VAN WALT

equipment for soil and water research

Equipment made for you

by Van Walt Ltd

Innovative, accurate, reliable equipment for Environmental & Water Professionals

www.vanwalt.com

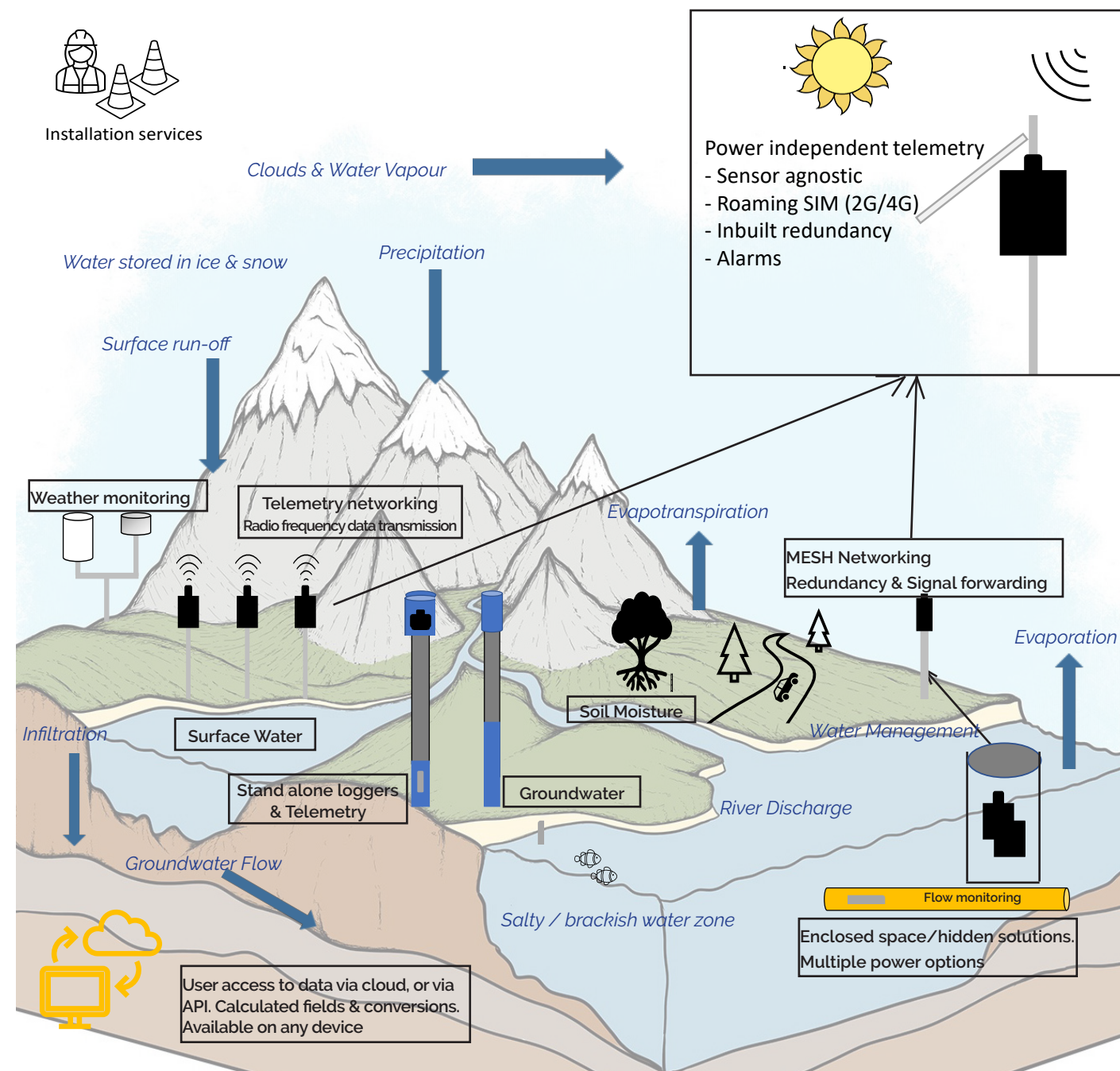![Van Walt logo](VAN WALT - equipment for soil and water research)

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Our equipment is rugged, reliable and site ready. We have harnessed technology to deliver equipment that works - in the harshest environments - to deliver the data you need.

