibration information with point-by-point and average electrode slope data. When transferring data through the RS232 or USB ports, the meter is able to send a defined data range or all the data.

Thermo Scientific Orion AQ3700 Colorimeter

Markets

- Wastewater
- Drinking water
- Nutrient monitoring
- Environmental testing
- Food and Beverage
- Industrial Applications



Specifications

AQ3700 Meter Specifications	Incident Light Source: 6 Light Emitting Diodes (LEDs)
	LED Wavelengths: 430, 530, 560, 580, 610, 660nm
User Interface	Photometric Accuracy: 2% full scale as measured with standard solutions
	Photometric Resolution: +/- 0.005 Abs
	New Method Upload Capability: Yes, via internal RJ45 port
	Output: IRDA (order IRIM adapter AQ37IRIM separately)
	Display: Graphic display
	Backlit: Yes
	Inputs: 15 button keypad
	Key Functions: Numeric keys, On/Off, Up, Down, Enter, Timer, Zero, Test, Cal, Mode, Store, Shift, plus 3 Function keys
	Test methods: Preprogrammed with user prompts and feedback, user's favorite's list, 10 user defined method locations
	Automatic Range Selection: Yes
	Blank Capacity: Per method
	Datalog Points: Up to 1000, time and date stamp
Test Reagent Formats: Powder, tablet, liquid, reagent tubes. Color, Turbidity and Suspended Solids tests do not require reagents.	
Sample Required: 10mL	
Sample Cells: 24mm and 13mm diameter vials and 16mm tubes	
Software Languages: English, French, German, Spanish, Italian	
Auto shut down: 20 min after last key-press, wakes to last location	
Field Case: 17 in W x 13 in L x 6 in H black case, molded and foam to secure meter, sample cells, adapters, stir rod, brush and enclosed upper section for user guide & reagent packs	
Power: 4 AA batteries (>3000 tests)	

Thermo Scientific Orion AQ3700 Colorimeter

The new Orion AQ3700's benefits can be seen in treating and monitoring effluent. The benefit of efficient operation is important to all production facilities, no matter what they make. By optimizing the process in wastewater treatment, the dirty water can move to the next stage of the process at the perfect time - not prior to the being fully treated and not over-treated. Over-treatment wastes chemicals and slows down the processing which requires more energy to maintain the process.

Under-treatment can cause problems if the discharge exceeds the permitted levels. Typically, total nitrogen and total phosphate testing required very long reflux digestion processes with expensive glassware. Now the results can be ready in an hour or so using persulfate digestion tube methods.

This greatly improves the turnaround time for the results. These in-process check of the nutrient removal status can ensure you are on track for the final levels you need to attain plus give you timely information to correct the process if needed. In many locations, these tests are now required. With the Orion AQ3700 and its many options testing for various nitrogen and phosphate forms, you can help reduce the harmful effects of algae blooms and ecosystem disruption in your world.

With the AQ3700 meter, Total Nitrogen and Total Phosphate Tube Digestion tests are now available from Thermo Scientific. If you are already testing COD levels, you can quickly add these important tests and start reaping the benefits!

Thermo Scientific Orion AQ3010 AQUAfast Turbidity Meter



Specifications

Keys	Power, Cal, Scroll Up, Scroll Down, Read/Enter
Automatic Range Selections and Resolution	0.01 to 19.99 NTU with 0.01 NTU resolution 20.0 to 99.99 NTU with 0.1 NTU resolution 100 to 1000 NTU with 1 NTU resolution
Precision	± 2% of reading ± 1 LSD for 0-500 NTU ± 3% of reading ± 1 LSD for 501-1000 NTU
Response Time	< 6 seconds
Sample Requirement	10 mL
Included Calibration Standards	0.02, 20.0, 100 and 800 NTU
Sample Vials	25 mm diameter with indexing mark
Light Source	IR LED for ISO 7027 turbidity measurement
Power	4 x AAA > 3000 tests and 4 x AAA Lithium > 12000 tests)
Battery Conservation Feature	Auto shutoff after 20 minutes of inactivity
Ambient Operating Temperature	0 to 50°C (0 to 90% non-condensing relative humidity at 30°C)
Self Diagnostics	Yes, with troubleshooting error codes
Waterproofing Rating	IP67
Regulatory Approvals	CE, TUV 3-in-1 for CSA-US, FCC part 15
Warranty	1 year

