AquaVent 5 Water Level Logger

Model 3500

The AquaVent 5 records accurate water level and temperature measurements in shallow groundwater and surface water applications. It combines pressure and temperature sensors, hydrophobic filters and datalogger within a 22 mm x 173 mm (7/8" x 6.8") stainless steel housing with corrosion-resistant coating.

The AquaVent 5 uses a gauged pressure transducer; it is open to the atmosphere via a vented cable to surface. Atmospheric pressure is applied to the transducer diaphragm, providing a cancellation effect for barometric pressure. This results in actual water level recordings.

The vented cable and Solinst AquaVent 5 logger are protected from moisture by built-in desiccants and hydrophobic filters.

The vented pressure transducer is made of Hastelloy®, making it extremely durable and accurate in a wide range of temperature and monitoring conditions. The sensor provides an accuracy of 0.05% FS, and can withstand 2 times over-pressure without permanent damage.

The robust memory can hold up to 150,000 data sets when programmed in Solinst Levelogger® Software.

AquaVent 5 Applications

- Ideal for shallow applications: up to 20 m (65 ft) submergence
- Aquifer characterization: pumping tests, slug tests, etc.
- Stream gauging, lake and reservoir management
- Watershed, drainage basin and recharge monitoring
- Stormwater and runoff monitoring
- Long-term water level monitoring in wells and surface water

Flexible Datalogger Communication Options

The AquaVent 5 has options for communicating with Solinst software and accessories, or integrating into a Solinst Telemetry System, SCADA/PLC system or a third-party datalogger.

The AquaVent 5 communicates with Levelogger Software and can be used with the Solinst Levelogger 5 App Interface and the DataGrabber 5.

For deeper, hard to access applications, or areas that are humid or prone to flooding, the Levelogger 5 absolute pressure water level datalogger is also an option (see Model 3001 Levelogger 5 Series Data Sheet).

AquaVent 5 Features

- Gauged pressure sensor for highly-accurate water level measurements: 0.05% FS
- Multiple built-in hydrophobic filters and desiccants — no need to replace, reduces maintenance
- Easy-to-access, user-replaceable batteries in Wellhead
- Options for MODBUS (RS-232/RS-485) and SDI-12
- Separate cables for each communication protocol
- Corrosion and abrasion-resistant coating baked-on using polymerization technology

AquaVent 5 Benefits

- Automatic barometric compensation reduces time required for post data processing
- Integrate into a third-party data collection system for remote real-time data
- Continuous, reliable water level data for long-term monitoring projects
- Actual water level readings for instant aquifer test results

AquaVent 5 Communication Wellhead

The AquaVent 5 Communication Wellhead fits conveniently onto a 2" (50 mm) well casing using the well cap base (a 4" well adaptor is available).

The SPX Wellhead has a connection for communicating with Solinst software and accessories, and a second connection for communicating with third party dataloggers or telemetry systems using MODBUS (RS-232/RS-485) or SDI-12 protocols.

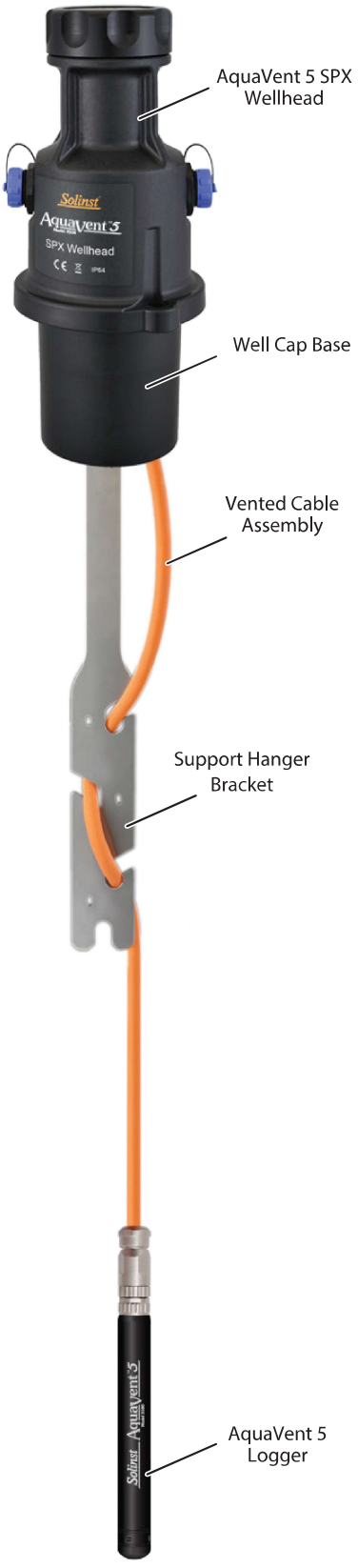
The Wellhead contains 4 1.5V AA lithium batteries that power the AquaVent 5 logger. They are user-replaceable and can last 8 years based on 1 reading per minute (the internal AquaVent 5 logger battery is only used to maintain the clock).