No project is too small or too large. We have come up with a suite of 'made by Van Walt equipment' we are proud to put our name on. Our reputation depends on it, equipment that delivers time, and time again.

For the equipment we have designed, specified and made, either here at our premises or by other UK manufacturers under licence, we have concentrated on where we identified gaps in supply or where the alternatives were not good enough for the demands of fieldwork or too restrictive when it came to different parameters to measure.

We can provide solutions for all environmental monitoring requirements

The range of environmental equipment has grown substantially - an auger for every soil type to a sensor to monitor many different parameters. Look no further than the monitoring of water level. From a Dip Meter to measure the depth of water in a well to the vanwaltDataHub, a datalogger to monitor anything from water level across a network of boreholes, to water quality, water flow, soil moisture and even the monitoring of plants and crops.

Installation services

Clouds & Water Vapour

Power independent telemetry
- Sensor agnostic
- Roaming SIM (2G/4G)
- Inbuilt redundancy
- Alarms

Water stored in ice & snow

Precipitation

Surface run-off

Weather monitoring

Telemetry networking
Radio frequency data transmission

Evapotranspiration

MESH Networking
Redundancy & Signal forwarding

Evaporation

Soil Moisture

Water Management

Infiltration

Surface Water

Stand alone loggers & Telemetry

Groundwater

River Discharge

Groundwater Flow

Salty / brackish water zone

Flow monitoring

Enclosed space/hidden solutions. Multiple power options

User access to data via cloud, or via API. Calculated fields & conversions. Available on any device

Water Level Dip Meter

Water Level Logger

Telemetered Level Logger

Wireless Datalogger - Radio

Self-powered, wireless Datalogger - capable of networking up to 30 inputs, across multiple parameters
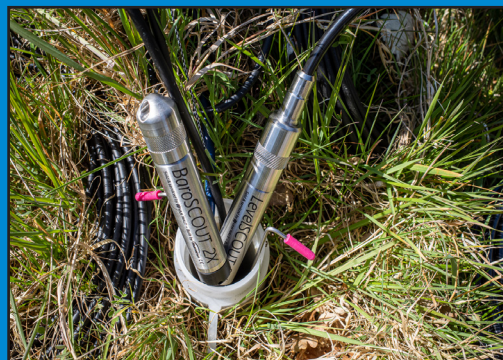
YOU

LevelSCOUT 2X

Manufactured by Seametrics Inc the LevelSCOUT 2X is the result of many hours of collaboration between Van Walt Ltd and Seametrics to produce a water level logger which is accurate, reliable and that lasts a lifetime. It is a high-quality absolute logger for groundwater monitoring which has many benefits over other dataloggers.

- Accurate, reliable and lasts a lifetime
- Backed up with a market leading 3-year warranty
- Easy to use, best-in-class improved and upgraded software which updates the logger every time it is connected to the internet
- Improved logger design with double 'O' rings for more resilience
- An environmental monitoring logger that is truly environmentally sustainable
- Expanded non-volatile memory storing 100,000 records and no data loss in the event of a power failure
- Up-rated, fully replaceable battery for extended life in the field
- Heavier than comparable water level instruments for quick & easy down-well deployment
- Available in cabled or wireless versions
- Redesigned, cost effective cable harness connections
- Direct-read cables & telemetry can be added retrospectively
- Available SDI 12 protocols to connect to telemetry (vanwaltCONNECT)
- More accurate and stable than the leading groundwater logger competitors
- Easy to deploy & easy to use.