Perfect for the plant, field or even in a lab, this simple, yet powerful turbidity meter offers impressive features. Autoranging from 0 to 1000 NTUs, the AQ3010 meter generates an accurate turbidity reading in seconds. Results are easy to read and record from the large, bright LCD display in a variety of work environments.

This infrared LED measurement has no temperature effects to change the sample during testing, no maintenance due to a consistent light source, plus better results for colored samples benefits over tungsten meters. Comparison tests for the AQ3010 with other turbidity measurement techniques showed excellent correlation in side-by-side testing in a variety of applications. Visit www.thermo.com/waterapps to read the AQ3010 method notes.

The AQ3010 meter comes complete with four EPA-approved SDVB primary standards, simplifying verification of the meter performance and calibration of the meter. Just one set of standards is required to both calibrate and perform periodic calibration checks.

Features

- Ergonomic IP67 turbidity meter for lab or field use
- Uses Nephelometric principle with 90° detection
- In many locations a separate light cap or shield is not needed
- Meets ISO 7027 and offers consistent light source for greater accuracy
- No mixing or diluting with EPA-approved polymer bead primary standards for faster calibration
- Three year warranty

Thermo Scientific Orion AQ3070 AQUAfast Chlorine Meter



Specifications

Measurement Method	Photometric
Light Source	Light Emitting Diode (LED)
Wavelength	525 nm
Detector	Silicon photodiode
Absorbance Range	0 to 2.5 Abs
Calibration Points	Not required if desired; 1 point per method
Display	Customized crystal display (LCD) with icons
Sample Cells	Glass screw cap vials with fill line and indexing mark, 25 mm (diameter)
Sample Size	10 mL (0.33 oz)
Operating and Sample Temperature Range	0 to 50°C (32 to 122°F)
Operating Humidity Range	0 to 90% relative humidity, non-condensing at 30°C (86°F)
Power Supply	4 AAA alkaline batteries
Battery Life	> 3000 tests
Regulatory Certification	CE, cTUVus (YUV 3-in-1 to EMC, US and Canadian standards)
Enclosure Rating	IP67 (TUV)
Weight and Dimensions	Meter kit in carrying case: 2.0 lg (4.4 lb) Carrying case: 25 cm (W) x 34 cm (L) x 15 cm (H) (10.5 in x 14 in x 6 in)

The new Orion AQUAfast AQ3070 chlorine meter kit features quick and easy free and total chlorine testing for EPA reporting over the range of 0-2 mg/L. This meter can measure up to 4.0 mg/L level - with the same reagents! The expanded range for free and total chlorine measurements give you a real number if you are out of the EPA measurement range to quickly recover your process.

Designed with the user in mind, these small, rugged IP67 portable meters have a large easy-to-read display with a very simple user interface using 4 keys. The results are accurate and highly reproducible. Save time when measuring by not having to cover and uncover the vial for each measurement in most light conditions.

The AQ3070 meter is supplied in a field carrying case along with test vials, a vial cleaning brush, stir rod and 100 each of Orion AQUAfast AC4P71 Free and AC4P72 Total Chlorine powder reagent packets. The meter carries a cTUVus to EMC, US and Canadian standards certification plus a two year warranty!

Features

- Uses EPA-approved AC4P71 Free Chlorine and AC4P72 Total Chlorine Methods for Drinking Water and Wastewater reporting
- Easy-to-use meter with large display
- Accurate, reproducible results
- Meter also contains calibration curves for Chlorine Dioxide, pH and Cyanuric Acid (reagents sold separately)