



Water Monitoring Solutions



E58-07

a xylem brand

Water is our most precious resource.

And all our systems help you measure and protect it.

YSI and its divisions take great pride in designing, building, and servicing the high-precision instruments that help you collect accurate and reliable water quality and velocity data.

Our instruments and accessories are field-proven for applications such as:

- Aquaculture
- Bridges & Dams
- Coasts & Estuaries
- Groundwater
- Lakes & Ponds
- Oceans
- Ports & Harbors
- Reservoirs
- Rivers & Streams
- Wastewater
- Wetlands

Why YSI?

For 60 years, YSI has pioneered the development of high-quality instrumentation for use in natural waters.

Our technology saves you time:

Meeting the global need for improved environmental monitoring requires fewer technical personnel and a lower cost of ownership. YSI provides accurate sampling and turn-key monitoring solutions, equipment that is easy to use and install, and intuitive interfaces.

Our reliability improves efficiency:

Successful monitoring efforts depend on accurate and defensible data. We deliver reliable instruments and continuously develop safeguards and system checks to ensure you obtain the highest-quality data as quickly as possible.

Our employees understand your challenges:

Our staff has extensive field experience which helps them provide viable solutions and hands-on support for your monitoring challenges.

Our customers can reach us:

We have 17 global offices on 5 continents.

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Quick Links

ysi.com/proplus

ysi.com/proODO

ysi.com/proOBOD

ysi.com/pro20

ysi.com/pro2030

ysi.com/pro30

Sampling & Testing



Applications

- Groundwater
- Wastewater
- Aquaculture
- Surface water

Parameters

- Temperature
- Dissolved oxygen
- pH
- ORP
- Conductivity
- Specific conductance
- Salinity
- Total dissolved solids
- Resistivity
- Barometric pressure
- Ammonium/ammonia
- Nitrate
- Chloride
- BOD

Professional Plus

- Measures any combination of dissolved oxygen, pH, conductivity, ORP, ammonium, nitrate, chloride, salinity, total dissolved solids, barometric pressure, and resistivity
- Interval or single-event logging with 5,000 data set memory and 100 site list and file folder capabilities; GLP conforming data
- Features on-screen help, backlit display and keypad, user-replaceable cables and sensors, and auto-buffer recognition
- Lab-grade pH and ORP and lab BOD also available

ProODO®

- Non-consumptive optical DO luminescent method eliminates the need for stirring
- Expanded DO range of 0-500%
- Field-rugged user-replaceable cables in lengths up to 100 meters
- Digital technology stores cal data in the sensor so you can place it on any ProODO instrument

ProOBOD™ Probe

- Self-stirring optical BOD probe
- Two-year warranty
- No warm-up required
- Extremely quiet operation
- Guarded cap protects sensor

Pro20

- Choose between polarographic or galvanic DO sensors
- Interchangeable probes and cables reduce down-time
- Measures dissolved oxygen and temperature in lab and field
- Industry's quickest DO response saves you time
- One Touch Cal feature calibrates within seconds

Pro2030

- Choose between polarographic or galvanic DO sensors
- Interchangeable probes and cables reduce down-time
- Measures dissolved oxygen, conductivity, salinity, TDS, and temperature
- Automatically compensates DO for changes in salinity

Pro30

- Conductivity, salinity, specific conductance, TDS
- Proven, rugged four-nickel electrode
- 3-year instrument and 2-year cable/probe warranty



Data Manager Desktop Software

- Free with ProPlus and ProODO
- Easy-to-use software to manage all data, set up instruments, or conduct real-time studies
- View graphical and tabular data
- USB connection powers the instrument

800 897 4151 US

+1 937 767 7241



Quick Links

ysi.com/photometers ysi.com/laboratory

ysiecosense.com

Sampling & Testing

Colorimetry EcoSense

Laboratory

Applications

- Groundwater
- Wastewater
- Aquaculture
- Surface water
- Industrial

Parameters

- Temperature
- Dissolved oxygen
- pH
- ORP
- Conductivity
- Level
- Specific conductance
- Salinity
- Total dissolved solids
- Resistivity
- Barometric pressure
- Ammonia
- Calcium
- Chlorine
- BOD
- COD
- Hardness
- Iron
- Nitrate
- Alkalinity and more

