HITACHI
Inspire the Next

Hitachi High-Tech GLOBAL

XRF Analyzer EA1400

For customers in such variety of application fields as process and quality control of cement or slags, failure analysis of abnormal spot, and inspection of foreign matter as well as RoHS inspection, the EA1400 delivers on reducing measurement time, simplifying the management of measurement results, reducing operational mistakes, and improving efficiency.

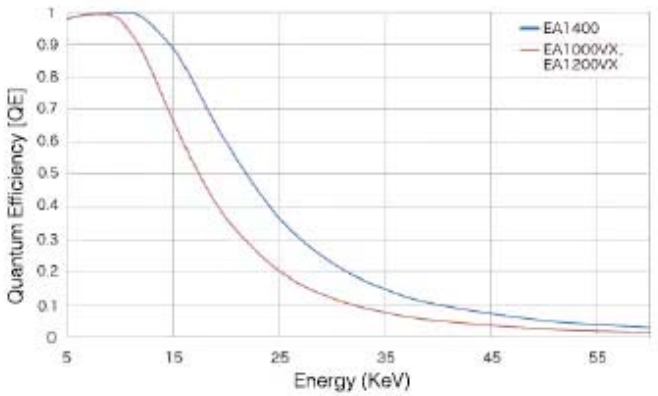
Features

The newly developed silicon drift detector (SDD)

High sensitivity and high throughput measurement

New detector with increased quantum efficiency in the high energy region, making high-sensitivity, high-throughput measurement of the Cd Kα, Pd Kα, Ba Kα energy bands possible.

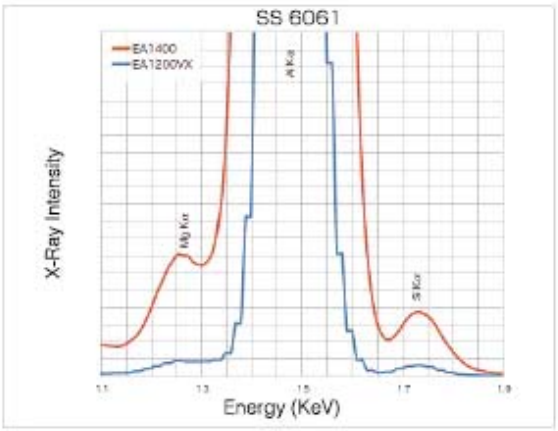
Newly developed
Silicon Drift Detector



Higher resolution and higher count rate

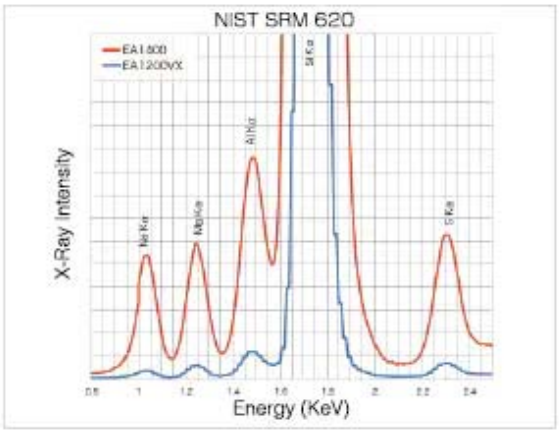
Compared to previous models (EA1200VX [see graph] or EA1000VX) EA1400 excels in detecting trace

elements adjacent to the main components of the sample thanks to its high-resolution, high-count rate SDD which allows for exceptional performance in tasks such as quality control of metals and others.



Vacuum System and New SDD

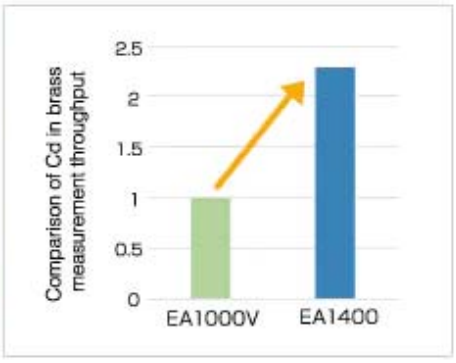
The sensitivity of light elements is greatly improved by using the new detector and vacuum system, which aids in process and quality control of slag and cement.

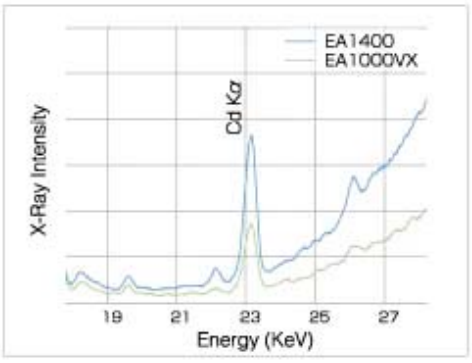


From RoHS control to an extensive range of areas

RoHS: Screening of Cd in brass made faster

More than doubled the throughput when measuring traces of Cd in brass and other metals compared to our previous model (EA1000VX.)





