

IONIX

POTENTIOMETRIC STRIPPING ANALYZER

**THE ULTIMATE SOLUTION FOR
COPPER, LEAD AND ZINC
DETECTION IN WINE**



- + Ideal to both the most sophisticated applications in the research field and to routine analyses using the potentiometric stripping technique***
- + Heavy metal analyses become easy and economical!!***



GENERAL DESCRIPTION

In compliance with the present regulations (i.e. EC REGULATION n° 466/2001) on the maximum concentration level, heavy metal detection in waters, air, ground, food, oil and cosmetic fields has become fundamental for the public and environmental health.

IONIX ENO is a high-sensitivity analysis unit able to detect metal traces in different simple or complex matrixes. High speed to measure the potential variations, with their subsequent processing, allows to reach a high detectability level (often below ppb). Thus, very small metal traces can be accurately and repeatedly detected and quantified.

Unlike other similar techniques, analyses can be run on the "ORIGINAL" sample too, that is matrixes do not require any chemical or physical pre-treatment; moreover, samples are not destroyed during analyses. This makes IONIX ENO particularly suitable for routine analyses and for use by non-particularly skilled operators. Spot on-site analyses can be performed thanks to its small compact size.

In order to detect the concentration of metal traces in wine, it is possible to carry out an electrochemical technique using the reduction potential of an element (to dose traces of it in a solution).

To detect the metal, the sample has to undergo a suitable treatment depending on the kind of matrix in which the element is present. Moreover, the quantity of sample to be taken depends on the metal concentration. The element to be dosed is turned into metalstate by applying a well-defined negative potential.

The cell where the electrochemical reaction takes place must contain a support electrolyte allowing the migration of the charged species towards the graphite electrode. Normally, this electrolyte is made of an acid solution.

The potentiometric stripping technique is very sensitive. In fact, metal traces can be detected up to ppb level.

STANDARD EQUIPMENT:

- Stirrer run by a microprocessor
- Glassy carbon graphite electrode
- Ag/AgCl reference electrode
- Platinum electrode
- Mercury drop electrode (optional)
- RDE electrode (optional)

METALS DETECTABLE BY POTENTIOMETRIC STRIPPING TECHNIQUE

Copper - Lead - Cadmium - Zinc

APPLICATION FIELD

BEVERAGES

- Wine, beer, vinegar, balsamic vinegar, distillates, spirits

REMARKABLE FEATURES

NON DESTRUCTIVE ANALYSES: IONIX ENO allows for analyses of different kinds of metals on the same sample with no need of intermediary treatment and mineralization phases

HIGH SENSITIVITY: IONIX ENO is particularly versatile for the detection of metals such as: Pb, Cd, Cu, Zn reaching sensitivity up to ppb

QUICK ANALYSES: IONIX ENO gives analytical results in a few minutes

USER-FRIENDLY: the whole analysis can be automatically performed by means of a personal computer and a software

COMPETITIVE PRICE: IONIX ENO has very low price. Its management costs refer to only consumption of solutions

APPLICATION FIELD: Oenology

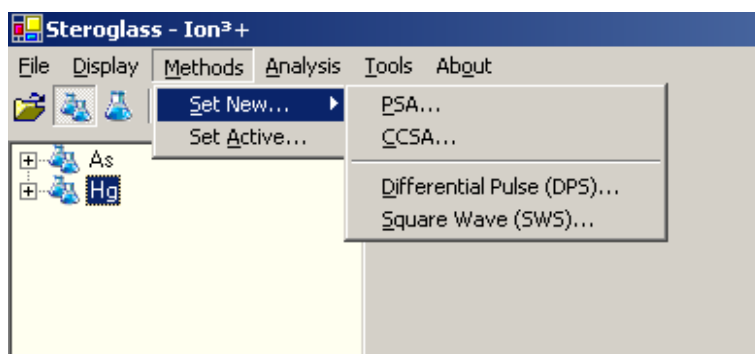
SMALL SIZE: Its small compact size makes installation in very small spaces possible

METAL-FREE: Disposable plastic metal-free cells prevent metal pollution coming from washing operations and glass cells

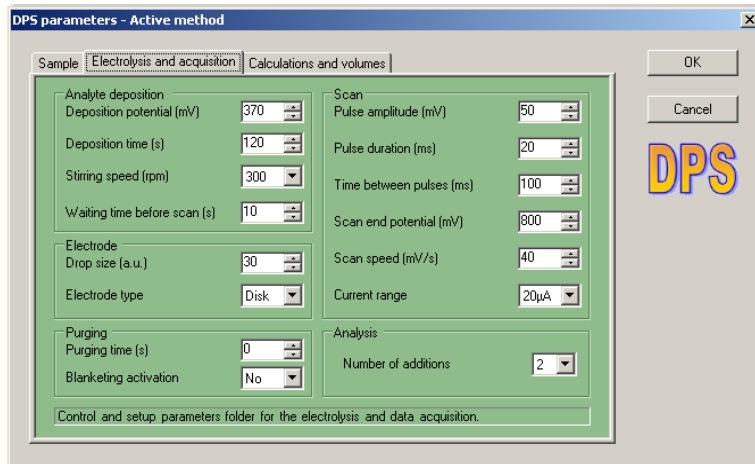
IONIX ENO: THE NEW "WAVE" SOFTWARE

UPDATED TECHNIQUES:

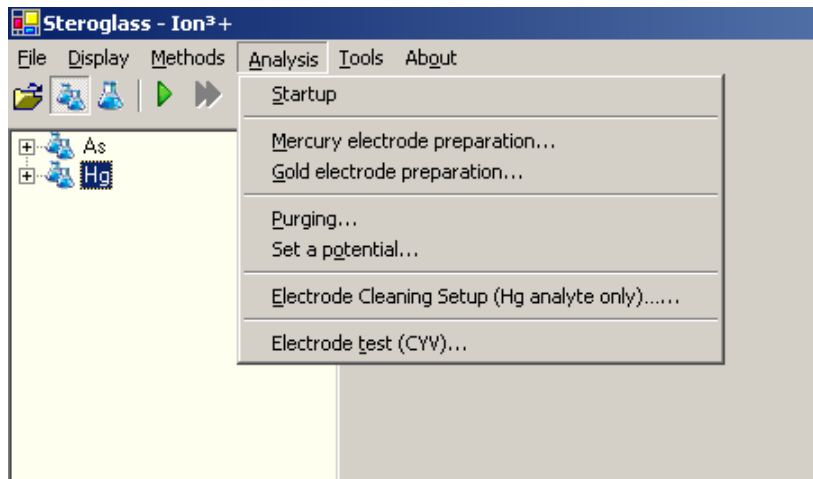
- PSA (*Anodic Stripping Analysis*)
- CCSA (*Constant current stripping analysis*)
- DPS (*Differential pulse*)
- SWS (*Square Wave*)



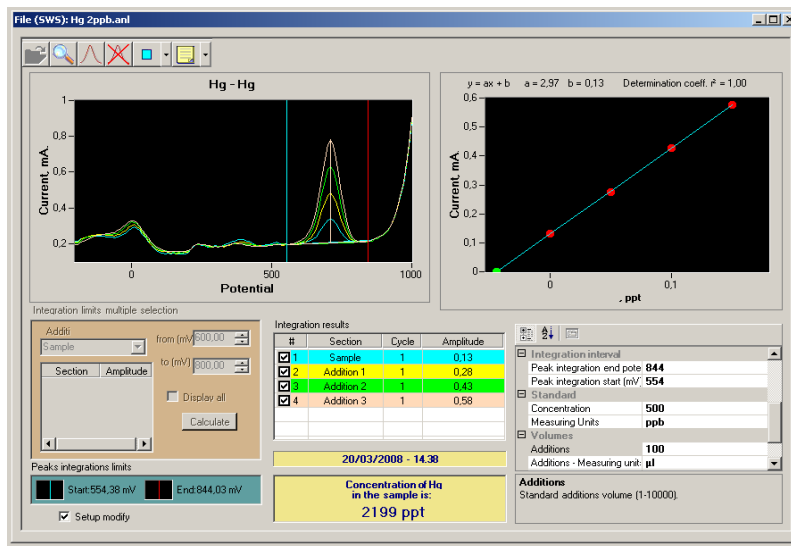
EASY PARAMETERS SETUP



- ✚ **AUTOMATIC ELECTRODE SETUP BY POTENTIAL RATE**
- ✚ **ELECTRODE CONTROL BY CYCLIC VOLTAMMETRY**



✚ **USER-FRIENDLY**



IONIX ENO: TECHNICAL SPECIFICATIONS

General specifications

Power supply	Universal 98 -230 Vca 40-60 Hz 40VA
Dimensions (WxLxH)	200 x 230 x 350 mm
Weight	8.5 kg

Minimum PC Requirements

Processor	Pentium® III
System memory	256Mb RAM (512Mb)
Hard disk free space	100 megabyte
CD-ROM unit	Yes
Serial port	N°1 RS-232 and N°1 USB
Monitor	VGA monitor (1280x1024) or more
Printer	Any printer Windows™ compatible
Operating system	Microsoft® Windows™ XP or NT 4.0

Electrical Specifications

Output voltage compliance	±12V
Response time	≤100µs
Output impedance	≥100MΩ
Current ranges	±2mA - ±2nA (17 scales)
Resolution	16 bit (referred to the full-scale value)
Input voltage range	±10V
Input impedance	±10 ¹² Ω
Input leakage current	≤10pA
Equivalent input noise	≤25µVpp

Analog-digital conversion

Potential range	±4096 mV
Resolution	16 bit (±125 µV)
Conversion speed	≥100 K sample/s

Communication

Interface	Opto-isolated RS 232 C or USB adaptor
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Electrochemical materials and devices

Electrodes support material	ARNITE®
Sample cell material	Borosilicate glass

Stirrer	Computer controlled constant speed
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Helix	Borosilicate glass
Purging system	Two-way automatic gas bubbler system

Electrodes

Type	8 mm glass body with standard N6 conical joint
Reference Electrode	Ag - AgCl
Counter Electrode	Metal platinum (tip)
Working Electrode	Glassy carbon (GC V-10 grade) 3mm
Optional working electrodes	Platinum, gold, stationary and rotating, Hg drop

HOW TO ORDER

CODE	DESCRIPTION
SQOJ061450	IONIX 230 V, 50/60 HZ

SPARE PARTS

CODE	DESCRIPTION
SQOU009253	Reference Ag/AgCl electrode
SQOU009252	Glassy graphite electrode
SQOU023761	Replacement tip for glassy graphite electrode (white side)
SQOU009240	Platinum electrode
SQFY031021	Moplen support for the electrodes
SQOU003395	Stirrer (without glass helix)
SQOU009317	Borosilicate glass Helix
SQOU006798	Borosilicate glass Sample Cell
SQOU006797	Plastic METAL-FREE Sample Cell (200 pieces)
SQOU023067	Arnite tap
SQOU025480	Anti-acid plastic basin
SQOF057692	RDE electrode



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