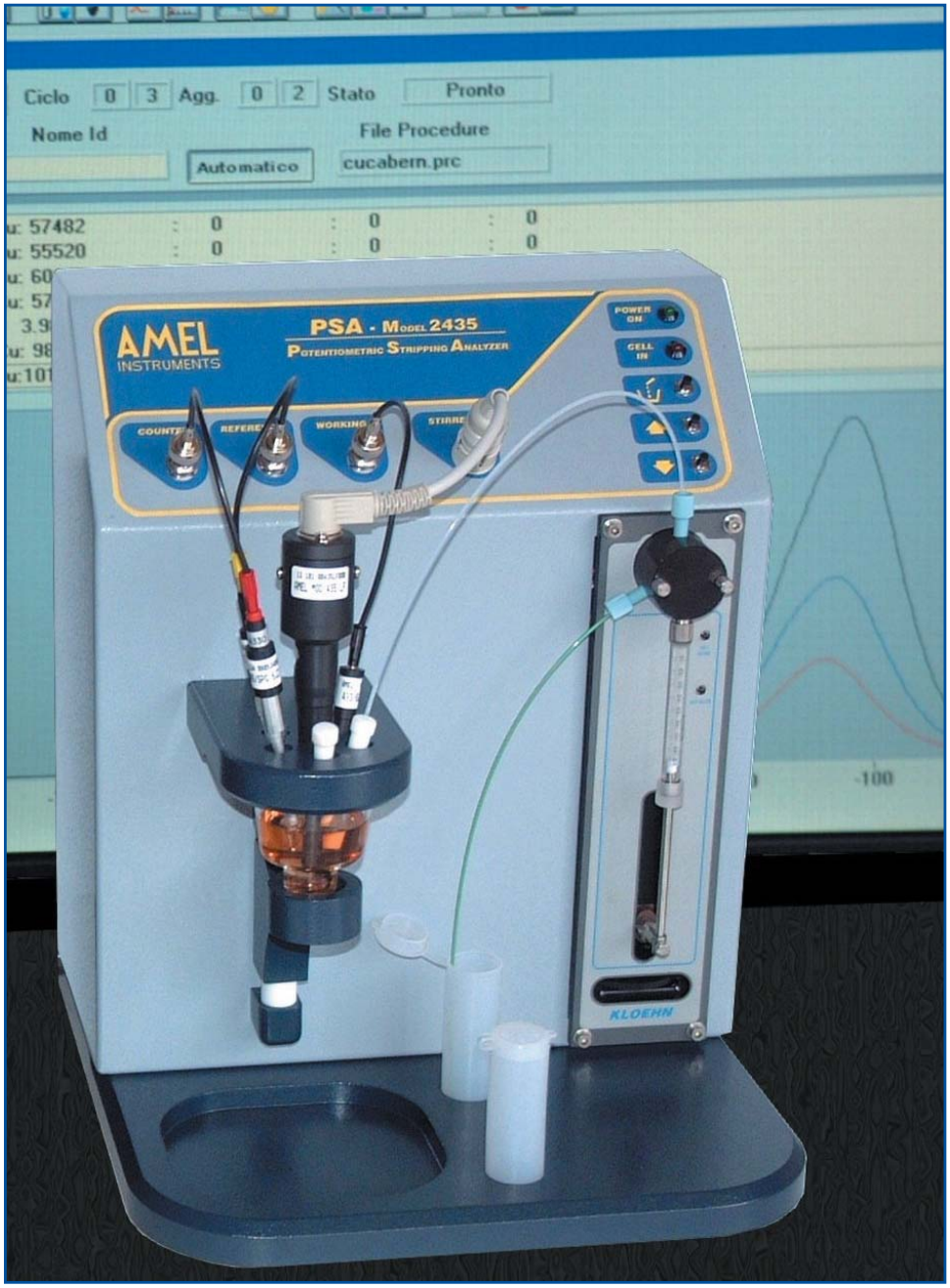
# Model 2435 PSA

AMEL INSTRUMENTS




The pollution from heavy metals is becoming a crucial point between the environmental dangers derived by production processes An easy to run and sensitive analysis method is then mandatory for both surveillance and routine controls by the plant managers and pollution control autorities.

Our Model 2435 Tracescan is the solution to all these tasks, with a fully automatic measuring cycle and a straight connection between the instrument and the host PC.

Between the key performances of the instrument you find:

- detection capability down to ppb levels
- no sample digestion or preparation required in most cases
- extremely fast results
- compact instrument with optional battery for in-field operations
- The software given with the instrument allow simple and fast operation from both skilled and unskilled personnel.

Check our wide detection capability library or ask for your specific problem.

**From instrument to a PC in few seconds!**

# Model 2435

# Technical specifications

### *Field of application*

PSA technique can be successfully employed in both industrial and research field
Specifical analysis of pollutant metals such as: Pb, Cd Zn, Cu, As can be carried out on

***Food and beverages*** .....wine, juice and milk
***Water Treatment*** .....tap water, fresh water, sea water and waste water
***Galvanic industries*** .....galvanic bath
***Pharmaceutical industries*** .....row material using for packaging
***Research*** .....Windows software supplied with Tracescan is completely open: researcher can built his own analysis simply filling-up set up parameter menu

### *Control Unit*

***Three-electrodes system***
***Output voltage compliance*** .....±12V
***Response time*** .....≥100µs
***Output impedance*** .....≥100Mohm
***Ranges*** .....±100µA, ±10µA, ±1µA, ±100nA
***Resolution*** .....1/4096 of the selected full scale value

### *Electrometer*

***Input voltage*** .....±10V
***Input impedance*** .....$\geq 10^{12}$ ohm
***Input leakage current*** .....≤10pA
***Equivalent input noise*** .....≤25µVpp

### *Analog-to-digital converter*

***Fast A/D conversion***
***Potential range*** .....±4.096mV
***Resolution*** .....±4.096mV
***Conversion rate*** .....≥50ksample/s

### *Analytical cell*

***Dosing system*** .....two-way
***Stirrer*** .....computer controlled propeller type stirrer
***Electrodes*** .....6mm glass body standard N6 conical joint
***Reference*** .....Ag/AgCl
***Counter-electrode*** .....platinum wire
***Working*** .....Glassy carbon 3mm disk (gold and platinum also available)

### *Techniques implemented*

***PSA*** .....Potentiometric stripping Analysis
***CCSA*** .....Constant current Stripping Analysis

### *General specifications*

***Power supply*** 105, 240V.A.C. 50/60, Hz 30VA (12 Vcc with battery option fit)
***Dimensions*** .....300x300x360 mm
***Weight***.....3 kg (5 kg with battery option)

### Operating principles

The Potentiometric Stripping Analysis joints the advantages of electrochemistry techniques, like low cost and fast response, to outstanding performance in the interference rejection from unwanted elements. This allows trace analysis directly into the practical sample, without the need for mineralization or sample preparation (as long as the sample is in liquid form).
The technique is based on a accumulation step, identical to the classical voltammetric technique, and a stripping phase that is performed exclusively by a chemical reaction, that is the stripping off the absorbed species in the working electrode by the action of a strong oxidizing solution.
By monitoring the working electrode, the different metals are read in sequence at their own electrochemical potentials: this process is quite insensitive to almost any interfering organic matter and dissolved oxygen too, overcoming traditional voltammetric analysis limitations.
The concentration of the given component is then proportional to the time by current product at the specific redox potential.
The software suite takes care completely of the experiment's execution and data analysis, while the automatic syringe avoid the need of any other equipment for obtaining clean and fast results.

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