For permanent moisture protection, the Wellheads contain multiple built-in desiccants and have a hydrophobic filter where the vented cable terminates at surface.

One 10-Pin Connection for Solinst Software and Accessory Connector Cables

Additional 12-Pin Connection for SDI-12 and MODBUS RS-232 and RS-485 Connector Cables

SPX Wellhead



AquaVent Wellhead Communication Cables

There are multiple ways to communicate with the AquaVent; convenient Wellhead Cables are available for each option.

USB Connector Cable for Communicating with Solinst Levelogger PC Software

Connector Cable for Communicating with the Levelogger App Interface and DataGrabber.

Connector Cables for Communicating using SDI-12 and MODBUS RS-232/RS-485 Protocols

AquaVent 5 Vented Cable Options

AquaVent 5 Vented Cable assemblies are available in custom lengths of up to 500 feet.

Vented cables contain power and communication wires, as well as a vent tube running the length of the cable. Vented cables provide direct read communication from the AquaVent 5 logger to the Wellhead. The vent tube and wires are jacketed in polyurethane, providing durability and protection.

The vented cables are easily and securely connected to the AquaVent 5 logger and Wellhead, using threaded connections. A hanger bracket is included with each Wellhead to support the vented cable when deployed.

AquaVent 5 Setup Using Solinst Software

When programming using Levelogger Software, use a USB Connector Cable to connect the AquaVent 5 Wellhead to the computer. (The AquaVent 5 can also be programmed using the Solinst Levelogger App on your smart device.)

Levelogger Software is very intuitive; it automatically detects the type of datalogger connected. Fill in your project information and sampling regime, all in one screen. Settings can be saved for easy re-use. There are options for immediate start or future start and stop times.

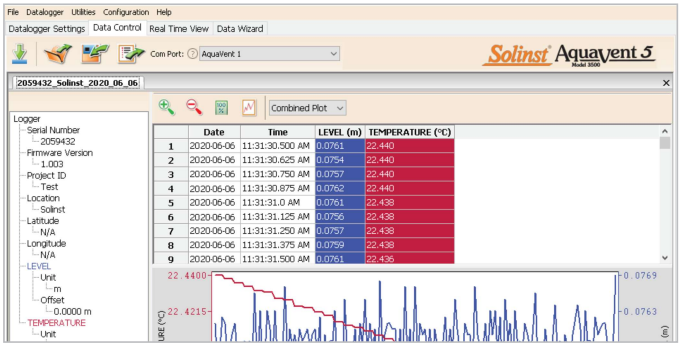
AquaVent 5 time may be synchronized to the computer clock. The percentage battery life remaining in the Wellhead and the amount of free memory in the datalogger are indicated.

Convenient Sampling Options

The AquaVent 5 can be programmed with linear, event-based, or a user-selectable sampling schedule. Linear sampling can be set from 1/8 second to 99 hours, with memory storage for up to 150,000 data sets.

Event-based sampling can be set to record when the level changes by a selected threshold. Readings are checked at the selected time interval, but only recorded in memory if the condition has been met. A default reading is taken every 24 hours if no event occurs.

The Schedule option allows up to 30 schedule items, each with its own sampling rate and duration. For convenience, there is an option to automatically repeat the schedule.



Data Download, Viewing and Export

Data is downloaded to a PC with the click of a screen icon. There are multiple options for downloading data, including 'Append Data' and 'All Data'. The software also allows immediate viewing of the data in graph or table format using 'Real Time View'.

The level data is automatically compensated for temperature, and the temperature data is also downloaded. The Data Wizard can be used to input manual data adjustments, elevation, offsets and density.

The software allows easy export of the data into a spreadsheet or database for further processing.