LevelSCOUT 2X Accessories

Communication Kit

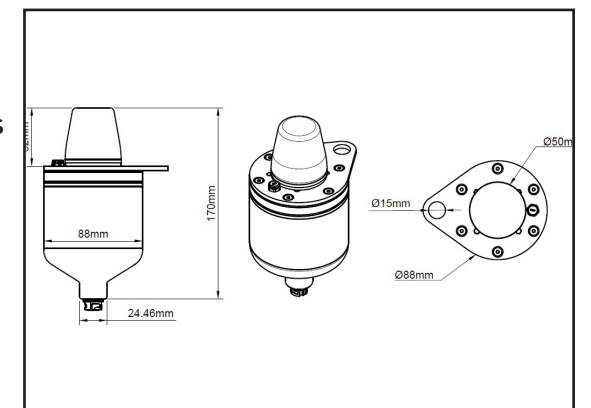Software - vanwaltCONNECT

Tough carrying/storage case

Well hanger

Dyneema Rope

vanwaltKISS
Keep It Simple Sensing

Our 'Keep It Simple Sensing' system or entry level telemetered logger to measure water level and temperature is designed and manufactured by Van Walt Ltd. The vanwaltKISS is unique, fitting any size well from 1-inch and greater. It is easy to use, easy to deploy (and redeploy), comes with a two year manufacturer's warranty and delivers environmental data cost-effectively via our secure cloud portal vanwaltCONNECT-Lite or via API.

- True plug-&-play data telemetry system
- Simple data collection, data viewing and data download
- Easy to deploy
- 24 months of data
- 24 months warranty
- 24 months battery life
- 24 months of airtime on roaming SIM
- No hidden costs within the 24-month cycle
- Includes access to secure portal for data download – vanwaltCONNECT-Lite data as .csv file
- API enabled machine to machine data delivery
- CTD version available
- Fits any size well as small as 1 inch/25 mm
- No connections required - everything is pre-wired
- No additional power supply required
- Comes with up to 30 m of cable as standard
- Vented, accurate Keller sensor
- Made from powder coated aluminium and marine grade stainless steel
- Cleverly designed cable retainer channel to secure the unit and sensor
- Powerful GSM antenna
- End-to-end roaming 2 G / 4 G SIM included in the price
- Waterproof to IP68
- Internal lithium battery with 2-year battery life
- Measures temperature and water level every 15 minutes
- Uploads data once per day
- Simple installation: as soon as the sensor is connected to the unit, the system is 'live'
- A light sequence shows connectivity and confirms vanwaltKISS is up and running
- Software updates, when necessary, over 'air'
- Competitively priced
- Reduces travel and site visit costs
- Eliminates site access challenges
- Collects environmental data - environmentally.

Designed for:

- Professionals looking to reduce costs with less site visits
- Access to data daily rather than waiting weekly/monthly or longer
- Monitoring and analysis of data without the requirement to go to site to collect the data
- Requirement for more regular data but no obligation to go to site to download
- Data collected from difficult to access areas
- Data collected from restricted sites with security constraints.

VAN WALT
equipment for soil and water research
w w w . v a n w a l t . c o m

The vanwaltDataHub unit is a mature, proven telemetry system designed, developed and manufactured by Van Walt in the UK. It is a self-powered, flexible system of electronics all conveniently packaged in an IP rated, heavy duty aluminium enclosure. The vanwaltDataHub performs as a data-logger.

The vanwaltDataHub collects data from environmental and other sensors, is extremely flexible, organising data for distribution or sharing through on-board memory, radio frequency, GPRS or Satellite portals. The data can be viewed using vanwaltCONNECT software or transferred in different formats and automatically forwarded to a customer's FTP server.

Each unit has multiple and simultaneous inputs including SDI12, Modbus, Pulse, Analog, Relay and Digital. With robust data redundancy, power independence and an internal, non-volatile memory, it is a powerful data collection and data distribution tool which is constantly evolving and improving to become an even more powerful Sensor to Desktop telemetry system.

