

The AquaTroll 500, 600, 700 and 800 are multiparameter sondes that offer a fully customizable monitoring solution for various water quality parameters. Designed with versatility in mind, these instruments feature interchangeable sensors, which allow users to tailor their devices according to specific monitoring requirements. This means you can measure the exact parameters needed, whether it's temperature, pH, dissolved oxygen, conductivity or turbidity, among others.

FEATURES:

- Multiparameter Monitoring
- Interchangeable Sensors
- Smartphone Interface
- High Data Accuracy
- Panoramic Data Capabilities
- Report Creation Feature
- Rugged Design
- Low Power Consumption
- Data Integration



AVAILABLE SENSORS:

- | | | |
|----------------------------------|--------------------------|------------------|
| • Rugged Dissolved Oxygen (RDO®) | • Chlorophyll a | • Rhodamine WT |
| • Temperature | • Phycocyanin (BGA-PC) | • Fluroescien WT |
| • Conductivity | • Phycoerythrin (BGA-PE) | • Ammonium (ISE) |
| • pH/ORP | • FDOM | • Chloride (ISE) |
| • Turbidity | • Crude Oil | • Nitrate (ISE) |

CALL GEOTECH TODAY
(800) 833-7958

Geotech Environmental Equipment, Inc.
2650 East 40th Avenue Denver, Colorado 80205
(303) 320-476 FAX (303) 322 7242
email: sales@geotechenv.com website: www.geotechenv.com

Technical Specifications

	500	600	700	800
Operating Temp.	-5 to 50° C (23 to 122° F) ISE: Ammonium & Nitrate 0 to 40° C (32 to 104° F); Chloride 0 to 50° C (32 to 122° F)			
Storage Temp.	Components w/o fluid: -40° C to 65° C (-40° to 149° F) (non-freezing water); pH/ORP: -5° C to 65° C (-23° to 149° F); Ammonium/Nitrate: 0 to 40° C (32° to 104° F); Chloride: 0 to 50° C (32° to 122° F)			
Dimensions	Diameter: 4.7 cm (1.860 in) OD Length: 46 cm (18.145 in) (inc. connector) Length with bail: 59 cm (23.25 in)	Diameter: 4.7 cm (1.85 in) OD Length: 60.2 cm (23.7 in) (inc. connector) Length with bail: 72.9 cm (28.7 in)	Diameter: 7.2 cm (2.84 in) OD Length: 48.7 cm (19.16 in) Length with Bail: 61.67 cm (24.28 in)	Diameter: 7.2 cm (2.84 in) OD Length: 63.7 cm (25.08 in) Length with Bail: 74.7 cm (29.42 in)
Wetted Materials	Polyphenylsulfone, Polycarbonate, Acetal, EPDM/Polypropylene TPV, FKM Fluoroelastomer, Titanium, Fluorocarbon Coating, Ceramic, Inconel, Acrylic Adhesive Film, Nylon, Polyurethane Adhesive, Graphite, PC/PMMA Blend, Acrylic, Sapphire, PVC, Platinum, Glass	Polycarbonate, Acetal, EPDM/Polypropylene TPV, FKM Fluoroelastomer, Titanium, Fluorocarbon Coating, Ceramic, Inconel, Acrylic Adhesive Film, Nylon, Polyurethane Adhesive, Graphite, PC/PMMA Blend, Acrylic, Sapphire, PVC, Platinum, Glass	