

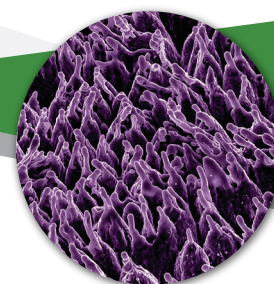
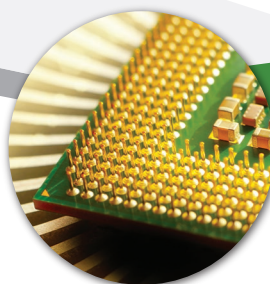


## W SERIES MICRO XRF

High Precision Coating  
Measurement System



**What's Distinctive:**  
Measures the smallest features in microelectronics



### Who Benefits

The W Series Micro XRF was engineered for the precise measurement of the smallest X-ray features found in semiconductors and microelectronics.

### Key Features

Bowman's W Series uses poly-capillary optics to focus the X-ray beam to 7.5  $\mu\text{m}$  FWHM, the world's smallest for coating thickness analysis using XRF instruments. A 140X magnification camera is used to measure features on that scale; it is accompanied by a secondary, low-magnification camera for live-viewing samples and birds-eye macro-view imaging. Bowman's dual-camera system lets operators see the entire part, click the image to zoom with the high-mag camera, and pinpoint the feature to be programmed and measured.

A programmable X-Y stage with precision less than  $\pm 1 \mu\text{m}$  for each axis is used to select and measure multiple points; Bowman pattern recognition software and auto-focus features also do this automatically. The system's 3D mapping capability can be used to view the topography of a coating on a part such as a silicon wafer.

### Configuration

W Series instruments include 7.5  $\mu\text{m}$  optics with molybdenum anode tube (chromium and tungsten are optional) and a high-resolution, large-window Silicon Drift Detector (SDD) which processes more than 2 million counts per second. SDDs are the standard, industry-wide, for complex films. Their high count rate capability is key to achieving a low minimum detection limit (MDL) and highest spectral resolution.

### BOWMAN

1105 Remington Rd.  
Schaumburg, IL 60173

► 847.781.3523  
► [www.bowmanxrf.com](http://www.bowmanxrf.com)  
► [sales@bowmanxrf.com](mailto:sales@bowmanxrf.com)

© Copyright 2024 Bowman



Made  
in the USA



# BOWMAN W SERIES MICRO XRF

Superior technically.  
Supported locally.

The W Series is the 7th model in Bowman's XRF instrument suite. Like others in the portfolio, it simultaneously measures up to 5 coating layers and runs advanced Archer software to quantify coating thickness from the detected photons. Archer software combines intuitive visual controls with time-saving shortcuts, extensive search capability, and "one-click" reporting. The software also simplifies user creation of new applications.

## Specifications

### X-ray Excitation

50 W Mo target Capillary Optics @7.5µm FWHM at 17 KeV  
Optional: Cr or W

### Detector

Large window Silicon solid state detector with 190eV resolution or better

### Output Focal Depth

Fixed at 0.08" (2.03mm)

### 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

190kg (420lbs)

### Programmable XYZ

XYZ travel: 300mm (11.8") x 400mm (15.7") x 89mm (3.5")  
XY tabletop: 305mm (12") x 406mm (16")  
XYZ axis precision: 1µm (40u")

### 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 30 elements simultaneously

### Primary Filters

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

### PC

Intel CORE i5 9th gen. desktop processor, SSD, 16GB RAM, Microsoft Windows 11 Prof, 64bit equivalent

### Camera Optics

1/4" CMOS-1280x720 VGA resolution

### Power Supply

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

### Dimensions (WxDxH)

Internal: 914mm (36") x 737mm (29") x 102mm (4")  
External: 940mm (37") x 991mm (39") x 787mm (31")

### Other New Features

Z axis crash protection  
Auto focus and focus laser  
Pattern recognition  
Advanced custom data transfer

## 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.



Made  
in the USA

## BOWMAN

1105 Remington Rd.  
Schaumburg, IL 60173

► 847.781.3523  
► [www.bowmanxrf.com](http://www.bowmanxrf.com)  
► [sales@bowmanxrf.com](mailto:sales@bowmanxrf.com)

© Copyright 2024 Bowman