



MESA-50

X-ray Fluorescence Analyzer



Your business partner for
RoHS, Halogen free, ELV applications



Touch and

HORIBA's XGT-WR series of EDXRF analyzers provide screening measurements of samples containing hazardous elements such as Pb, Cd, Cr, Hg, Br for RoHS, ELV, and Cl for halogen-free applications. They are deployed worldwide.

Our MESA-50 EDXRF analyzer is based on our vast experience with customer requirements and knowledge. MESA-50 provides user friendly operation and excellent performance and includes three analysis diameters, suitable for every sample, from thin cables and electronic parts to bulk samples.

The unique combination of SDD (Silicon Drift Detector) and DPP (Digital Pulse Processor) changes the landscape of EDXRF analysis. HORIBA's MESA-50 supports ecological procurement; it contributes not only to EU RoHS and ELV compliance testing, but also regulatory work for many other countries.



Outstanding 5S Technology



1. Speedy

- **SDD (Silicon Drift Detector) drastically reduces measurement times, and provides increased sensitivity, for true high throughput analysis.**

2. Small

- **Portable, small footprint and light weight**
- **Internal battery power supply**

3. Simple

- **Reduces routine maintenance work (LN₂ free operation)**
- **No need for vacuum pumps**
- **Intuitive simple measurement process for all material types**

4. Smart

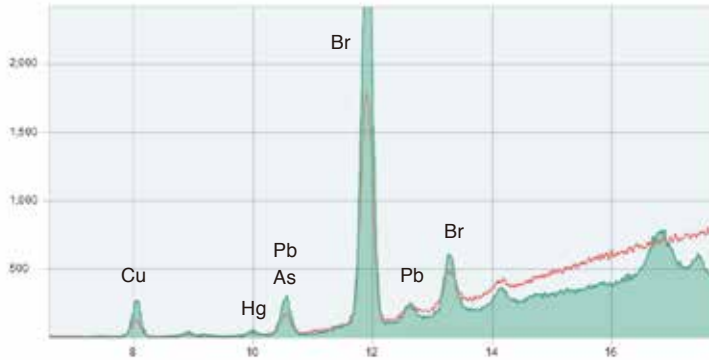
- **Automatic measurement termination**
- **English/Japanese/Chinese user interfaces**

5. Safe

- **No worry about X-ray leakage**

Feel! MESA-50

MESA-50 optics



MESA-50 with SDD can:

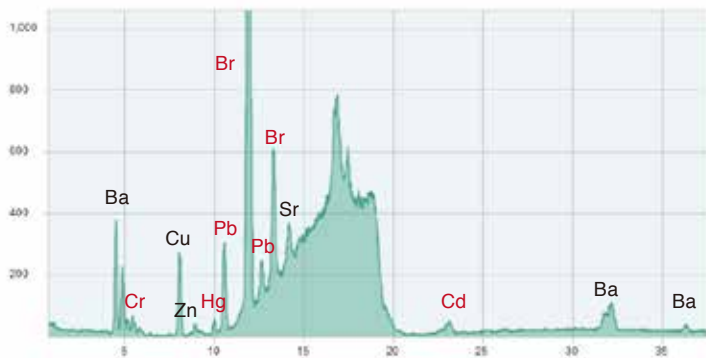
- 1) Increase spectrum intensity and resolution
- 2) Decrease background

Compact optical design makes MESA-50 a portable instrument. The small X-ray generator with low power consumption permits the battery powered mode.

Green: MESA-50 $\phi 1.2\text{mm}$

Red: Previous model XGT-1000WR $\phi 1.2\text{mm}$

Better performance with special filters



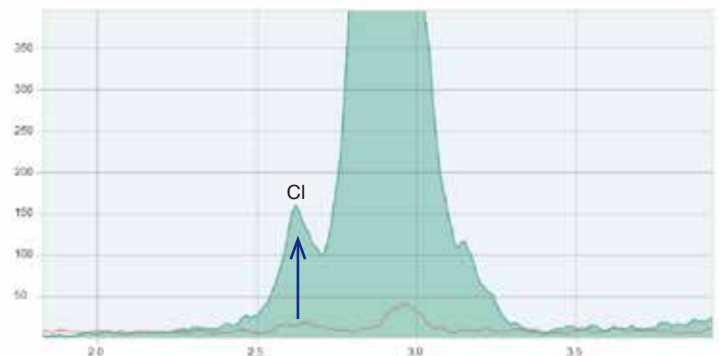
4 filters are included; a unique filter allows seven hazardous elements to be detected simultaneously including Pb, Cd, Hg, Cr, Br, Sb and As.

Green: MESA-50 $\phi 1.2\text{mm}$

The X-ray tube target material is optimized for high sensitivity Cl analysis. The MESA-50 does not require a vacuum pump for Cl measurement.