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**Single-Parameter
900 Chlorine**

- Measure chlorine (free and total)

910 COD

- Measure COD (various ranges)



**Multiparameter
pHotoFlex STD**

- Measures 85 tests

pHotoFlex pH

- Measures 138 tests plus pH with pH electrode



**Photometers
9300 & 9500**

- 100+ tests, including hardness, ammonia, calcium, and nitrate
- IP-67 waterproof
- Non-hazardous reagents with long shelf life



**Handhelds
pH100A**

- pH and mV
- IP-67 waterproof
- 50-data set memory

DO200A

- DO and BOD
- IP-67 waterproof
- 50-data set memory

EC300A

- Conductivity, salinity and TDS
- IP-67 waterproof
- 50-data set memory



**Pen-Style
pH10A**

- pH
- Auto-buffer recognition
- 1-, 2-, or 3-point calibration

ORP15A

- ORP (absolute or relative mV)
- 50-data set memory

EC30A

- Conductivity, salinity
- 1-year warranty
- IP-67 waterproof



**Dissolved Oxygen & BOD
5000 & 5100**

- Lab standard for DO and BOD
- Auto-Cal function

**Conductivity
3100 and 3200**

- High-precision electrodes with temperature sensors
- Simple to advanced

**pH
pH1200**

- Lab grade pH, mV
- Auto-buffer recognition



MultiLab IDS

- 1-, 2-, or 3-channel meters
- Lab optical BOD, pH, ORP and conductivity



Quick Links
ysi.com/sondes
ysi.com/castaway

Sampling, Logging & Profiling



600LS sonde

- Designed for spot sampling level measurements and tide gauge measurements

600R

- Conductivity and temperature sensors and options to add pH and Rapid Pulse™ dissolved oxygen
- Ideal for large monitoring programs and educational applications



600XL and 600XLM sondes

- Ideal for water level monitoring, ground water and surface water monitoring
- Includes DO, temperature, and conductivity sensors and options to add pH or pH/ORP, depth, and vented level
- XLM has batteries for unattended, *in situ* monitoring

650MDS

- Multiparameter Display System
- Connects to any 6-Series multiparameter instrument
 - Easily log real-time data, calibrate, and set up sondes for deployment
 - Upload data to a PC
 - Optional barometer and GPS interface



600XL/600XLM V2 sondes

- Ideal for water level monitoring, ground water and surface water monitoring
- Includes DO, temperature, and conductivity sensors and options to add pH or pH/ORP, depth, and vented level
- Includes one optical sensor port for dissolved oxygen, blue-green algae, chlorophyll, rhodamine, or turbidity
- XLM has batteries for unattended, *in situ* monitoring



CastAway®-CTD

- 5 Hz response and sampling rate
- Accurate to 0.1 PSU, 0.05°C
- Internal GPS
- Bluetooth wireless data download
- No user calibration required
- No tools, computers or cables required

Applications

Short-term studies
 Lake & stream sampling
 Groundwater wells
 Tide gauge measurements
 Water level
 Sound velocity profiles
 Saltwater intrusion
 Hydrographic surveying
 Coastal research
 Fisheries

Parameters

Conductivity
 Temperature
 Depth
 Vented level
 pH
 ORP
 Dissolved oxygen
 Turbidity
 Nitrate
 Ammonium
 Chloride
 Salinity
 Sound speed

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Quick Links
ysi.com/sondes
EXOWater.com

Long-term Monitoring



Applications

- Continuous monitoring
- Source water
- Lake profiling
- Dredging
- Underway sampling
- PAR studies
- Algal bloom monitoring
- Coastal studies
- Saltwater intrusion

