

Smart sensing



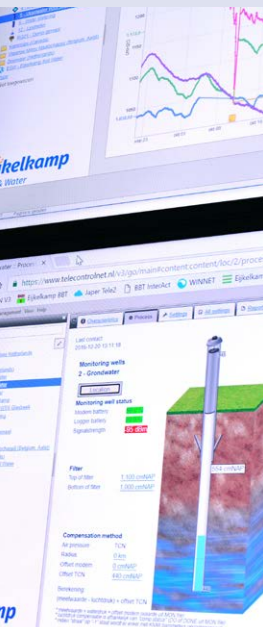


Eijkelpomp Smart Sensoring

Our world is getting smarter, and a smart world mainly generates action from measuring and monitoring and by following this up with relevant actions. To Eijkelpomp Soil & Water smart means more than producing a large quantity of data: these data should also be given meaning and be linked to an action.

Eijkelpomp Smart Sensoring has the resources, technology and services to produce relevant data for you. Data from which you can obtain valuable information or data for control signals for machines and equipment. That is the essence of what we do. We facilitate the data that allow you to shape things to your needs. We do, of course, deliver all the hardware, sensors, soil drilling equipment, cables and modems you require for this, and provide the necessary advice, as well.

In this brochure you will find our complete range of modems, sensors and web portal solutions for remote monitoring.



Telemetry system

Eijkelkamp DataViewer

Data availability is crucial for the management of, for example, your ground water, surface water or soil moisture measurement network. Furthermore, data must today be accessible everywhere, from every device. For that reason, Royal has introduced a user-friendly and platform-independent web portal DataViewer that can be accessed both at the office and in the field.

This means that you have your overviews and reports at hand quickly and efficiently, both at the measurement location and on larger scale and regional levels, at the office and in the field. In this way, data are available not only to gain an insight into the current situation, but also for the management and maintenance of your measurement network.

Security first

DataViewer can only be accessed in encrypted form and, if the client requires, access can be equipped with 2-factor authentication (Digipass). This means that your data is secure at all levels, both incoming from the modems and outgoing to the users at a main station or in the field. There are good reasons why we manage countless domains for water authorities, municipal authorities, research institutes and industries all over the world.

Validate your data!

Royal Eijkelkamp supplies an automatic validation tool for validation of high-frequency ground water level series gathered with sensors, such as the Diver water level logger.