- Multiple, simultaneous inputs and outputs
- Self-powered, flexible system of electronics
- Conveniently packaged in an IP rated, heavy duty aluminium enclosure
- Data is organised for distribution or sharing through on-board memory, radio frequency, GPRS or satellite portals
- Modbus, SDI-12, Analog and digital I/O are provided to connect sensors singly or in daisy chain
- The vanwaltDataHub instructs, powers, interrogates and collects data from onsite sensors
- Data is stored on non-volatile memory and backed up for redundancy on an internal flash SD card and, for convenience, data can be downloaded by an external, vandal-resistant, industrial grade USB drive.
- Data can be downloaded by cable, radio frequency transceiver, GPRS, or simply by the removal of the SD card.
- Interfaces with a multitude of sensors to measure environmental, agricultural, archaeological and meteorological parameters such as water level, pH, EC, redox, electrical conductivity, temperature, dissolved oxygen, rainfall, water flow and soil moisture
- Performs as a powerful and flexible standalone, power-independent datalogger.
- Interfaces seamlessly with our proven and highly flexible vanwaltCONNECT data collection and sharing

server and software.
- Supplied as standard with on-board non-volatile logging memory, SD Card memory, 2G/4G connectivity, batteries and solar panel. Optionally we can supply the unit with radio frequency enabled
- 2 Year Manufacturer's Warranty.

For customers that do not want use the vanwaltCONNECT software the DataHub can be enabled to automatically forward data to a customer's FTP Server. Data can be transferred in .csv; .dat; .XML or .JSON formats and bypasses Van Walt's systems entirely.*

Hundreds of vanwaltDataHub telemetry systems have been deployed around the World. Many have been installed onsite, reliably collecting data, for many years. We never sit back, the system keeps evolving and developing with improvements, and with the addition of new sensors and parameters.

Can be networked with:

LevelSCOUTs - Flumes - Rain Gauge - Meteorological & Plant Sensors (Weather Station, Weighing Precipitation Sensor, Evaporation Pan Set) - PT2X Smart Sensor - PT12 Smart Sensor - Keller Small Diameter Level Sensor - Keller Level & Temperature Sensor - Keller CTD Sensor - Keller Surface Level Sensor - CT2X Smart Sensor - TempHion Sensor - Turbidity Sensor - DO Sensor - YSI EXO Sonde - Stevens Soil Moisture HydraProbe - GroPoint Profile - AquaTroll - Pico Soil Moisture Probes - Pico Profile - EcoTech Redox Electrode - EcoTech pH Electrode - Nitrate Sensor - Flow Meters - Weather Stations - Rain Gauges - TensioMark® Plus many other SD12; Modbus; Analog; Pulse; Relays; GPIO Sensors ....

vanwaltDataSlave

The vanwaltDataSlave is unique, it operates with multiple sensors across industry sectors and interfaces using either MODBUS or SD1-12. Inside the DataSlave is a radio "tile" which enables it to communicate with a PC or a vanwaltDataHub wirelessly over a distance of up to 10 km line of sight. It is ideal for difficult or restricted access sites. The vanwaltDataSlave sits at location and transfers sensor measurements using radio frequency.

- Data logging with wireless data recovery
- Cost-effective for telemetered networks
- Licence free
- Subscription free
- Long range
- Designed to work independently or as part of a network
- Integrates datalogging into any sensor to allow recovery of that data wirelessly
- Can connect wirelessly to telemetry systems
- Perfectly suited for sensors deployed in difficult to access locations or restricted areas
- Can be daisy-chained with up to 30 units automatically connected to a telemetry hub like the vanwaltDataHub
- Waterproof to IP68
- 3-year battery life
- Powered from two AA type batteries
- Switchable +12 V sensor output supply
- Internal battery voltage measurement
- Sensor external power voltage measurement
- In-built connectivity to Radio Gateway
- Secure wireless communication
- Low power sleep mode with automatic wake up at required measurement interval & upload
- Transmit acknowledgement feature
- Internal datalogger
- Configurable via telemetry, Radio Modem Tile or Software application
- Accepts larger, external battery input (12V) for higher power applications
- Designed by and manufactured in the UK under licence for Van Walt Limited.