Green: MESA-50 $\phi 1.2\text{mm}$

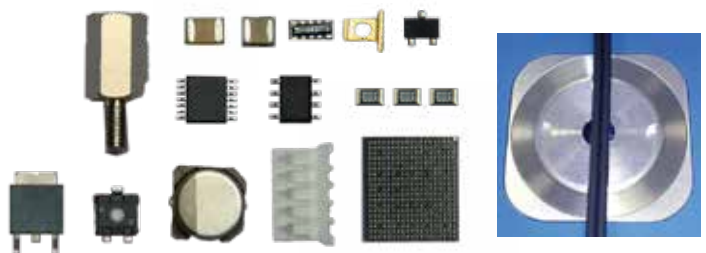
Red: Previous model XGT-1700WR $\phi 1.2\text{mm}$



3 size collimators

$\phi 1.2\text{ mm}$, 3 mm , 7 mm
(Automatic switching)

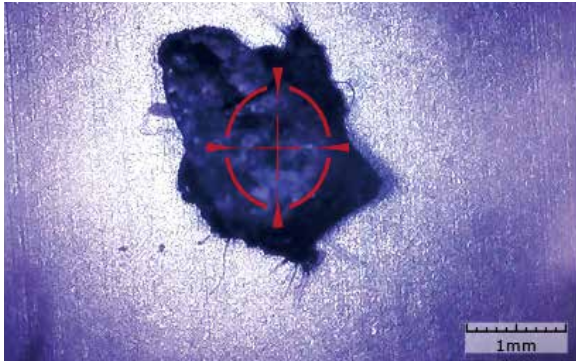
Users can select the most suitable collimator size. The precise analysis area is displayed on the optical image. The small 1.2 mm beam means that operators can simply analyze individual cables, without needing to line up multiple cables to cover the X-ray beam area.



Simple operation, excellent support tools

1. Position the sample

The clear optical image from the CCD camera allows easy positioning of the sample. The visualized measurement point is shown on the CCD image.



3. Display of spectrum and calculation result

Automatic display of quantitative results (concentration & 3 sigma) after measurement.

Spectrum



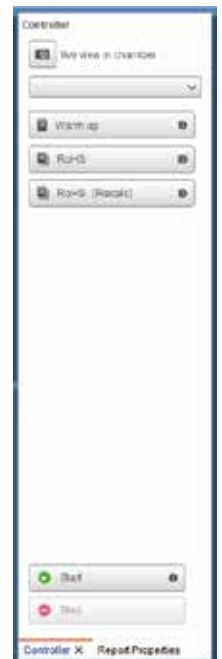
Result

Element	Concentration	3 Sigma	Judgment	Analysis Method
Pb	1194.7 ppm	57.5 ppm	NG	PPM
Cd	948.9 ppm	126.8 ppm	NG	PPM
Cu	150.3 ppm	267.6 ppm	OK	PPM
Hg	8.1 ppm	47.2 ppm	OK	PPM
Br	3.8 ppm	14.5 ppm	OK	PPM

Other Elements	Concentration	3 Sigma	Judgment	Analysis Method
Sn	94.732 wt%	0.0578 wt%	PPM	PPM
Ag	3.674 wt%	0.0260 wt%	PPM	PPM
Cu	9.0126 wt%	0.0100 wt%	PPM	PPM
Mo	0.3374 wt%	0.0104 wt%	PPM	PPM
Co	0.2704 wt%	0.0200 wt%	PPM	PPM
Fe	0.0181 wt%	0.0111 wt%	PPM	PPM
Se	0.0007 wt%	0.0002 wt%	PPM	PPM
As	0.0008 wt%	0.0016 wt%	PPM	PPM

2. Click the measurement button

One-click starts the measurement for RoHS. The software selects suitable measurement condition and parameter every matrix automatically. The user does not need to set conditions each time, and no filter switching is necessary, thus minimizing possible operator error. Customized measurement buttons (recipe) can be created, with original settings.



4. Results & report format

Measurement reports can be saved in Excel®, Word®, or a PDF format. If internal administration values are registered, OK/NG (No Good)/Border judgments (results vs threshold values) are performed.



HORIBA XRF Analysis Report					
Project		Date		2015/06/02 20:30	
Measurement		Analysis		Analysis 3	
Workflow		User			

Measurement Settings		Sample Image
Voltage	50 kV	
Filter	Mid	
Meas Time	180 s	
Current	100 μA	
Collimator	3 mm	
Processing Time		Process 2

Element	Concentration	Unit	Line	Intensity/cps mA	Judgment
Sn	94.732	wt%	Kα	11300.42	---
Ag	3.6496	wt%	Kα	7186.67	---
Cu	1.0095	wt%	Kα	1783.77	---
Mo	0.3374	wt%	Kα	1226.68	---
Cd	0.1282	wt%	Kα	240.87	---
Pb	0.1226	wt%	Kα	273.94	---
Cr	0.0214	wt%	Kα	5.42	---

Portable! Small size and battery system



Less than One Cubic Foot!

