

MODERNWATER

PDV6000*ultra*

The portable metal monitor

Measuring trace metals in water, soil and food has always been a vital part of modern environmental monitoring. Voltammetry offers an internationally accepted alternative to laboratory analysis. Modern Water's PDV provides better on-site characterisation, with pollution hot spots and contamination sources more easily identified.

- Multiple, sequential metal analysis when using VAS
- AC or rechargeable battery for onsite use
- Solid-state robust electrodes and stand provided
- Detection limits as low as 0.1 ppb for certain metals in clean water
- Report generation capability using VAS software.

Modern Water's tried and tested metal monitors have been market leaders for over twenty years. They provide a convenient way to generate and store real-time data, which allows real-time decision-making. Our PDV6000*ultra* can be more cost-effective than laboratory analysis and it can be used "stand-alone" or on a computer with our powerful VAS software.



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The PDV6000ultra has been upgraded to allow much improved stand-alone operation and an indication of blank and standard run performance. A larger screen allows simple voltammograms to be shown. The USB connector replaces the serial port. The upgraded product has a battery life indicator and can be run either on 4 x 1.5V AA batteries, or from the mains using the standard 8 - 12V DC transformer.

The PDV6000ultra comes with the VAS software package, which is easy to use and is compatible with Windows XP and 7. VAS enables storage and manipulation of voltammograms, operating data and in-depth data analysis.

The SV LabCell

Our PDV6000ultra comes equipped with a standard analytical cell which can detect a wide range of different metals. The SV LabCell is an optional extra that allows Cathodic Stripping Voltammetry (CSV) to be used on the PDV.

The SV LabCell extends the PDV's range of metals to include molybdenum and uranium; it also gives a better response for nickel, cobalt and chromium at low levels.

Applications

- Academic research
- Monitoring at remote locations
- Contaminated land remediation
- Food and feed analysis
- Tracing contamination back to source
- Accidental contamination events
- Monitoring of rivers, lakes, reservoirs, seawater
- Industrial effluent monitoring
- Groundwater monitoring / natural attenuation
- Wastewater recycling and WWTP influent monitoring
- Drinking water intake and distribution

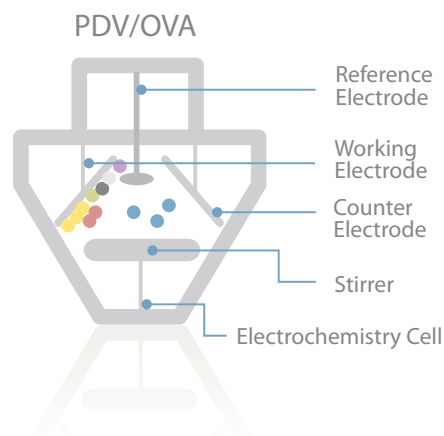
What it detects

The PDV6000ultra can detect a range of different metals (for example As, Cd, Cr, Cu, Hg, Ni, Pb, Se, Ti, Zn, and others. Please refer to Trace Metals brochure for a full list of metals and their detection limits) to single figure ppb levels. With the optional add-on SV LabCell, the PDV6000ultra can detect Co, Cr and Ni more easily, typically to 1 ppb levels. The SV LabCell can also detect Mo and U. Colour or turbidity does not affect the method. Ideally suited for water analysis, dirty water samples and soil samples may require simple on-site sample preparations to remove interferences. Food samples will require digestion to prepare them for analysis. Samples can be pre-treated to remove interferences.

Process explained

In voltammetry metals are drawn onto the working electrode when a specific voltage is applied to the water sample under test.

When a stripping voltage is applied, the metals return to the sample solution, generating a small current. Each metal has a specific voltage at which it returns to solution. So the metal is identified by its stripping voltage, and the current generated indicates the concentration of metal in the sample.



PDV6000^{ultra} WITH STANDARD CELL SPECIFICATIONS

| | |
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| Power Supply | AC, 110 - 240V or DC 8 - 12V or 4 x AA batteries |
| Dimensions PDV6000 ^{ultra} | 360mm x 270mm x 155mm (L x W x D) |
| Dimensions SV LabCell | 220mm x 160mm x 160mm (L x W x D). Drain tank, solid-state electrodes and stand provided |
| Working Electrode, Std. Cell | Glassy carbon, used with a variety of films, or solid gold |
| Working Electrode, SV LabCell | Glassy carbon with bismuth film |
| Counter Electrode | Platinum |
| Reference Electrode | Ag/AgCl in KCl |
| Cell Material | Acrylic and PTFE |
| Cell Stirrer | DC magnetic motor and magnetically coupled stirrer |
| Display | LCD graphic screen |
| CE Compliant | Yes |
| Operating Software | Windows XP and 7; VAS internal firmware |
| Communications | USB |
| Keypad | 5 button keypad |
| Analysis Methods Available | Anodic stripping, Cathodic stripping |
| Waveforms Available | Linear sweep, square wave and differential pulse |
| Voltammetry Range | -2.0V to +2.0V (switchable to -3.3V to +3.3V if required) |
| Sensitivity | 2 nA |
| Variation (%CV)* | 5 to 10% |
| Result Output | Voltammetry curves, element concentration(s), historical data |
| Calibration | Standard comparison or standard addition |
| Packing | Sturdy water-proof carry case |
| Stand-alone field instrument | 10 programmable stand-alone menus 10 programmable conditioning menus Blank subtraction option, standard addition option (useful for dirtier water) Battery indicator |
| Portable laboratory instrument connected to PC or laptop | Windows OS: XP and Windows 7 VAS software, making the instrument a top of the range voltammetry instrument Automatic data saving, graph optimisation, print facility for all data, reports and graphs |

* All values are dependent upon the metal(s) being analysed and the nature of the sample

To find out how we can help you please contact us on:

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