Buna-N, Noryl, Nylon, Polyphenylsulfone, Polycarbonate, Acetal, EPDM/Polypropylene TPV, FKM Fluoroelastomer, Titanium, Fluorocarbon Coating, Ceramic, Acrylic Adhesive Film, Polyurethane Adhesive, Graphite, PC/PMMA Blend, Acrylic, Sapphire, PVC, Platinum, Glass	Buna-N, Noryl, Nylon, Polyphenylsulfone, Polycarbonate, Acetal, EPDM/Polypropylene TPV, FKM Fluoroelastomer, Titanium, Fluorocarbon Coating, Ceramic, Acrylic Adhesive Film, Polyurethane Adhesive, Graphite, PC/PMMA Blend, Acrylic, Sapphire, PVC, Platinum, Glass
Weight	0.978 kg / 2.15 lbs (includes instrument, sensors, restrictor and bumpers)	1.45 kg / 3.2 lbs (includes all sensors, batteries, and bail)	2.25 kg / 4.96 lbs (includes sensors and bail)	3.23 kg / 7.12 lbs (includes sensors, batteries and bail)
Max Pressure Rating	Up to 150 PSI	Up to 350 PSI	Up to 350 PSI	Up to 350 PSI
Output Options	RS-485/MODBUS, SDI-12, Bluetooth®			
Reading Rates	1 reading every 2 seconds			
Data Logging	External datalogger or telemetry	50 logs (defined, scheduled to run, or stored)	External datalogger or telemetry	50 logs (defined, scheduled to run, or stored)
Logging Rate	n/a	1 minute to 99 hours	n/a	1 minute to 99 hours
Environmental Rating	IP68 with all sensors and cable attached IP67 without the sensors or cable attached			
Internal Memory	n/a	16 MB	n/a	16 MB
Micro SD Card		8+ GB micro SD card included, user replaceable		8+ GB micro SD card included, user replaceable
Internal Power		2 internal user-replaceable Alkaline D batteries		2 internal user-replaceable Alkaline D batteries
Battery Life		> 6 months typical with wiping > 9 months typical with no wiping		> 6 months typical with wiping > 9 months typical with no wiping
External Power Voltage External Power Current	8-36 VDC; 0.1 mA typical Measurement: 16 mA typical; 45 mA max	8-36 VDC (not required for normal operation); 0.1 mA typical Measurement: 16 mA typical; 45 mA max	8-36 VDC; 0.1 mA typical Measurement: 16 mA typical; 45 mA max	8-36 VDC (not required for normal operation); 0.1 mA typical Measurement: 16 mA typical; 45 mA max
HEX Screw Driver	1.3 mm, 0.050 in			
Communication Device	TROLL Com or Wireless TROLL Com			
Cable Options	Vented or non-vented polyurethane or vented Tefzel®			
LCD Display	Integrated display shows status of sonde, sensor ports, connectivity, power information, battery capacity and data log status (battery capacity and data log status only apply to the AT600 and AT800.			
Software	Android™: VuSitu through Google Play and Amazon® App Store iOS: VuSitu through Apple® App Store, HydroVu			
Certifications	E, FCC, WEEE, RoHS Compliant			