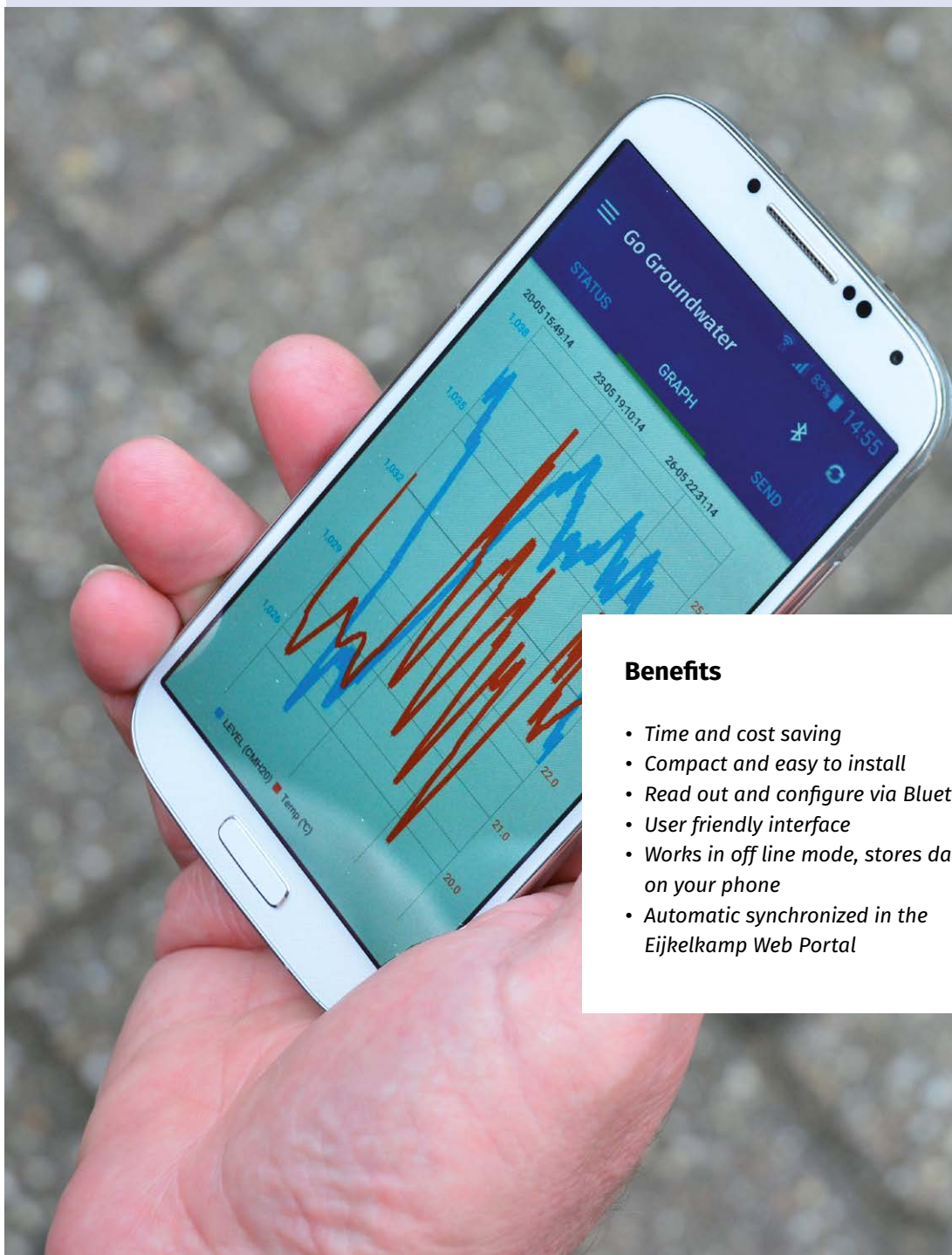
Benefits Royal Eijkelkamp DataViewer

- data can be exported automatically or manually
- historical data of your existing measurement locations can be uploaded and linked to the same measurement location
- gathered data are available in different versions: validated, corrected and compensated, or a 'raw' uncompensated and non-validated version

Go Groundwater app

Eijkelkamp Go Groundwater app and dongle

The Eijkelkamp Go Groundwater app allows you to communicate with Diver water level loggers and to read out and configure all your Diver water level loggers using Bluetooth technology on your Android® smartphone. Install the Bluetooth dongle (IP67) permanently in your monitoring well and save time as there is no need to unlock your monitoring well cover. Your water monitoring data can be viewed and downloaded onto your smartphone and e-mailed or transferred directly to Eijkelkamp Web Portal.



Benefits

- Time and cost saving
- Compact and easy to install
- Read out and configure via Bluetooth
- User friendly interface
- Works in off line mode, stores data on your phone
- Automatic synchronized in the Eijkelkamp Web Portal

Modems

Connect your sensors, like a Diver water level logger, to the Global Data Transmitter (GDT) modem range of Eijkelkamp Soil & Water and transmit sensor data to anywhere in the world. Our GDT modem range is designed for extended use in the field and to send water level, temperature, conductivity, rainfall, soil moisture and various water quality data in a secure way.

