Matsusada Precision

X-ray Fluorescence Spectrometer

RX5000

New

Energy Dispersive X-ray fluorescence Analyzer

RX5000

www.matsusada.com

Measures for compliance with the RoHS / ELV and other regulations……

Lead content control in the solder bath……

Analysis of hazardous elements in industrial wastes……

Plating thickness control……

Leave it to us!

Outstanding performance achieved in response to needs in the field.

Easy Operation

Easy but excellent operation that allows anyone to perform high-precision measurements

Ultra Compact

Significantly reduces space while maintaining high precision and multifunctionality

High Sensitivity

High sensitivity that allows for the usage of a variety of purposes, including ultratrace measurements

Necessary PC operation at the click of a button

With a one-click operation that focuses on ease of use,
anyone can use the RX5000.

STEP 1

Set the sample on the turret.

STEP 2

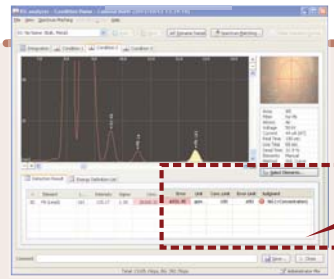
Click the “Measure” button

You can register major measurement conditions on the Menu screen in advance. Selecting, setting, and other operations are not necessary for the registered measurement conditions.

STEP 3

Display the measurement result.

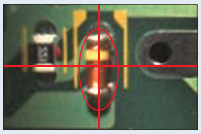
After the measurement is completed, an automatic judgment result is displayed.



+α Key points

Easy positioning for minute samples

CCD camera, which is convenient for fine positioning with minute samples and comes standardly included

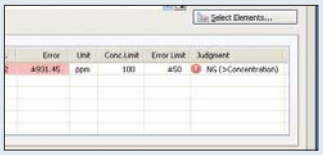


One-touch operation for saving/reproducing measurement conditions

Measurement conditions for the sample analyzed can be saved. After saving the conditions, analysis with the reproduced conditions can easily be performed.

Automatic judgment function

No time is wasted from the completion of analysis to the judgment of result.



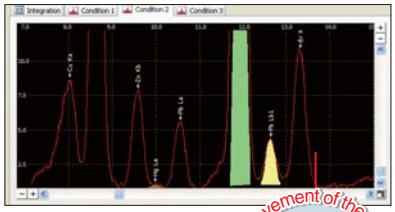
Sophisticated user interface

RX5000 includes a user aid function to automatically perform the detection of the measurement subject element and a judgment of the result of a measurement.
Furthermore, we adopt the original control logic which can do operation intuitively, pursue usability thoroughly, and realize simple operation of the wonder.

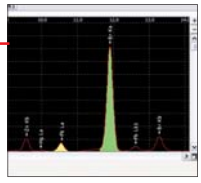
For example: “Measurement Result Screen”

(1) Sensuous spectral control

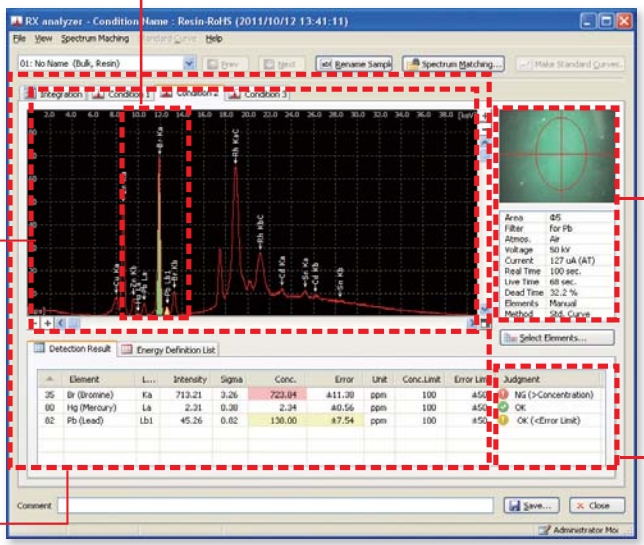
By using the mouse wheel, the spectrum can be controlled in a sensual way.



(2) Automatic detection function



Measurement target elements are automatically detected and differentiated by coloring.

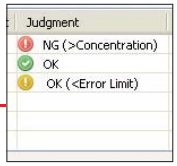


Measurement conditions and camera images are stored in the same screen.

(3) One-click checking for other elements

As the energy definition list is shared, other elements can be checked with a single click. As not only the major peak positions but also the sub-peak positions can be checked, unaccounted for peaks can be easily identified.

(4) Automatic judgment function



The measurement results are automatically determined, whether they are equal to or higher than the standard value or below. It is not necessary for users to judge the results.