Can be networked with:

LevelSCOUTs - Flumes - Rain Gauge - Meteorological & Plant Sensors (Weather Station, Weighing Precipitation Sensor, Evaporation Pan Set) - PT2X Smart Sensor - PT12 Smart Sensor - Keller Small Diameter Level Sensor - Keller Level & Temperature Sensor - Keller CTD Sensor - Keller Surface Level Sensor - CT2X Smart Sensor - TempHion Sensor - Turbidity Sensor - DO Sensor - YSI EXO Sonde - Stevens Soil Moisture HydraProbe - GroPoint Profile - AquaTroll 500 - Pico Soil Moisture Probes - Pico Profile - vanwaltDataRelay - Plus many other SD12; Modbus; Analog; Pulse; Relays; GPIO Sensors ....

w w w . v a n w a l t . c o m

vanwaltCONNECT

Developed in-house, vanwaltCONNECT Telemetry Software delivers the data from Van Walt's Telemetry systems directly to your desktop, tablet or mobile phone. As the remote interface of our Data Collection Systems we have made it flexible, secure and intuitive. Data can be shared with permitted users with training taking just one hour.
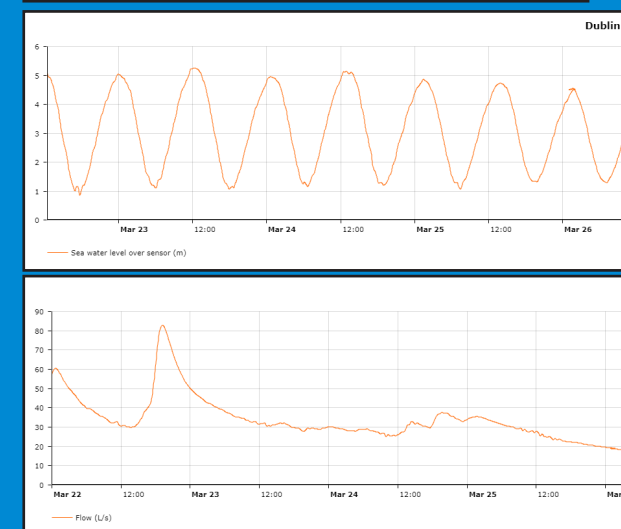
vanwaltCONNECT can be configured to your specific requirements to allow you to securely view, manipulate and set alarms from your data. Data is uploaded at specified frequencies so is completely bespoke to your requirements.

- Accurate, timely data
- Research grade data across multiple parameters
- Software that works with sensors that offer 'mm' accuracy to provide data on which to make crucial decisions to protect, manage, inform or alert key stakeholders
- Flexible parameter alarms
- Connect control relays to switch devices, as part of the system
- Link control relays to alarms
- Remote management of settings, alarms and upload times
- Full operative training
- Simple pricing structure
- Monitored daily and fully backed by the Van Walt Technical Team.

vanwaltCONNECT-LITE

vanwaltCONNECT-LITE is the new Telemetry Software for vanwaltKISS – our Keep It Simple Sensing System. Developed in-house to be secure and intuitive, it delivers data from vanwaltKISS units installed onsite, directly to your desktop, tablet or mobile phone.

- Secure and intuitive software
- Data is encrypted using the https:// protocol
- Data available in a .csv format
- Data sent every 24 hours
- Data is sent by GSM using a multi-band 2G/4G roaming data SIM card which is included in the unit
- Data can be shared with anyone you permit/give access to (including your customer, if appropriate)
- vanwaltKISS is a vented system so your data is automatically compensated for atmospheric pressure (no Baro necessary)
- The vanwaltKISS system and vanwaltCONNECT-LITE software reduces the need to travel to site to download data readings; save costs; save time; increase the accuracy of readings; no post data-collection redeployment so removes the potential for data-collection to be impacted by elements such as location access or weather, etc.
- Daily data also confirms the health of the sensor and the vanwaltKISS unit and removes the risk of data loss
- Free software – via a Web interface so no additional software is required
- Fully backed by the Van Walt Technical Team.

