



**A Platform for the Future™**

# ULTIMA 2 C SERIES

## Combination ICP OES

### Productivity and Performance

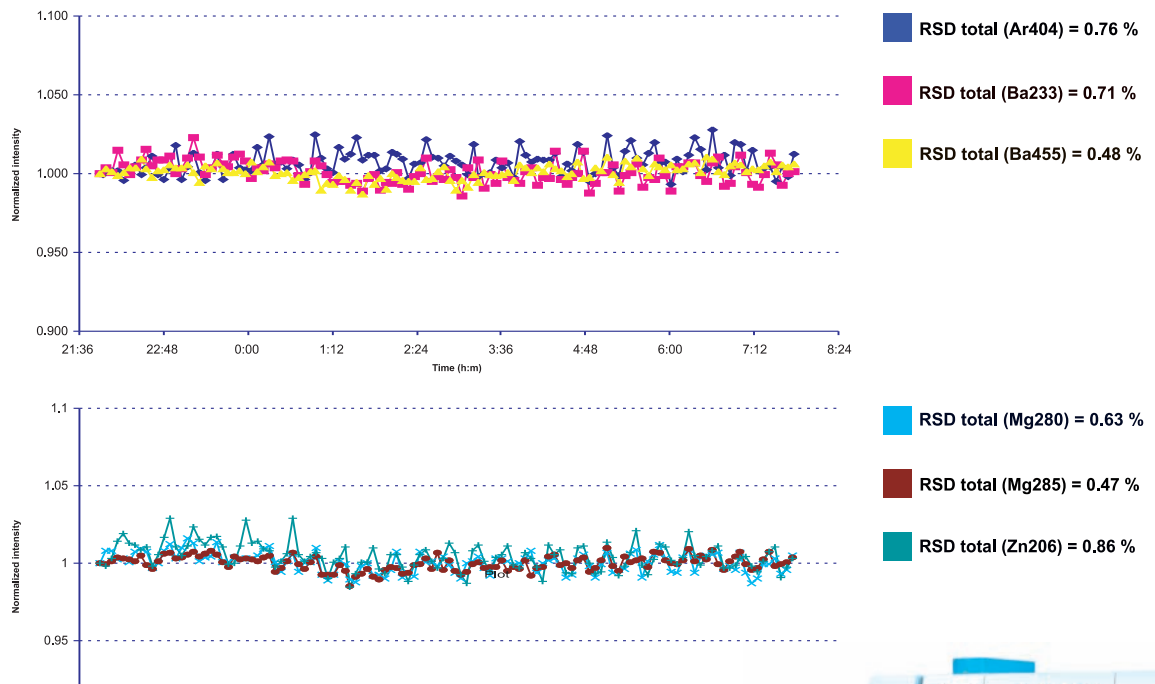
The ULTIMA 2C provides a complete solution for your laboratory with the speed and flexibility required for many applications where the need for a fast analysis time must not compromise instrument performance. The series offers the features of the ULTIMA 2 with the lowest detection limits using single view radial plasma and unparalleled spectral resolution. To this is added a directly viewed simultaneous optic.

### Models for Your Applications

The ULTIMA 2CE is configured for high throughput laboratories following environmental protocols such as US EPA 200.7, which is often the basis for global environmental methods. The ULTIMA 2CE performs compliant analysis of method 200.7 elements in less than 4 minutes.

The ULTIMA 2C HR is the top-of-the-line in ICP OES instrumentation and offers the performance necessary to achieve accurate results in even the most complex materials, such as zirconium and tungsten, precious metals or applications featuring rare earth elements in trace concentrations.

### Stability and Precision at Any Concentration



Stability is better than 1% over more than ten hours. This performance allows the analysis of hundreds of samples per day.