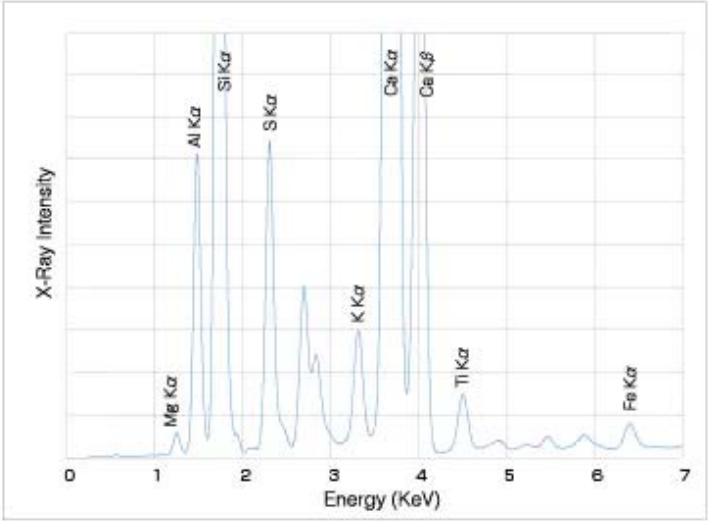
Lower limit of detection (mg/kg) of every element in brass from a 300 sec. measurement

Element	Cd	Pb	Cr
Lower Limit of Detection	4	13	11

***Shown data is an example, not to be considered guaranteed performance.**

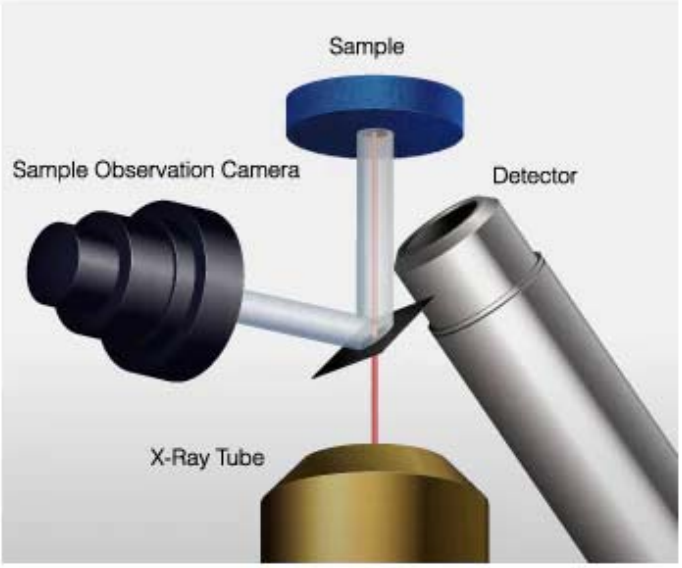
Control process in smelting: fast, accurate measurement of main elements in slag

Smelting process conditions are controlled using the information from slag's major components; Si, Ca, Al, Mg. The new SDD provides considerable improvement in accuracy with light elements, like Mg, in particular.



Quality control: detection of adhered, buried foreign matter

With X-ray diagonal irradiation system, it has been difficult to measure samples with uneven or irregular surface and contaminants adhered to the base material. The EA1400, equipped with optimized X-ray irradiation and sample observation mechanism, enables detecting and identifying elements originating from contaminants.



Specifications

Mode;	EA1400
Measurable elements	Na(11) ~ U(92)

Environment	Normal atmosphere (Al ~ U) Vacuum (Na ~ U) *Optional
X-ray direction	X-Ray Vertical Irradiation (Coaxial Sample Observation)
X-ray source	Small Air-cooled x-ray tube (Rh target)
Detector	Newly developed Silicon Drift Detector (SDD)
Measurement Area	1,3,5 mmφ
Filter	5 filters automatic switching
Sample chamber	304(W)×304(D)×110(H)mm
Weight	69 kg
Power requirements	AC100 ~ 240V (50/60Hz)/190VA
Sample changer	Compatible (12samples) *Optional

Application Note

Introducing the example of fluorescent X-ray analysis.

XRF Analyzers for compliance with RoHS & ELV

Descriptions

Describing the applications and principles of fluorescent X-ray analysis.

Environmental Directives and Related Products & Service

Science Ring

The trademark that represents our strong bond with the customer and shows our pledge to connect science and society to create new value.