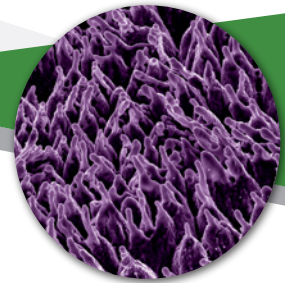
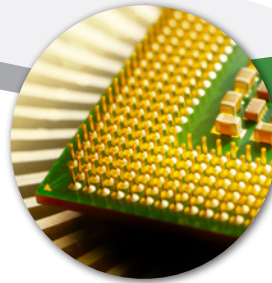


# BOWMAN

Coating Measurement Instruments

## W SERIES XRF

High Precision Coating Measurement System



**What's Distinctive:**  
Measures the smallest spot sizes in microelectronics

### Who Benefits

The W Series desktop XRF was engineered for the precise measurement of the smallest X-ray spot sizes 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 150X 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 greater 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 SDD detector which processes more than 2 million counts per second. Silicon Drift Detectors (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

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Made  
in the USA

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# BOWMAN W SERIES 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 Xralizer software to quantify coating thickness from the detected photons. Xralizer 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 Tube

Standard: molybdenum  
Optional: chromium or tungsten

### Spot Size

.5 um FWHM @ Mn with Mo tube  
(World smallest for coating thickness analysis)

### Detector

Large window SDD

### Camera:

Dual live camera

### Weight:

420 lbs.

### Dimensions (HxWxD)

Internal: 29" x 36" x 4"  
External: 37" x 39" x 31"

### Stage travel, XYZ:

11.8" x 15.7" x 3.9" (300 x 400 x 100mm)  
Tabletop, XY: 12" x 16"  
X-axis accuracy: 2.5um; X-axis precision: 1um  
Y-axis accuracy: 3um; Y-axis precision: 1um  
Z-axis accuracy: 1.25um; Z-axis precision: 1um

### Other Features:

Z protection array  
Auto focus  
Focus laser  
Pattern recognition

## 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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