The Solinst Levelogger App also allows you to view and save real-time or logged data right on your smart device.

Helpful Utilities

The 'Self-Test Diagnostic Utility' can be used in case of an unexpected problem. It checks the functioning of the program, calibration, backup and logging memories, the pressure transducer, temperature sensor and battery voltage, as well as enabling a complete Memory Dump, if required.

A firmware upgrade will be available from time to time to allow upgrading of the AquaVent 5, as new features are added.

Solinst Levelogger 5 App Interface

The Levelogger 5 App Interface uses *Bluetooth*® technology to connect your AquaVent 5 to your smart device. With the Solinst Levelogger App, you can download data, view real-time data, and program your AquaVent 5. Data can be e-mailed from your smart device directly to your office (see Model 3001 Levelogger 5 App Interface Data Sheets).

Download on the App Store

GET IT ON Google play

AquaVent 5 Logger Specifications

Level Sensor:	Piezoresistive Silicon with Hastelloy Sensor
Accuracy:	± 0.05% FS Typical
Stability of Readings:	Superior, low noise
Units of Measure:	m, cm, ft., psi, kPa, bar, °C, °F
Resolution:	0.001% FS to 0.0006% FS
Normalization:	Automatic Temperature Compensation
Temp. Comp. Range:	0° to 50°C
Temperature Sensor:	Platinum Resistance Temperature Detector (RTD)
Operating Temperature:	-20°C to 80°C
Temp. Sensor Accuracy:	± 0.05°C
Temp. Sensor Resolution:	0.003°C
Battery Life:	8 Years — based on 1 reading/minute
Clock Accuracy (typical):	± 1 minute/year (-20°C to 80°C)
Maximum # Readings:	150,000 sets of readings
Memory:	Slate and Continuous
Communication:	57,600 bps Solinst USB, 1200 baud SDI-12, Modbus RS-485/RS-232 (various speeds)
Size:	22 mm x 173 mm (7/8" x 6.8")
Weight:	190 grams (6.7 oz.)
Corrosion Resistance:	Baked-on coating using polymerization technology (inside and out)
Wetted Materials:	Delrin®, Viton®, Polyurethane (TPU boot), 316L stainless steel, Hastelloy, PFAS-free PTFE coating
Sampling Modes:	Linear, User-Selectable with Repeat Mode, Event, Future Start, Future Stop, Real-Time View
Measurement Rates:	1/8 sec to 99 hrs
Barometric Compensation:	Automatic

Models	Full Scale (FS)	Accuracy	Resolution
M5	5 m (16.4 ft.)	± 0.3 cm (0.010 ft.)	0.001% FS
M10	10 m (32.8 ft.)	± 0.5 cm (0.016 ft)	0.0006% FS
M20	20 m (65.6 ft)	± 1 cm (0.032 ft.)	0.0006% FS

AquaVent 5 Vented Cable

Wetted Materials:	Polyurethane, Nickel plated Brass, Viton
Diameter:	Cable: 8 mm (0.32") Connectors: 20 mm (0.79")
Lengths:	1 to 500 ft
Max. Bend Radius:	25 mm (1")
Operating Temperature:	-20°C to 80°C

AquaVent 5 SPX Wellhead

Materials:	Polypropylene, Delrin, 316 stainless steel, Viton, Polyamide
Dimensions:	102 mm x 140 mm (4.0" x 5.5")
Operating Temperature:	-20°C to 80°C
IP Rating:	IP 64 (dust and splash proof)
Batteries:	Four (4) 1.5V AA lithium batteries
Wellhead Comm. Cable Length:	4.5 m (15 ft)

DataGrabber 5

The DataGrabber 5 is a field-ready data transfer device that allows you to copy data from an AquaVent 5 onto a USB flash drive key, with one push-button (dual USB & USB-C key provided). The DataGrabber 5 is compact and very easy to transport.

Solinst Readout Unit (SRU)

Connect an SRU to an in-field AquaVent 5 using a Wellhead Communication Cable to display instant water level readings and datalogger status, save a real-time logging session, and download data to the SRU memory.

Solinst Canada Ltd. 35 Todd Road, Georgetown, Ontario Canada L7G 4R8 www.solinst.com
E-mail: instruments@solinst.com Tel: +1 (905) 873-2255; (800) 661-2023 Fax: +1 (905) 873-1992

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