Outstanding compact design

RX5000

Horizontal width of as small as approx. 19-inch (480mm)

Compared to the conventional X-ray fluorescence analyzers in the same category, outstandingly compact design has been achieved with the RX5000. This analyzer ensures high-precision measurement without interfering with work in the field.

Compact design with full-fledged sample room

“Very large sample room”

One of the largest class sample rooms(W15” × D15” × H6”) is standardly included.
Large samples can be measured without cutting.

“Automatic turret for changing 16 samples”

Turret capable of automatic switching to 16 different kinds of samples is standardly included.
There is no need for changing samples as measurement of multiple samples can be performed effortlessly.

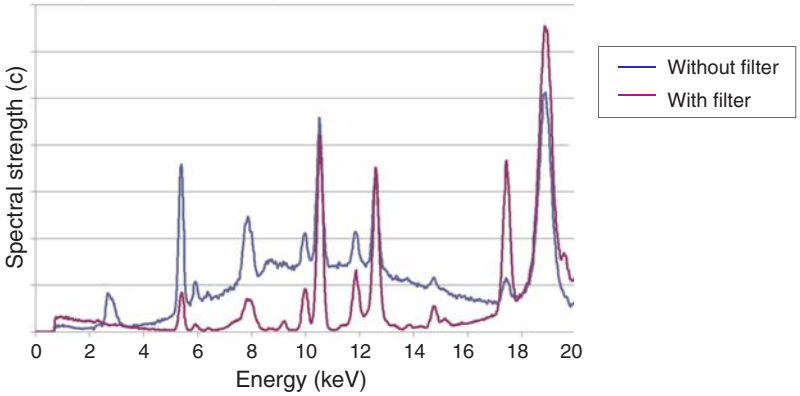
Full of useful functions that supporting various analysis

RX5000

High-sensitivity analysis with the primary filter

Three kinds of filters are standardly included to increase detection sensitivity by reducing the background components that interfere with the identification of the trace element spectrum.

[Image of detecting of Pb in the PE resin]



+α Key points

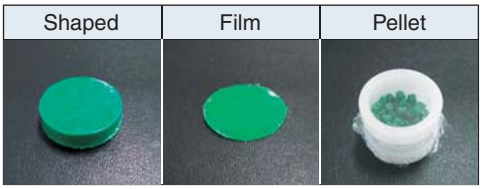
Automatic filter changing function

A filter more suitable for the measurement target element will be selected.

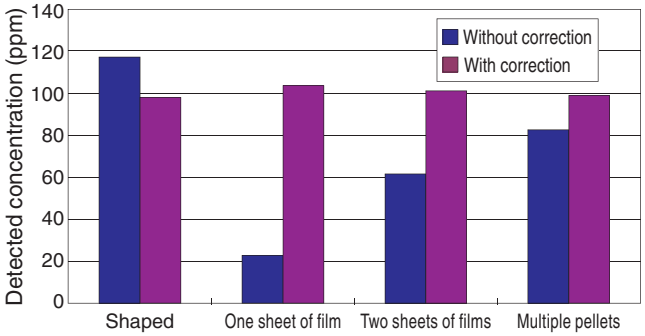
Filter	Measurement element (example)
A	Cr
B	Br, Pb, Hg
C	Cd

Shape correction function

If samples of the same content differ in shape and thickness, the determination value obtained from the analysis may also include a gap.
As the accompanying software, RX-analyzer, automatically corrects this gap, highly precise results can be obtained without consideration of sample shape

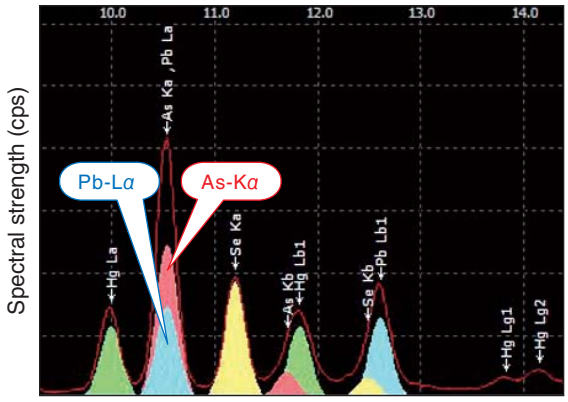


[Difference in the detected concentration according to the presence/absence of the area shape correcting function]



Waveform separating function

Analysis lines for the measurement target may overlap in terms of energy, such as with the As-Kα line and the Pb-Lα line.
In order to obtain precise determination of the overlapping elements, peaks of the elements should be separated from the one overlapping peak.
The accompanying software, RX-analyzer, features an original method for automatically separating the peaks to perform high-precision measurements.