Parameters

- Conductivity
- Temperature
- Dissolved oxygen
- Chlorophyll
- Blue-green algae
- Turbidity
- Rhodamine
- Depth
- Vented level
- PAR
- pH
- ORP
- fDOM

6600 V2 sonde

- Large sensor payload capability and long battery life
- Choose between 2 and 4 optical ports for dissolved oxygen, blue-green algae, chlorophyll, rhodamine, and turbidity
- Also available with a pH wiping system

6920 V2 sonde

- Economical, 15-parameter logging system
- Battery powered for long-term, *in situ* monitoring and profiling
- Choose between 1 and 2 optical ports

6000MS V2 sonde

- Perfect for applications such as turbidity or oxygen monitoring
- Accepts 1 optical sensor as well as conductivity, temperature, and depth

6820 V2 sonde

- Cost-effective sampling system with up to 15-parameter reporting capability
- Ideal for profiling and spot-checking
- Choose between 1 and 2 optical ports

EXO1 sonde

- Surface and groundwater monitoring down to 250 m (828 ft)
- Bluetooth wireless communication
- Quick and easy calibration of multiple sensors
- Welded titanium sensors including conductivity, dissolved oxygen, fDOM, pH, ORP, turbidity, and total algae

EXO2 sonde

- CTD plus 3-5 additional sensors
- Coastal and marine monitoring down to 250 m (828 ft)
- Seamless integration and "daisy chaining" into monitoring systems
- Flexible sensor payload/configurations
- Welded titanium sensors
- Antifouling wiper helps to extend deployments to more than 90 days

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Quick Links

ysi.com/IQSN2020 ysi.com/5200
ysi.com/aquaculture ysi.com/5400
ysi.com/wastewater ysi.com/5500D

Continuous Monitoring & Control

Wastewater Aquaculture



Applications

Wastewater process monitoring
Aquaculture monitoring and control
Fisheries

Parameters

Conductivity
Temperature
Dissolved Oxygen
pH
ORP
Salinity
Turbidity
TSS
Ammonium
Nitrate
Potassium
COD
BOD
DOC
SAC
TOC

IQ SensorNet

- Process monitoring for up to 20 parameters
- Change or move parameters at any time
- 3-year warranty
- 1 cable for power and communications
- Up to 48 output channels
- Control pumps, blowers and more
- Simple, modular system
- Communications via modem, MODBUS, RS-232, Bluetooth wireless technology
- Use compatible modules without extra wiring

UV-VIS

- Measure nitrate, TSS, COD, TOC, DOC, BOD, SAC
- Uses UltraClean technology to prevent fouling

FDO

- Optical dissolved oxygen



IFL

- Interface sludge level

VisoSolid/VisoTurb

- TSS and turbidity

Other sensor options and multiple accessories available

5500D/5400 Monitor

- MultiDO monitors using optical DO technology (5500D) or galvanic technology (5400)
- Control multiple set points for DO
- Email and SMS alarms
- Event logging records conditions, calibrations and more
- Network up to 32 instruments

5200A Monitor

- Multiparameter monitor: DO, temperature, conductivity, pH, ORP, salinity
- Network up to 32 instruments
- Ethernet TCP/IP or wireless communication
- Email and SMS alarms
- Conditional feed timer with Feed Smart[®] software
- Monitor and control one tank or a whole operation



AquaViewer App

- Download from the App Store
- Continuously view facility water quality data

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Quick Links
sontek.com/oceanography.html
sontek.com/laboratory.html

Velocity, Currents & Flow

Applications

- Bottom boundary
- Currents
- Discharge
- Tide level
- Flow/low flow
- Sediment transport
- Flumes
- Near-shore monitoring
- Waves



ADPs (Acoustic Doppler Profilers)

- Rugged, multi-purpose current profilers
- Configure for real-time monitoring and autonomous deployment
- Profiling to 200 meters
- Options for bottom tracking, directional waves, and integrated external sensors