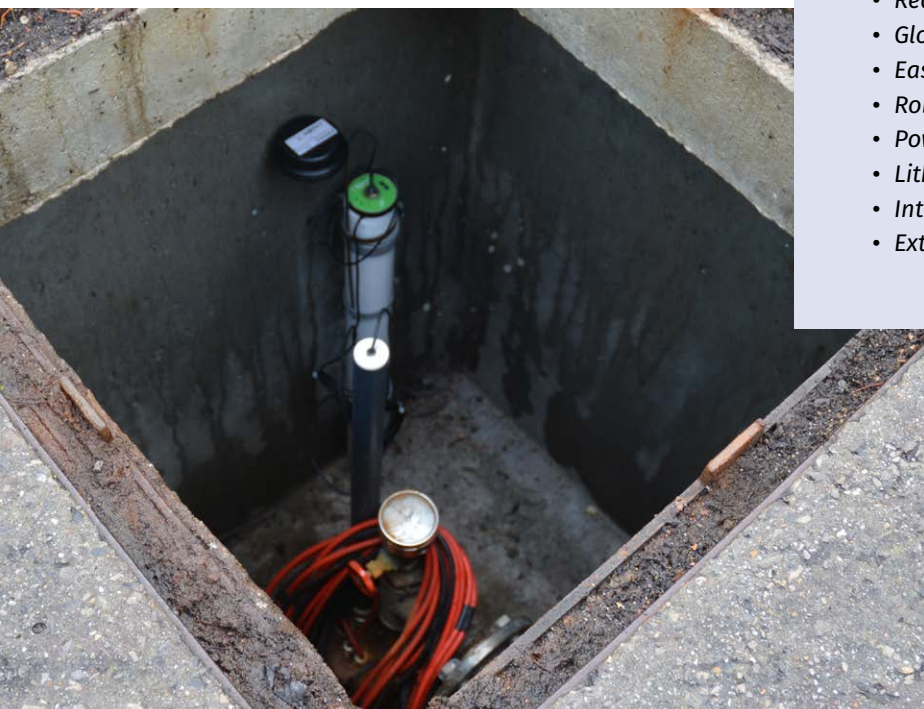
GDT-S Prime

Field trips to collect sensor data are history. The GDT-S Prime enables you easy access to your conductivity, temperature and water level data 24/7. The GDT-S Prime is designed to fit in a 2 inch monitoring well and requires no extra hardware installation. Simply connect the GDT-S Prime modem with the MDC cable to your sensor and install the unit in the monitoring well.



Features

- *Easy plug-and-play installation*
- *No software needed*
- *Guaranteed data availability*
- *Real-time alarms*
- *Global connectivity (GPRS & UMTS)*
- *Easy link to your own web environment (API)*
- *Robust design with IP68 waterproof rating*
- *Powered with standard alkaline batteries*
- *Lithium battery for intensive use (optional)*
- *Internal barometric and temperature sensor*
- *External antenna for optimal reception*



Easily integrated into the Eijkelkamp Web Portal for remote data collection, system configuration and evaluation of field conditions. The GDT-S Prime can also be connected to your own web environment.



GDT Prime Plus

The GDT Prime Plus re-uses the unique features of the GDT-S Prime and adds flexibility:

- The GDT Prime Plus has a 2nd sensor port that supports a vast range of 3rd party sensors (SDI-12, analog)
- The GDT Prime Plus logs sensor data
- The modem allows you to directly connect any water quality probe, without additional hardware
- The GDT Prime Plus lets you know where it is located (GPS/GLONASS coordinates)
- The GDT Prime Plus will power the sensor you connect to the 2nd port (when needed).

Since different sensors have different power requirements, the GDT Prime Plus offers the possibility to use an external power supply (6 – 24V DC) to extend battery life; Eijkelkamp Soil & Water has a number of options to choose from.



GDT-M

The Global Data Transmitter Multiple is a telemetry system capable of sending data for up to 6 sensors. The Global Data Transmitter Multiple comes in a 3G GPRS, UMTS or SDI-12 version.

Benefits

- Always a complete data set
- Smart while efficient
- 6 ports for sensors
- Secure data transmission
- 3G GPRS, UMTS or SDI-12 version
- Internal barometric and temperature sensor

Sensors

Eijkelkamp Soil & Water offers a wide range of soil and water related sensors, like soil moisture or meteorological sensors. Below we highlight the Diver water level loggers and the water quality range.