Thin-film analysis support

The thin-film FP method can calculate the film thickness and composition of each layer of multilayer thin films (optional).

Spectral matching function

This function uses the already saved measurement spectrum of a sample of which constituent elements and content ratio are known to compare with an unknown sample spectrum. In this way, this function can determine which known sample is similar to the unknown sample.

Examples of utilization

- **Discrimination of steel types such as SUS**

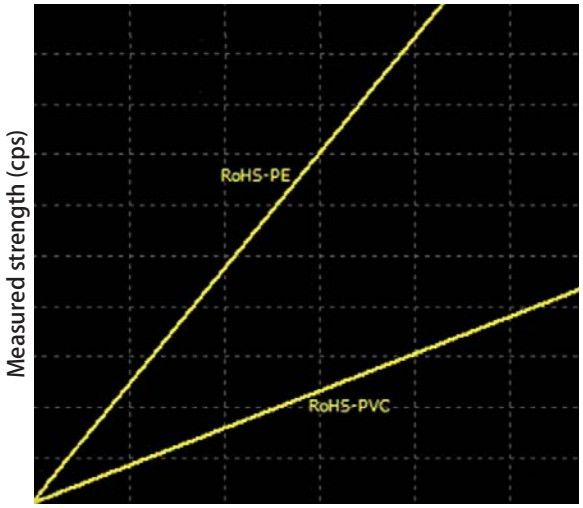
  This function can discriminate between SUS304 and SUS316.

- **Judgment of impurity incorporation**

  This function can judge acceptance/rejection based on the comparison between the target spectrum and the spectrum that has already been accepted.

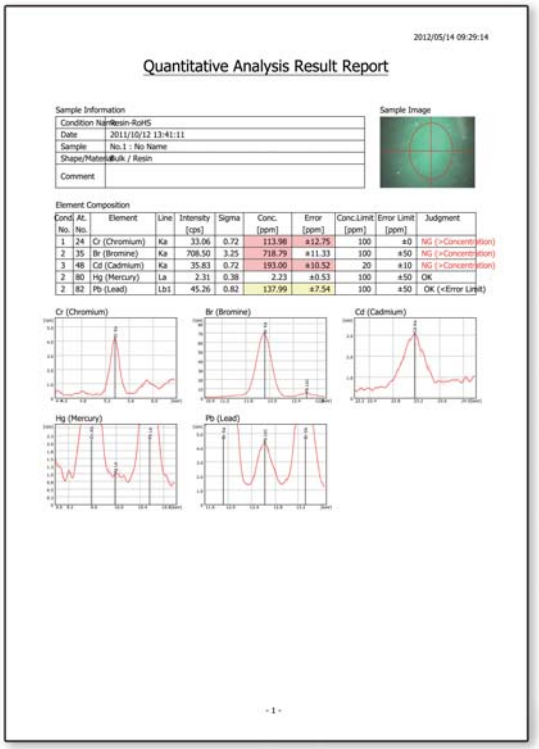
PE-PVC automatic judgment function

It is necessary to determine the quantity of PE (polyethylene) samples, often used in the plastic samples, and the quantity of PVC (polyvinyl chloride) by using different calibration curves.
However, as the accompanying software, RX-analyzer, is automatically able to select calibration curves by detecting chlorine in the PVC; the steps involved in choosing the calibration curves can be avoided.



Reporting function

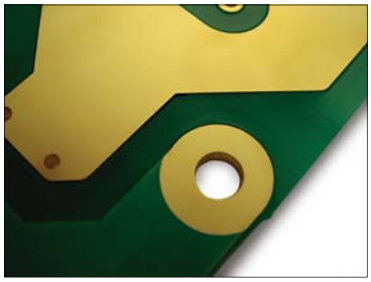
The accompanying software, RX-analyzer, can output measurement results and conditions in a report format.
This format covers necessary information and can be used for multiple purposes.



Options

RX5000

Multilayer thin-film FP



This is the optional software for measuring the thickness of thin film.
※This is an image.

Standard materials

Various standard materials that can be used for creating calibration curves and performing comparison measurement have been prepared.

Sample cup

This is used for measuring minute samples, powders, liquid samples, etc.
Cups of various shapes are available according to use.
When using the cups, Mylar™ film is necessary.

Mylar™ film

This film is used with the sample cup.

Both rolled film and cut film are available.

Mylar™
* Mylar is a registered trademark of DuPont.

Notebook computer

It is possible to change from a desktop computer to a notebook computer.
* This is an image picture.