Data Collection Accessories

To ensure our Data Collection Telemetry service is as effective as it can be for customers, whether you have just one telemetered vanwaltKISS unit or a multi-parameter network we continually add more services and equipment to enhance our offer.

Site Inspections, Installation Service & Monitoring

It is important Van Walt works with you to establish the best telemetry solution for your requirements. By having a clear understanding of your objectives, site conditions, accessibility and signal we can help you put together the best design and equipment options.

We also offer a full installation service. The Van Walt team is fully accredited (CHAS), trained and insured to come on site to install your equipment. We can then train your operatives not just on how the equipment works, but also for on-going maintenance, battery changes and keeping solar panels clear. We can also decommission system installations so your equipment is preserved for future projects, if appropriate.

As part of the service we monitor daily any alarms that are triggered by your equipment, reporting back to you any issues. More comprehensive service agreements can be provided, including annual inspections, battery changes and equipment service and checks.

Our service never ends with the delivery of equipment - our reputation depends on it!

vanwaltDataRelay

A relay node for our vanwaltDataSlave networks, developed and manufactured in the company. The vanwaltDataRelay can be used to extend the range of your system, improve the robustness of the network and enhance efficiency and reduce costs by allowing a larger network of vanwaltDataSlaves rather than adding more costly vanwaltDataHubs and on-going network subscriptions. The range of the vanwaltDataRelay, with good line of sight, is 10 km. The unit takes user replaceable AA Energiser Lithium cells. It is robust and discreet so ideal for urban areas, rural, woody locations, as well as in caves, tunnels and areas with limited access.

Battery Pack

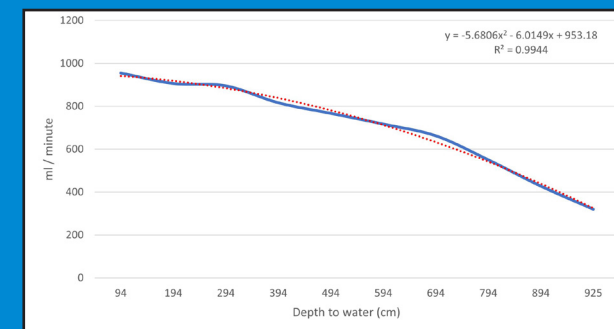Developed & manufactured by Van Walt Ltd to extend the battery life of the vanwaltDataSlave

Configuration Tool

Developed to program the vanwaltDataSlave

vanwaltHEX-PUMP

A high-quality peristaltic pump entirely designed and manufactured by Van Walt. Suitable for low flow purging and sampling, the vanwaltHex-PUMP is a premium pump, made from high-grade components to deliver a strong, field-tested, easy-to-use pump for the toughest site conditions.

- Specified, designed and manufactured by Van Walt
- A high-quality peristaltic pump for low flow sampling
- Strong, powder coated aluminium hexagon design
- 3 mm marine grade stainless steel front plate CE-approved for field use
- Highest grade components chosen for their performance, robustness and reliability with high torque, stepper brushless motor
- Designed for regular, long and frequent use
- Modular design for extended life and ownership
- Easy-load pump head
- Requires just one size of silicone tubing
- High capacity 24 V system with highest-quality gel batteries for efficiency
- Easy-to-use controls
- Easy to transport and ship (lead acid batteries)
- Long, 7-hour operation time
- Low battery indicator
- 9 m head-lift
- Best-in-class pump for groundwater research.

$$y = -5.6806x^2 - 6.0149x + 953.18$$
$$R^2 = 0.9944$$

Flow Curve

VAN WALT
equipment for soil and water research

Offering environmental equipment solutions for more than 40 years

VAN WALT
equipment for soil and water research

Equipment for:

Data Collection Telemetry

Groundwater Sampling

Water Level & Flow

Sediment & Soil Sampling

Soil Moisture Testing

Soil Testing & Other

Water Quality

Rentals

Servicing & Repair

Site Installation & De-commissioning