Diver water level loggers

The Diver water level logger range provides a robust line of dataloggers for groundwater and environmental professionals. The Diver water level loggers accurately measure and record fluctuations in surface and groundwater levels, temperature and conductivity.





TD-Diver

The TD-Diver is based on an ingenious and proven concept and is acknowledged as the most reliable instrument for the autonomous measuring and recording of groundwater level and temperature.

Its internal memory of 72,000 measurements per parameter provides sufficient capacity to perform one measurement every 15 minutes for over 2 years.

For each measurement, the TD-Diver registers the date and time, groundwater level, and temperature.



Features

- Compact size: Ø 22 mm - length 110 mm
- Memory: 72,000 records of time stamp, pressure and temperature with backup
- Continuous and fixed length memory

Benefits

- Easy installation in almost every well
- Cost effective frequent, long-term measuring
- Reliable and accurate data
- Low maintenance, no user calibration

Baro-Diver

The Baro-Diver ensures that you accurately capture changes in atmospheric pressure. Conveniently priced and easy to adjust, one Baro-Diver covers a radius of up to 15 km, depending on the topography. The Baro-Diver can also be used for measuring shallow water levels up to approximately 0.9 meter.

The Baro-Diver has an internal memory capable of storing 72,000 measurements per parameter. For each measurement, the Baro-Diver simultaneously registers barometric pressure, air temperature, date and time.



Features

- Compact size: Ø 22 mm - length 110 mm
- Memory: 72,000 records of time stamp, pressure and temperature with backup
- Continuous and fixed length memory

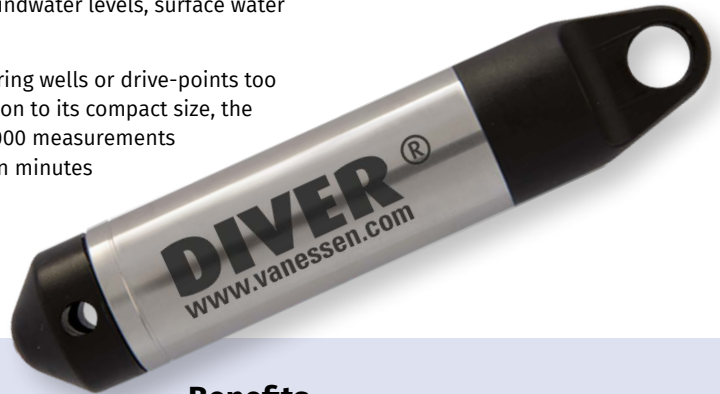
Benefits

- Easy installation
- Cost effective frequent, long-term measuring
- Reliable and accurate data
- Low maintenance, no user calibration

Micro-Diver

Measuring only 88 mm in length and 18 mm in diameter, the Micro-Diver is the smallest Diver capable of accurately recording groundwater levels, surface water levels and temperature.

The Micro-Diver is specifically designed for monitoring wells or drive-points too small to accommodate larger dataloggers. In addition to its compact size, the Micro-Diver's memory capacity can store up to 48,000 measurements per parameter - almost one measurement every ten minutes for an entire year.



Features

- Compact size: Ø 18 mm - length 88 mm
- 48,000 records of time stamp, pressure and temperature
- 30-Point pressure factory calibration
- Pre-programmed and user defined pumping tests

Benefits

- Fits ¾ inch monitoring wells
- Event based, averaging and pumping tests sample methods to conserve memory
- Cost effective frequent, long-term measuring
- Reliable and accurate data
- No need to search through extraneous data
- Fits any application

Cera-Diver

Monitoring groundwater under potentially corrosive conditions, such as brackish water and seawater, requires a robust and durable datalogger.

The ceramic-shelled Cera-Diver is designed specifically for such environments. This highly reliable and compact Diver measures groundwater levels with a typical accuracy of $\pm 0.05\%$ full scale.



