

groundwater monitoring

Technical specifications

General		
Sample rate*	0.5 sec to 99 hrs	
Memory	2 x 24,000 measurements (non-volatile)	
Material housing	stainless steel (AISI 316L)	
Material pressure sensor	ceramic	
Temperature range	-20°C to 80°C	
- accuracy	±0.1°C	
- resolution	0.01 °C	
- compensation range	-10°C to 40°C	
Battery life	8-10 years	* different sample modes available for pump tests
Dimensions	Ø22 mm, length 125 mm	** compensated temperature range
Weight	160 grams	

Type	DI 240	DI 241
Calibrated range	5 m water column	10 m water column
Usable range	4 m water column	9 m water column
- accuracy**	±0.1% FS	±0.1% FS
- resolution	0.1 cm	0.2 cm

Type	DI 242	DI 243
Calibrated range	20 m water column	30 m water column
Usable range	19 m water column	29 m water column
- accuracy**	±0.1% FS	±0.1% FS
- resolution	0.4 cm	0.6 cm

Type	DI 245	DI 250 (Baro)
Calibrated range	100 m water column	1.5 m water column
Usable range	99 m water column	-
- accuracy**	±0.1% FS	±0.3% FS
- resolution	2 cm	0.1 cm

DIVER

by Van Essen Instruments



level



VAN ESSEN INSTRUMENTS

Van Essen Instruments is an innovative company whose aim it is to develop new automatic systems for measuring and monitoring soil and water parameters.

In addition to the Diver other Divers are available for measuring electrical conductivity and dissolved oxygen.

DISTRIBUTOR



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level
temperature



DIVER

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THE DIVER: THE SMALLEST IN DIMENSIONS,

THE LARGEST IN ACHIEVEMENTS

NEVER BEFORE WAS MEASURING THE

GROUNDWATER LEVEL AND GROUNDWATER

TEMPERATURE SO SIMPLE AND RELIABLE

GET ACQUAINTED WITH THE SMALLEST

GROUNDWATER DATALOGGER IN THE WORLD

GROUNDWATER MONITORING... MORE IMPORTANT THEN EVER

The monitoring of the groundwater level is more important then ever. All over the world we face serious problems such as drought, flooding, shortage of pure drinking water and changing ecosystems. Reliable and frequent measuring is the only means we have to show the influence certain activities have on the groundwater level. The Diver of Van Essen Instruments presents the ideal solution allowing for imaging of these problems.

THE SMALLEST IN THE WORLD

The Diver is the smallest instrument in the world for automatic measurement and registration of the groundwater level and the groundwater temperature. It fits in the palm of your hand and is remarkably light weight. With its length of only 125 mm and a diameter of 22 mm application is possible in almost any monitoring well.

Compact

- Ø22 mm, length 125 mm



DIVER with optional DRC (Direct Read Cable) for communication during use.

Reliable

- temperature compensated pressure transducer
- fully protected against effects of indirect lightning
- stainless steel (AISI 316L)
- internal battery (8-10 years lifetime)
- infrared communication
- memory capacity for 2 x 24,000 measurements

Accurate

- level ±0.1% FS
- temperature ±0.1°C



COMPACT AND RELIABLE

The Diver is fitted with a fully sealed, stainless steel housing. This makes the Diver insensitive to moisture or external electrical influences (Faraday cage). The housing contains the pressure sensor, the temperature sensor, the datalogger and the battery. The Diver can be installed in the monitoring well simply suspended from a steel wire. After the installation nothing of the monitoring system can be seen over the ground level which reduces the risk of damage resulting from vandalism. The Diver now will automatically measure the groundwater level and temperature and register these data in the internal memory. The memory is capable of storing 2 x 24,000 recordings. This means that over a six months period you can execute and store a measurement every ten minutes before the memory is full. The built-in battery has a life of approximately 10 years. This is what Van Essen means when referring to compact and reliable!

PROGRAMMING DIFFICULT? ABSOLUTELY NOT

You prefer to perform measurements several times each hour, once every day or you wish to use the special pumping test options? Everything is possible. Just program the Diver according your wishes and you get the information exactly as you need it. The programming and readout are easily executed by using the readout-unit and a PC (laptop or field computer). Fast, uncomplicated and without effort. Monitoring groundwater with a Diver means gaining an optimum quantity of measuring data with a minimum investment in effort.

THE DIVER: THE PROVEN CONCEPT

The experiences of thousands of users of the Diver world-wide confirm that the choice Van Essen Instruments made for the fully sealed design was right. The Diver measures absolute pressure (water pressure + atmospheric pressure) expressed in centimeters of water column. To obtain accurate changes in water level, one needs to compensate for atmospheric pressure. The most accurate method is to use one extra Diver per site to record atmospheric pressure. When using the software supplied, the Barometric Compensation Wizard will simplify the adjustment of the level measurements for barometric pressure. For measuring the atmospheric pressure Van Essen Instruments has a specially designed and favourably priced, BaroDiver on offer.



PROGRAMMING AND READING DATA WITHOUT PROBLEMS

Van Essen supplies the software (Windows 9x/NT) required along with the Diver at no extra cost. This software program allows you to program your Diver quickly and without problems, either in the office or in the field. The Diver is placed in the read-out unit that is connected to the laptop or field computer. You supply details about the location, the frequency of the measurements, selecting either set measuring times, pumping tests or event-based sampling. The latter produces more frequent measurements during periods when large or rapid variations occur. The process is the same for reading data stored in the Diver after a measuring period. The data can be stored in your computer or be exported to a spreadsheet program. The software also includes a handy barometer wizard that allows the measurements to be compensated for atmospheric pressure.

