



M SERIES XRF

High Precision Coating
Measurement System



The most advanced poly-capillary optics available

What's Distinctive:

Who Benefits

The M Series desktop XRF is best suited to customers who have:

- › Small parts/features such as those found in semiconductors, connectors, or PCBs
- › Requirement to test many samples or locations per new lot of material
- › Very thin coatings (<100 nm)
- › Very short measurement times (1-5 seconds)
- › The need to meet the requirements of IPC-4552A

Key Features

The M Series is the ultimate in high performance at the absolute smallest x-ray spot sizes. The poly-capillary optics can focus the x-ray beam down to 15µm FWHM. A dual-camera system allows operators to see an entire part and zoom in with the high-mag camera to pinpoint the feature to be measured. The programmable X-Y stage can precisely select and measure multiple points, or the pattern recognition software can do this automatically. A 2-D mapping system can be used to see the topography of a coating over the surface area of a part such as a silicon wafer.

Configuration

The standard configuration includes 15µm optics, a programmable X-Y sample stage, and a high resolution SDD detector to process the higher count rates. The micro/macro camera system has one camera with 140x magnification with a higher digital zoom. The optics system has a very close focal distance, so samples measured with the M Series must be flat.

BOWMAN

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Made
in the USA



BOWMAN M SERIES XRF

Superior technically.
Supported locally.

Specifications

X-ray Excitation

50 W Mo target Flex-Beam Capillary Optics @15 FWHM

Detector

Silicon drifted detector with 135eV resolution

Output Focal Depth

Fixed at 0.15"

Video Magnification

140X Micro
7X digital Zoom
9X Macro & Table View

Working Environment:

68°F (20°C) to 77°F (25°C) and up to 98% RH, non-condensing

Weight

70kg

Programmable XY:

Table size: 17" x 16"
Travel: 6.5" x 6.5" high precision

Element Range

Aluminum 13 to Uranium 92

Analysis layers and elements

5 layers (4 layers + base) and 10 elements in each layer.
Composition analysis of up to 25 elements simultaneously

Filters/Collimators

4 primary filters

Digital Pulse Processing

4096 CH digital multi-channel analyser with flexible shaping time. Automatic signal processing including dead time correction and escape peak correction

Processor:

Intel, CORE i5 3470 (3.2GHz), 8GB DDR3 Memory,
Microsoft Windows 10 Prof, 64bit equivalent

Camera optics:

1/4" CMOS-1280x720 VGA resolution

Power Supply:

150W, 100~240 volts; frequency range 47Hz to 63Hz

Dimensions (HxWxD):

Internal: 140mm (5.5"), 310mm (12"), 340mm (13")
External: 500mm (20"), 450mm (18"), 600mm (24")

The Bowman Partner Network

Bowman's Partner Service Network was established to facilitate large multi-national projects in the PCB industry. Today, it has become the model for XRF technical service worldwide, serving board shops, electronics manufacturers, automotive and aerospace OEMs, jewelry manufacturers, and contract metal finishers in all sectors.

The Bowman Partner Network enables XRF technical service experts worldwide to provide same-day response to every service, repair and upgrade requirement.



Bowman global partners are certified annually, and maintain the highest standards of excellence and best practices.



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