In addition to its rugged casing, the Cera-Diver's memory capacity can store up to 48,000 measurements (date/time, pressure and temperature) - almost one measurement every ten minutes for an entire year.

Features

- Innovative ceramic housing technology
- Compact size: Ø 22 mm - length 90 mm
- Various measurement methods
- 48,000 records of time stamp, pressure and temperature
- 30-Point pressure factory calibration

Benefits

- Corrosion proof
- Easy installation in almost every well
- Event based, averaging and pumping tests sample methods to conserve memory
- Cost effective frequent, long-term measuring
- Reliable and accurate data



CTD-Diver

Where there is a need to monitor groundwater levels and salt water intrusion, injected wastewater, or contamination from chemical discharges and landfill sites, the CTD-Diver with its 22 mm diameter rugged, corrosion proof ceramic (zirconium-oxide) housing, is the instrument of choice.

The CTD-Diver is a submersible datalogger for long-term uninterrupted, real-time water level monitoring using a pressure sensor when submerged at a fixed level under the water surface. The pressure sensor measures the equivalent hydrostatic pressure of the water above the sensor diaphragm to calculate the total water depth. In addition, to a pressure sensor the CTD-Diver is also

equipped with a 4-electrode conductivity sensor for measuring the true or specific electrical conductivity of the water. The Diver autonomously measures conductivity, pressure and temperature and records them in its internal memory. The Diver is ideal for ground and surface water level applications.

The CTD-Diver is equipped with a four-electrode conductivity sensor that measures electrical conductivity from 0 to 120 mS/cm. There are two options for measuring conductivity: true or specific conductivity at 25 °C.

Features

- Innovative ceramic housing technology
- Three sensors in one sealed housing
- Conductivity range up to 120 mS/cm
- Compact size: Ø 22 mm - length 135 mm
- Various measurement methods
- 144,000 records of time stamp, pressure, temperature and conductivity (144,000 backup)
- 30-Point pressure factory calibration

Benefits

- Corrosion Proof
- Monitor conductivity, water levels, and temperature
- Suitable for use at most sites
- Easy installation in almost every well
- Event based, averaging and pumping tests sample methods to conserve memory
- Cost effective frequent, long-term measuring
- Reliable and accurate data

Water quality probes

Royal Eijkelkamp offers a wide range of indicators, sensors and many other kits and packages to help you with your water analysis. Our Royal Eijkelkamp water quality range contains an excellent selection of Scuba water quality probes suitable for various applications. All Scuba probes may be used for discrete sampling, profiling, as self-powered loggers, or connected to telemetry stations for continuous real-time monitoring, with water quality data accessible via cloud-based software. The Scuba probes communicate RS-232, SDI-12 or Modbus, for flexibility in connecting to a variety of different data loggers and PLC's. We offer the largest selection of water quality sensor technologies in the industry. So in addition to standard configurations, each Scuba probe may be customized for your specific application. Pick sensors of your choice to fully populate larger probes, or add a battery pack to convert a probe to a logging device.



All Scuba water quality probes feature anti-corrosive housings and sensors, robust marine bulkhead connectors, and additional anti-fouling options (copper gauze). The larger probes feature a central wiper system. LED status indicators on each sonde provide important diagnostic information. Each probe includes an industry-leading 3 year warranty. Operate your probes with a variety of display options, via a direct, Bluetooth or telemetry connection. All probes are connectable with our modems (GDT Multiple or Prime Plus). Intuitive control software, available for Windows, iOS and Android is included at no additional cost with every probe. Offered as complete packages you are provided with everything you need to get testing water.

Scuba Trimeter

The Scuba Trimeter holds any one sensor* (e.g. turbidity, dissolved oxygen (DO) or EC), plus temperature and depth sensors (both are optional). For example, a 3-parameter configuration could be turbidity, temperature, and depth. Another example could be Dissolved Oxygen (DO) and temperature. The meters are as versatile as our flagship the HydroMap family of water quality probes Scuba when it comes to applications variety.

Offered as complete packages you are provided with everything you need to get testing water.