Size: 208(W) x 294(D) x 205(H) mm
Weight: 12 kg

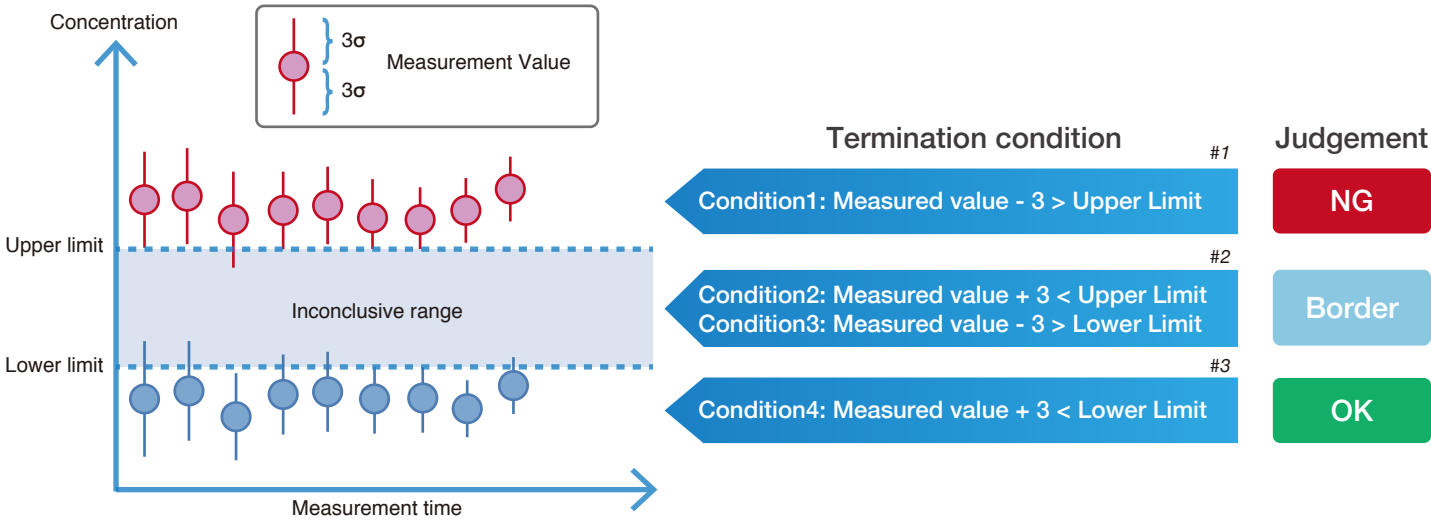
Battery System

MESA-50 has its internal battery, whose life is up to 6 hours.



Option: Lightweight carrying case (Example)

Automatic judgement and measurement termination



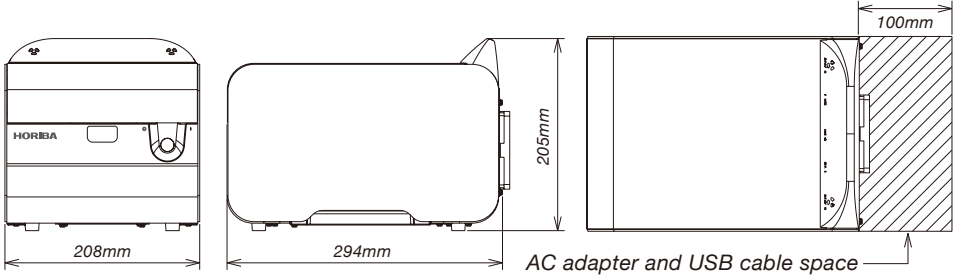
- #1. At the time when at least one of focused element is satisfied with condition1 for two times in a row.
- #2. At the time when at least one of focused element is satisfied with condition2 and all focused elements are satisfied with condition3 for two times in a row.
- #3. At the time when all focused elements are satisfied with condition4 for two times in a row.

MESA-50 specification

Basic items	Principle	Energy-dispersive X-ray fluorescence spectrometry
	Target application	RoHS, ELV, Halogen-Free
	Measurement elements	Al (13) - U (92)
	Sample types	Solids, Liquids, Powders
X-ray generator	X-ray tube	Max 50 kV, 0.2 mA
	X-ray analysis diameter	1.2 mm, 3 mm, 7 mm (Automatic switching)
	X-ray primary filter	4 types (Automatic switching)
Detector	Type	SDD (Silicon Drift Detector)
	Signal processor	DPP (Digital Pulse Processor)
Sample chamber	Atmosphere	Air
	Sample imaging	CCD camera
Utility	Operation	PC (Windows®10)
	Power supplies	AC adapter (100-240V, 50/60Hz), battery
Software	Analysis function	Multilayer Film FPM (Optional)

* Windows, Excel and Word are registered trademarks or trademarks of Microsoft Corporation in the United States and other countries.

Dimensional outline



Installation example



Options & Consumables





POWER

CHARGE

ERROR



Dedicated analyzers for WEEE/RoHS

MESA-50K

X-RAY FLUORESCENCE ANALYZER



Big Chamber



Chamber size:
460(W) × 360(D) × 150(H) mm

XGT-9000

μXRF ANALYTICAL MICROSCOPE



Chamber size:
450(W) × 500(D) × 80(H) mm



The HORIBA Group adopts IMS (Integrated Management System) which integrates Quality Management System ISO9001, Environmental Management System ISO14001, and Occupational Health and Safety Management System ISO45001. We have now integrated Business Continuity Management System ISO22301 in order to provide our products and services in a stable manner, even in emergencies.



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