HydroSurveyor

- Collect bathymetric, water column velocity profile, and acoustic bottom tracking as part of hydrographic survey
- Includes ADP platform and powerful data collection software
- Water sound speed corrections interpolated in space and time when bundled with CastAway-CTD



Argonaut®-XR

- Affordable and easy-to-use current profiler
- Automatically adjusts sampling volume with changing tide level or river stage
- Bottom-mounted for near-shore deployments
- Wave height and spectra



Argonaut®-MD

- Oceanographic single-point current meter for deployments up to one year
- Clamps directly to mooring line or use cage
- Standard compass/tilt and temperature sensors, and optional pressure and conductivity sensors



MicroADV

- Three-axis velocity measurement for hydraulics research in labs
- Sampling rates up to 50 Hz; sampling volume 0.09 cc
- Excellent for low-flow and turbulence studies



ADVOcean

- Rugged ADV for hostile environments such as surf zone
- 3-dimensional velocity measurement
- Hydra version for autonomous deployment includes compass/tilt sensor, pressure sensor, and optional external sensors

+1 858 546 8327



Velocity, Currents & Flow

Applications

- Discharge calculation
- Stream indexing
- Real-time flow
- Irrigation
- Wastewater effluent



Argonaut®-ADV

- Single-point, shallow-water flow monitoring
- Rugged ADV head and internal battery pack for autonomous deployment
- Ideal for streams, marshes, lakes, and water treatment facilities



Argonaut®-SL

- 2D, side-looking velocity, level, and flow meter
- Calculates flow/discharge via theoretical or index-velocity ratings
- Installs on side of river or open channel for easy access and quick maintenance
- Measures remotely, avoiding flow interference from piers or pilings



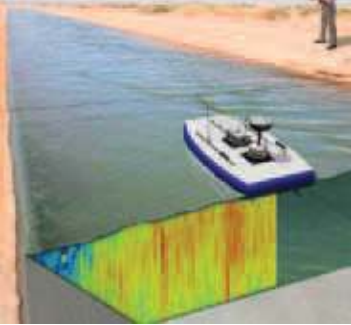
SonTek-IQ

- Specifically designed for open channels
- Velocity profiles in three dimensions with cells as small as 2 cm (0.8 in)
- Robust measurements in complex flow conditions
- Velocity, level, flow and total volume ranging from 0.3-16 ft (0.09-5.0 m)
- Outputs: SDI-12, Modbus, 4-20 mA, ASCII and RS-232



SonTek-IQ Pipe

- Designed for closed conduits
- Velocity profiles in three dimensions with cells as small as 2 cm (0.8 in)
- Robust measurements in complex flow conditions
- Velocity, level, flow and total volume in pipes with diameter between 1.5-16 ft (0.45-5.0 m)
- Outputs: SDI-12, Modbus, 4-20 mA, ASCII and RS-232



Velocity, Currents & Flow



S5

M9

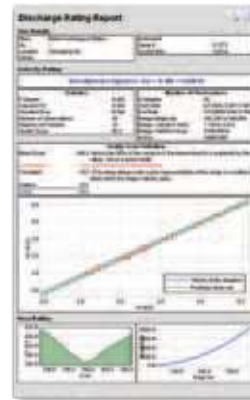
RiverSurveyor

- Accurately measures discharge from moving boats
- Computes complete 3-D velocity profile and bathymetric channel cross-section in minutes
- Optional tethered platform for measurements from bridges
- Features multi-frequency velocity beams for robust bottom tracking and vertical beam for precise bathymetric surveying
- Internal DGPS with RTK option
- Embedded echosounder



FlowTracker Handheld ADV

- Wading discharge or velocity measurements in streams, weirs, flumes, and open channels
- Easily attaches to top-setting wading rod
- SmartQC for instant feedback on data quality
- Supports multiple river discharge methods and current velocity measurements
- Output data directly into FlowPack
- Multi-language



FlowPack Software

- Store flow, velocity, and stage measurements in one software
- Generate velocity-index ratings and comprehensive reports