*Exceptions include PAR, CO₂ and Transmissometer.

Scuba 50 and Scuba 65

Royal Eijkelpkamp's water quality probe Scuba 50 (50 = diameter of the probe in mm) comes standard with temperature, pH, conductivity, and dissolved oxygen sensors, and optional ORP and depth sensors. The optical DO sensor features a long-life (5+ years) replaceable cap, and the probe includes a separate and easy refillable reference sensor. Eliminating expensive consumables ensures low cost of ownership over the life of the probe. Connect the Scuba to any of our field display options for sampling in the field, or add a battery pack or solar panel for autonomous deployments. Connect to a telemetry station for viewing real time data in the cloud.

Eijkelpkamp's compact Scuba 65 is an excellent choice when your application calls for turbidity monitoring, but only a few additional sensors.

Both water Scuba probe packages represent the essentials in basic water quality monitoring.

Next to the hand meter, the probes can be used in combination with the GDT Prime Plus as well as the GDT-Multiple modem for wireless data transfer of the measurements. In this configuration it fits seamlessly in the Smart Sensing concept of Royal Eijkelpkamp.



Scuba 75

Royal Eijkelkamp's water quality probe Scuba 75 packs big 4, ORP, depth, and wipered turbidity - plus one ISE sensor, all into one small rugged probe. The Scuba 75 is available in two configurations, the 75A and 75B. Both models comes standard with wipered turbidity, temperature, pH, conductivity, dissolved oxygen, and optional ORP and depth sensors. The Scuba 75B accommodates the addition of two ISE sensors. The Scuba 75 model features an optical DO sensor with long-life (5+ years) replaceable cap, and the probe includes a separate and easy refillable reference sensor. Eliminating these expensive consumables, ensures low cost of ownership over the life of the probe. The lightweight water quality probes are ideal for spot checking and profiling, and are tough enough for extended deployments.

Next to a hand held meter the probes can be used in combination with the GDT Prime Plus or the GDT-Multiple. The probe fits seamlessly in the Smart Sensing concept of Royal Eijkelkamp.





Scuba 90

Royal Eijkelkamp's water quality probe Scuba 90 accommodates up to 11 different sensors, making it extremely versatile for a wide variety of water quality monitoring applications. The Scuba 90 is the larger of our advanced portable multiparameter water monitoring probes and is designed for long term deployment utilising a central cleaning system to keep the fitted sensors clean reducing the effects of biofouling common in extended deployments. The Scuba 90 is also available in two configurations, the 90A and 90B. Both comes with a range of standard sensors included (turbidity, temperature, pH, conductivity, dissolved oxygen), with the option to add ORP and depth sensors. Much like its smaller counterpart it offers more customisation options that allow you to add extra sensors to the probe. The Scuba 90A model will also accommodate 2 fluorimeters, plus 2 ISE sensors and the Scuba 90B will accommodate 3 fluorimeters. The Scuba 90 feature our optical DO sensor with long-life (5+ years) replaceable cap, and refillable reference sensor. The Scuba 90 probes are ideal for spot checking and profiling, and are tough enough for extended deployments.

Next to a hand held meter the probes can be used in combination with the GDT Prime Plus or the GDT-Multiple. The probe fits seamlessly in the Smart Sensing concept of Royal Eijkelkamp.



Scuba 105

Royal Eijkelkamp's water quality probe Scuba 105, hold more sensors than any multiparameter probe in the industry. It is ideal for long-term telemetry deployments utilising a central cleaning system to keep the fitted sensors clean reducing the effects of biofouling common in extended deployments.

The Scuba 105 comes standard with turbidity, temperature, pH, conductivity, and dissolved oxygen sensors, with the option to add ORP and depth sensors. In addition to these standard sensors, the probe will accommodate 3 fluorimeters, plus 3 ISE sensors.

Next to a hand held meter the probe can be used in combination with the GDT Prime Plus or the GDT-Multiple. The probe fits seamlessly in the Smart Sensing concept of Royal Eijkelkamp.





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