## Typical Sequential Detection Limits at 3 sigma in ppb

Element	LOD	Element	LOD	Element	LOD
Ag	0.6	Cu	0.2	Sb	1.5
Al	0.2	Fe	0.2	Sc	0.09
As	1.2	Hg	1.3	Se	1.5
Au	0.6	I	2.0	Si	1.5
B	0.3	K	1.5	Sn	1.3
Ba	0.04	Li	0.5	Sr	0.03
Be	0.05	Mg	0.03	Ti	0.2
Bi	2.6	Mn	0.05	Tl	1.0
Br	100	Mo	0.2	V	0.2
Ca	0.03	Na	0.6	W	2.0
Cd	0.09	Ni	0.3	Y	0.2
Cl	200	P	1.5	Zn	0.2
Co	0.2	Pb	1.5	Zr	0.3
Cr	0.2	S	3.0		

## Typical Simultaneous Detection Limits at 3 sigma in ppb

Element	LOD	Element	LOD	Element	LOD
Ag	1.2	Li	1.0	Ti	0.5
As	10	Mg*	0.1	Tl	6.0
B	4.0	Mn*	0.3	V*	1.2
Ba*	0.7	Mo	1.0	Y	0.4
Be*	0.4	Na	5.0	Zn*	0.5
Ca*	0.1	Ni	2.0	Zr	0.4
Cd	0.6	Pb	7.0		
Co*	1.0	S	7.0		
Cr	1.0	Sb	6.0		
Cu*	0.8	Sc	0.8		
Fe*	1.0	Se	9.0		
Hg	10	Sn	7.0		
K	6.0	Sr	0.04		

\*Elements present on ULTIMA 2CE for simultaneous analysis, all other elements measured on sequential portion.

## RF Generator

- Solid State 40.68 MHz, crystal controlled
- *Smart Hood™* exhaust system (patented) for safety protected exhaust without bifurcation

## Sample Introduction

- Fully demountable quick-release torch with sheath gas system, cyclonic quartz spray chamber, pneumatic concentric nebulizer
- Fold-down corrosion resistant sample tray
- 12 roller, double head, variable speed computer controlled pump with fast pump function

## Monochromator

- 2400 gr/mm grating, 1st and 2nd orders only
- Spectral range: 160–800nm standard, far UV option for analysis down to 120nm
- Resolution: 0.005nm 120–320nm, 0.010nm 320–800nm

## Polychromator

### ULTIMA 2C & 2CE

- 0.5m focal length, 3600 gr/mm double order, holographic grating
- Spectral range: 165–408 + optional flat field for Na, Li, K
- Resolution: 0.025nm first order, 0.015nm second order

### ULTIMA 2C HR

- 1.0m focal length, 3000 gr/mm double order, holographic grating
- Spectral range: 128–493 + optional flat field for Na, Li, K
- Resolution: 0.015nm first order, 0.019nm second order

Specifications subject to change without notice.

## Flat Field (optional)\*

- For simultaneous analysis of Na, K, and Li
  - Flat field optical assembly with 1200 gr/mm blazed holographic grating for visible and near IR
- \* not available on ULTIMA 2CE

## Data Processing

- Ultrafast acquisition system
- Computer, monitor and printer
- *Analyst™* software for instrument control and data processing
- Optional Win-IMAGE for semi-quantitative and retrospective analysis and fingerprinting

## Physical Data

	ULTIMA 2C & 2CE	ULTIMA 2C HR
Depth	990mm (39in)	1880mm (74in)
Width	2220mm (88in)	2450mm (97in)
Height	1700mm (67in)	1700mm (67in)
Weight	550kg (1,212lbs)	815kg (1,630lbs)

## Accessories (for more details see ICP Accessories Flyer)

- AS 500 Autosampler
- Argon Humidifier
- Spark Ablation
- Ultrasonic Nebulizer
- Water Recirculator
- Nitrogen Generator
- Concomitant Metals Analyzer (CMA)
- Hydride Generator
- Volatile Organics Kit
- Variety of nebulizers and spray chambers for your application

