microtrace metals | PDV6000*ultra*

Portable Metal Analysis

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. The microtrace PDV provides better on-site characterisation, with pollution hot spots and contamination sources more easily identified.

- Single instrument can be configured to measure up to 24 different metals
- Traditional & Simplified Chinese user interface now available (VAS & Tablet App)
- More accurate, sensitive and less susceptible to interference than colorimetric methods
- Analyse in the lab or the field to levels below 1 part per billion – below drinking water regulations for almost all target metals
- Excellent Correlation with Laboratory Methods (AAS, ICP-MS) but much lower capital and operating cost
- 30 years of application development, validation studies and academic references
- Solid electrodes - multi year lifetimes and no hazardous elemental mercury.
- Standalone field instrument - compact, light weight carrying case allows for field use
- Speciation of selected metals by lability & oxidation state
- AC or rechargeable battery for on-site use
- High levels of accuracy and repeatability
- Fast analysis on site, combined with low cost per test allows:
  - immediate identification of problems
  - interactive sampling to locate and identify contamination source and extent
  - remediation decisions to be made onsite, saving time and increasing efficiency
  - larger number of sample points, improving site characterisation cutting remediation costs

PDV6000*ultra* WITH STANDARD CELL SPECIFICATIONS

Power Supply	AC, 110 - 240V or DC 8 - 12V or 4 x AA batteries
Dimensions PDV6000ultra	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, electrodes and stand
Working Electrode, Std. Cell	Glassy carbon, used with a variety of films, or solid gold
Working Electrode, SV LabCell	Glassy carbon
Counter Electrode	Platinum
Reference Electrode	Ag/AgCl in KCl
Cell Material	Acrylic (Labcell only) and PTFE
Cell Stirrer	DC magnetic motor and magnetically coupled stirrer
Display	LCD graphic screen
CE Compliant	Yes
Operating Software	PC: Windows XP, 7and 10 - VAS; Tablet: Android - PDV app
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 (3.3V factory option)
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

Process explained

Metals are drawn onto a 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. The metal is identified by its stripping voltage, and the current generated is proportional to the concentration of metal in the sample.

Metals with standard application notes:

Cr	Mn	Fe	Co	Ni	Cu	Zn	Ga		As	Se
Mo				Pd	Ag	Cd	In	Sn	Sb	Te
					Au	Hg	Tl	Pb	Bi	

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Tablet App

An android tablet with analysis app, supplied with the PDV6000*ultra,* allows straight forward operation. Pre-loaded analysis menus provide step by step analysis instructions and other built in help features, while offering advanced analytical options such as blank subtraction and standard addition calibration for an easy to use yet powerful interface.

Windows PC Software

Also provided is the VAS software package, optimised for laboratory and research use. allowing in-depth data analysis. It is compatible with Windows XP, 7 and 10.

The SV Labcell

Our PDV6000*ultra* 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 the use of Bi film which has performance advantages for cathodic stripping methods and extends the PDV's range of metals to include molybdenum and uranium; and a better response for nickel, cobalt and chromium at low levels.

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a division of
B3 Electronic Design Pty Ltd
Unit 1, 7 Collingwood St., Osborne Park, 6017
Western Australia
t: +61 (0) 8 9204 3033

www.microtracemetals.com