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Technical Specifications

Sensor	Accuracy	Range	Resolution/ Precision	Response Time	Units of Measure	Methodology
Pressure(Optional)	±0.1% FS from -5 to 50°C	AQUA TROLL 500 Non-Vented or Vented 0-9 m (0-30 ft) 0-30 m (0-98 ft) 0-76 m (0-250 ft) 0-100 m (0-328 ft) AQUA TROLL 600 Non-Vented or Vented 0-9 m (0-30 ft) 0-30 m (0-98 ft) 0-76 m (0-250 ft) 0-200 m (0-650 ft) AQUA TROLL 700/800 Non-Vented or Vented 0-10 m (0-33 ft) 0-30 m (0-98 ft) 0-100 m (0-328 ft) 0-250 m (0-820 ft)	0.01% full scale	T63<1s, T90<1s, T95<1s	Pressure: psi, kPa, bar, mbar, inHg, mmHg Level: in, ft, mm, cm, m, cmH2O, inH2O	Piezoresistive; Ceramic
Temperature	± 0.1° C	-5 to 50° C (23 to 122° F)	0.01° C	T63<2s, T90<15s, 95<30s	Celsius or Fahrenheit	EPA 170.1
Barometric Pressure	± 1.0 mbars	300 to 1,100 mbar	0.1 mbar	T63<1s, T90<1s, T95<1s	Pressure: psi, kPa, bar, mbar, inHg, mmHg	Silicon strain gauge
pH	±0.1 pH unit or better	0 to 14 pH units	0.01 pH	T63<3s, T90<15s, 95<30s	pH, mV	Std. Methods 4500-H+/EPA 150.2
ORP	±5 mV	±1,400 mV	0.1 mV	T63<3s, T90<15s, 95<30s	mV	Std. Methods 2580
Conductivity	±0.5% of reading plus 1 µS/cm from 0 to 100,000 µS/cm; ±1.0% of reading from 100,000 to 200,000 µS/cm; ±2.0% of reading from 200,000 to 350,000 µS/cm	0 to 350,000 µS/cm	0.1 µS/cm	T63<1s, T90<3s, T95<5s	Actual conductivity (µS/cm, mS/cm); Specific conductivity(µS/cm, mS/cm); Salinity(PSU); Total dissolved solids(pppt, ppm); Resistivity (Ohms-cm); Density (g/cm3)	Std. Methods 2510/ EPA 120.1 ±1,400 mV
TDS(Derived from Conductivity & Temp)		0 to 350 ppt	0.1 ppt		ppt, ppm	
Salinity(Derived from Conductivity & Temp)		0 to 350 PSU	0.1 PSU		PSU, ppt	Std. Methods 2520B
Rugged Dissolved Oxygen (RDO) with RDO-X¹⁰ or RDO Fast Cap	±0.1 mg/L ±2% of reading	0 to 20 mg/L 20 to 60 mg/L	0.01 mg/L	RDO-X: T63<15s, T90<45s, T95<60s Fast Cap: T63<3s, T90<30s, T95<45s	mg/L, % saturation, ppm	EPA-approved In-Situ Methods: 1002-8- 2009, 1003-8-2009, 1004-8-2009
Turbidity	±2% of reading or ±0.5 NTU, FNU, whichever is greater	0 - 4,000 NTU 0 - 1,500 mg/L	0.01 NTU (0-1,000); 0.1 NTU (1,000-4,000) 0.1 mg/L	T63<1s, T90<1s, T95<1s	NTU, FNU ppt, mg/L	ISO 7027
TSS(Derived from Turbidity)		0 to 1,500 mg/L	0.1 mg/L		ppt, mg/L	
Ammonium(NH₄ + -N) Rated to 25m depth	±10% or ±2 mg/L w.i.g. (specs valid for freshwater)	0 to 10,000 mg/L as N	0.01 mg/L	T63<1s, T90<10s, T95<30s	mg/L, ppm, mV	
Unionized Ammonia		0 to 10,000 mg/L as N	0.01 mg/L		mg/L, ppm	
NO₃ -- N Rated to 25m depth	±10% or ±2 mg/L w.i.g. (valid for freshwater)					
Chloride	±10% or ±2 mg/L w.i.g. (valid for freshwater)	0 to 150,000 mg/L as Cl	0.01 mg/L	T63<1s, T90<1s, T95<1s	mg/L, ppm, mV	Std. Methods 4500 Cl- D

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Sensor	Linearity	Instrument Detection Limit	Range	Display	Response Time	Default Units	Derived Parameters
Chlorophyll a	R2>0.999 for serial dilutions of Chl a in MeOH across full range	0.1 µg/L Chl a in MeOH	0-100 RFU 0-1000 µg/L	0.001 RFU	T63<1s, T90<1s, T95<1s	RFU	Chlorophyll a concentration Chlorophyll a cell count
Phycocyanin (BGA-PE)	R2>0.999 for serial dilutions of PC standard across full range	1.0 µg/L PC standard					Phycocyanin Concentration
Phycoerythrin (BGA-PE)	R2>0.999 for serial dilutions of PE standard across full range	0.5 µg/L PE standard					Phycoerythrin Concentration
FDOM	R2>0.999 for serial dilutions of Quinine Sulfate across full range	0.5 µg/L Quinine Sulfate	FDOM Concentration CDOM Concentration				
Crude Oil	R2>0.999 for serial dilutions of PTSA across full range	1.0 µg/L PTSA"	Crude Oil Concentration				
Rhodamine WT	R2>0.999 for serial dilutions of RWT across full range	0.5 µg/L Rhodamine WT					
Fluorescein WT	R2>0.999 for serial dilutions of FWT across full range	0.2 µg/L Fluorescein WT	RFU, µg/L				



**AT800
Sensors**



AT800 with Cable

COMMON APPLICATIONS:

- Lake, Stream and Wetland Monitoring
- Coastal Deployments
- Stormwater Management
- Dam Monitoring
- Low-Flow Groundwater Sampling
- Remediation
- Mine Water Monitoring
- Surface Water Spot Sampling and Profiling
- Aquaculture

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