Dedicated desk

The dedicated desk suitable for the size of equipment

＊We will be flexible in responding to requests for additional calibration curves and measurement conditions.

Specifications / External dimensions

RX5000

Specifications

Measurement principle	Energy dispersive type X-ray fluorescence analysis method
Measuring elements	From Mg through U
Measurement targets	solid, liquid, powder
Sample shape inch(mm)	W × D × H : 14.96 × 14.96 × 5.91 (380 × 380 × 150)

X-ray irradiation part

X-ray tube	Rh target
Electric voltage	50 kV
Electric current	1mA
Cooling method	Air cooling
Irradiation area	Automatic changing of j1, 3, 5, 8mm
Primary filter	Automatic changing of 4 types including without a filter

Detector

Model	Semiconductor detector
Cooling method	Electronic cooling

Sample room part

Measurement atmosphere	Air
Sample changing	Automatic changing turret for 16 samples
Sample observation	CCD camera (with white LED lighting)

PC part

Main unit	Desktop or notebook computer (option)
OS	Windows 7

(Microsoft Windows is a registered trademark of Microsoft Corporation in the United States and other countries.)

Software

Qualitative analysis	Automatic qualitative analysis
Determinate quantity analysis	Calibration curve method, FP method
Utility	Automatic calibration function, spectral matching function, etc.
Printing	Report format printing

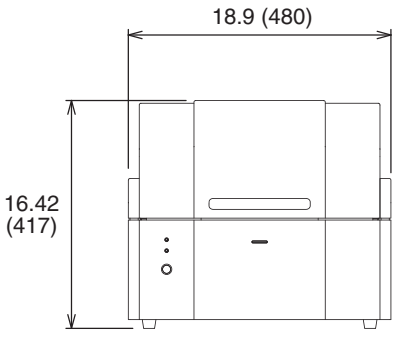
Installation

Temperature	+10°C to +30°C
Humidity	40% to 70% (no condensation)
Power supply	90V to 250VAC
Weight of the main body	Approximately 60 kg

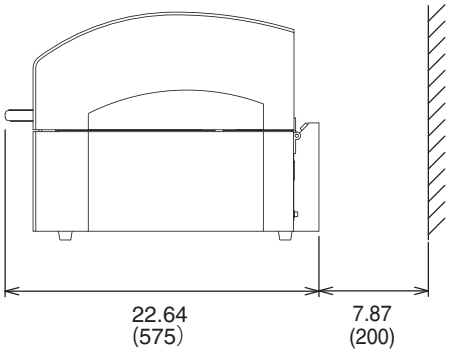
External dimensions inch(mm)

RX5000

Front side



Right side



X-ray
fluorescence Spectrometer
RX5000

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Inquiry sheet (RX5000)

Make a copy of this page, fill in the blanks and/or mark checkboxes, and send it via fax.

● Mark the checkbox that best describes your request

☐ Quotation ☐ Detailed explanation
☐ Evaluation of samples ☐ Demonstration

● Please inform us of your present status

☐ Considering introduction ☐ Use for budget application
☐ Interested ☐ Other reasons ( )

● Write your opinion or question, if any.

( )

● Write your information here (or copy your business card over this field and send it via fax).

Address	
Company name	
Section	Position
Name	
TEL	FAX
e-mail	

* Please note that we may send you the latest information.

Warranty

We warrant that products contained in this catalog (hereinafter, the "Products") are free from defects in material and workmanship under normal use for a period of one (1) year from the date of shipment thereof. However, the warranty period for X-ray detectors and X-ray source shall be either one (1) year from the date of shipment or 1,000 hours, whichever shorter.The above warranty shall not apply to any Product which, at our sole judgment, has been:i)Repaired or altered by persons unauthorized by us; or ii)Connected, installed, adjusted or used otherwise than in accordance with the instructions furnished by us (including being used in an inappropriate installation environment, such as in corrosive gas, high temperature and humidity). We are not liable for any loss, damage or failure of the Products after the shipment thereof caused by external factors such as disasters.If any Product is showed to be defective as satisfactory to us, we, at our sole discretion, repair or replace such defective Products at no cost to the purchaser.We assume no liability to the purchaser or any third party for special, incidental, consequential, or other damages resulting from a breach of the foregoing warranty. This warranty excludes any and all other warranties not set forth herein, express or implied, including without limitation the implied warranties of merchantability or fitness for a particular purpose. The Products are not designed and produced for such applications as requiring extremely high reliability and safety, or involving human lives (such as nuclear power, aerospace, social infrastructure facility, medical equipment, etc.). The use under such environment is not covered by this warranty and may require additional design and manufacturing processes.

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