Flow Display

- Options for 4-20 mA outputs
- Connect to the SonTek-IQ and read flow data in the field without connecting to a laptop

Applications

- Discharge calculation
- Stream indexing
- Real-time flow
- Irrigation



Hydrological Monitoring



Storm 3 Browser-based Datalogger

- Simple and intuitive browser-based GUI
- GUI works on PCs, laptops, tablets and smart phones
- Direct (USB) or Wi-Fi connection
- Linux-based OS



H-522+ DCP Data Collection Platform with Integrated Satellite Transmitter

- Satellites supported: GOES/METEOSAT/INSAT
- Menu-driven setup
- Integral GPS with random and self-timed transmissions
- Upgradable to future protocols such as NOAA/NESDIS V2.0



System 5000 Datalogger

- Easy-to-read color display with LED backlight and touch screen
- Built-in graphical user interface
- LINUX-based operating system
- 256 MB internal data logging memory (expandable to 4 GB)



H-2221 High Data Rate Satellite Transmitter

- Highest accuracy radio for reliable satellite transmissions in extreme environments
- Supports 100, 300 and 1200 BPS (GOES)
- Menu-driven setup
- Low standby power
- Integral GPS with random and set-timed transmissions
- Upgradable to protocols such as NESDIS V2.0



H-3553 Self-contained Bubbler

- Bubbler/pressure sensor in one unit
- Built-in display version
- Depths to 115 ft (35 m)
- No needle valve or diaphragm problems
- Automatic or manual controlled purge up to 90 psi
- Purge sustain feature
- Dependable mass flow rate control
- Nitrogen tank not required

Applications

Water level monitoring
Dams and bridges
Reservoir and tanks
Remote data delivery
Real-time alerts



H-3600 Series Radar Sensor

- Non-contact level measurement replaces stilling wells and other infrastructure
- Not susceptible to damage from debris
- Less maintenance than tide and stage sensors
- Measurement range up to 230 ft (70 m)



H-3123 Submersible Pressure Sensor

- 0.02% FSO accuracy
- SDI-12 output
- Measurement transmitted digitally over long cable lengths without error
- Vented pressure sensor



H-340-SDI Tipping Bucket Rain Gauge

- Magnetic reed switch sensor
- 0.01" or 0.2mm tip versions available
- SDI-12 output



H-3342 Absolute Shaft Encoder

- Absolute, optical encoder preserves correct position even if power is lost
- Accuracy 0.00024 ft
- Built-in display with "Push to Read" button
- SDI-12, 4-20 mA outputs



Integrated Systems



Environmental Monitoring Modules

- **Coastal Buoys** for high energy environments and large sensor payloads
- Proven design deployed around the world
- Standard wave, current, and water quality solution without customization
- In-house design and manufacturing for solutions with alternative telemetry, prototype instruments, larger hulls, and custom software solutions
- Engineered with oceanographic-grade materials

Applications

Baseline studies
Dredging
Emergency response
Fisheries
Non-point source/TMDL
Point source/discharge
Stormwater & CSO
Source water
Lakes
Estuaries
Bays
Continental shelf

Parameters

Water quality
MET
Currents
Nutrients
PAR
Hydrocarbons



- **Inland Buoys** for lakes and rivers
- Can be deployed by several people in small watercraft
- Designed for years of reliable operation
- Tamper- and vandal-resistant for public areas
- Batteries situated to lower center of gravity

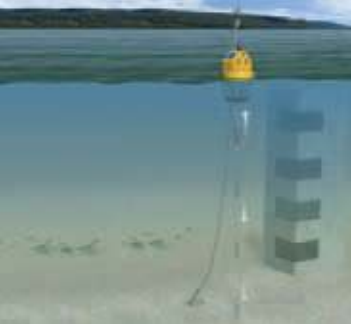
PISCES

- Mobile, towable monitoring platform for river and high-current applications
- Meteorological sensor and current meter options
- Easy to deploy
- Options for multi-depth sampling and flow-through cell configuration



- **Small Buoy** for short-term, project-based deployments
- Integral deployment tube protects multiparameter water quality sonde
- Submersible rechargeable battery pack acts as buoy ballast weight
- One base station collects data from network of buoys
- Easily deployable





Quick Links
ysisystems.com
ysi.com/ecomapper

Integrated Systems



Applications

- Remote data delivery
- Real-time alerts
- Reservoir monitoring
- Aquaculture
- Algal bloom monitoring
- Discharge
- Bottom mapping
- Drinking water intake

Parameters

- Water quality
- MET
- Currents
- Nutrients
- Bathymetry
- Side-scan sonar

Vertical Profiling Systems

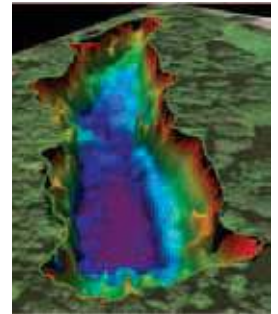
- Monitor water quality at various depths
- Continuously monitor stratification and mixing without trips to the field
- Detect short-term events—storms, sediment transport, algal blooms—in water column
- Automated, unattended profiling helps track changes with complete data set
- Reduce equipment maintenance by using one sonde to profile entire water column
- Buoy and pontoon platform options

EcoNet™

- Delivers remote data to web or workstation
- Automated data reports, alarms, and alerts
- No programming necessary; changes made through graphic interface
- Add up to 15 sensors and more than 50 parameters to a single station
- Simplifies network with hosting, delivery, reporting, and maintenance services from single supplier

EcoMapper™

- Autonomous under-water vehicle with remote control
- Deployable by one person
- High-resolution mapping of water quality, current, and bathymetry over large areas
- Easy-to-use mission planning software
- Triple frequency side-scan sonar
- 6/10 beam Doppler velocity log
- Iridium tracking capabilities
- 100 meter max rating



877 392 9950 US
+1 727 565 2201



Quick Links
ysisystems.com
ysiservices.com

Services



We can partner with you to provide:

- Project definition
- Site evaluation
- Systems design
- Integration and testing
- Construction and installation
- On-site training
- Data collection and delivery
- Extended support and service contracts
- Project management
- Rental



SeaKeeper 1000™

- Automated underway sampling system on ship
- No crew interaction needed
- Actively contribute to environmental and climate research
- Satellite communication from anywhere in the world
- YSI installs and maintains the system

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What can Xylem do for you?

We're 12,500 people unified in a common purpose: creating innovative solutions to meet our world's water needs. Developing new technologies that will improve the way water is used, conserved, and re-used in the future is central to our work. We move, treat, analyze, and return water to the environment, and we help people use water efficiently, in their homes, buildings, factories and farms. In more than 150 countries, we have strong, long-standing relationships with customers who know us for our powerful combination of leading product brands and applications expertise, backed by a legacy of innovation.

For more information on how Xylem can help you, go to www.xylem.com



SonTek/YSI
9940 Summers Ridge Rd
San Diego, CA 92121
Tel +1 858 546 8327
inquiry@sontek.com
www.sontek.com



Design Analysis Associates
75 West 100 South
Logan, UT 84321
Tel +1 435 753 2212
daa@daa-utah.com
www.waterlog.com



YSI Incorporated
1700/1725 Brannum Lane
Yellow Springs, Ohio 45387
Tel +1 937 767 7241
environmental@ysi.com
www.ysi.com

YSI Integrated Systems & Services
9843 18th Street North, Suite 1200
St. Petersburg, FL 33716
Tel +1.727.565.2201
systems@ysi.com
www.ysisystems.com

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ECO CALCULATIONS REPORT

YSI Inc. saved the following resources by using Neenah Environment paper made with a minimum of 30% post-consumer fiber and 100% renewable electricity.

trees	energy	greenhouse gas	waste water	solid waste
1	0.5 mil BTUs	324.09 lbs CO ₂	258 gal	43 lbs