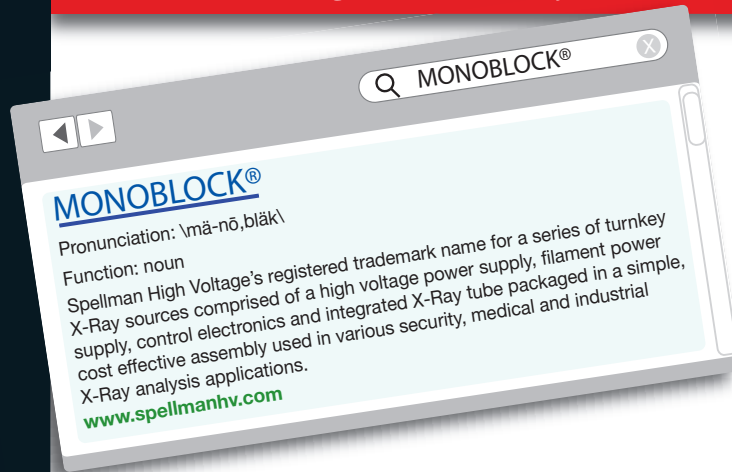
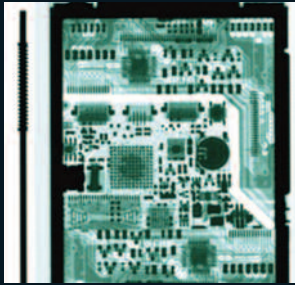


POWER SUPPLY & X-RAY TUBE
IN AN INTEGRATED SUBSYSTEM

SETTING THE STANDARD
IN HIGH VOLTAGE
POWER CONVERSION

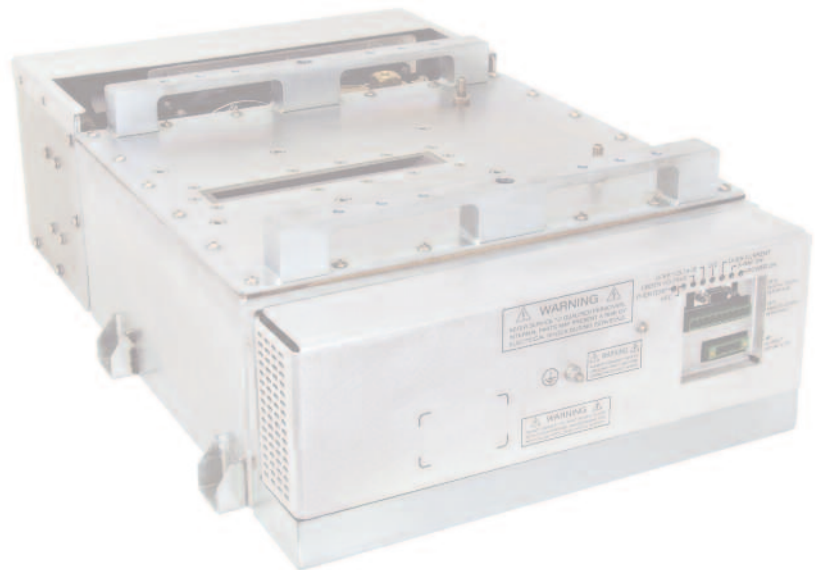
www.spellmanhv.com



Spellman has set the standard in development of integrated X-Ray sources with its Monoblock[®] series of X-Ray sources. Our custom OEM designs are used in baggage screening, explosive detection, medical imaging, food inspection and non-destructive testing and many other applications.

A Monoblock[®] is typically a single assembly housing both high voltage generation components and an X-Ray tube. The physical compactness and inherent elimination of cabling reduces cost and the risk of breakdown making these products extremely reliable. Monoblocks[®] can be designed in a wide variety of geometries, with beam shape, focal spot size and other critical parameters customized for the application. Digital control via RS232, Ethernet or USB is available.

"The physical compactness and inherent elimination of cabling reduces cost and the risk of breakdown making these products extremely reliable."



SETTING THE STANDARD
IN HIGH VOLTAGE
POWER CONVERSION

**POWER SUPPLY & X-RAY TUBE
IN AN INTEGRATED SUBSYSTEM**

**BENEFITS OF SPELLMAN
MONOBLOCK® TECHNOLOGY**



Spellman's extensive offering of standard Monoblock® X-Ray Sources provide field-tested solutions for a wide range of applications.

Internal X-Ray tube eliminates maintenance issues with external HV cables/connectors

Power Factor Correction minimizes input power requirements

Universal Input circuitry accepts a wide variety of worldwide input voltages

Sealed, leak-free tank can be mounted in any physical orientation

Unique radiation shielding minimizes weight while ensuring very low X-Ray leakage

Standard digital interface simplifies communication and system integration



TYPICAL MONOBLOCK APPLICATIONS

EXPLOSIVE DETECTION SYSTEMS

CARRY ON BAGGAGE SCREENING

CHECKED BAGGAGE SCREENING

MEDICAL CT SCANNING

DENTAL CT SCANNING

BONE DENSITOMETRY

FOOD INSPECTION

FILL LEVEL CONFIRMATION

PRODUCT INSPECTION

THICKNESS GAUGING

NDT

TYPICAL MONOBLOCK® SPECIFICATIONS

X-Ray Tube Models:

A wide variety of X-Ray tubes from all major tube vendors

Beam Parameters:

Cone beam: up to 40°
Fan beam: up to 110° x 10°

Target Angle:

12° to 45°

Focal Spot:

35 micron to 3mm x 3mm

KV Range:

10kV to 200kV

Emission Current Range:

Up to 10mA

Duty Cycle:

Pulse and Continuous mode

Line Regulation (KV):

0.1%

Line Regulation:

(Emission Current) 0.1%

Load Regulation (KV):

0.1%

Load Regulation:

(Emission Current) 0.1%

Ripple:

0.2% to 1%

Temperature Stability:

25ppm to 200ppm

Rise Time:

100mSec to 1 minute

Regulatory and Safety Standards:

UL, CSA, VDE to EN60601,
EN60950, EN61010

Mechanical:

Each monoblock is developed per custom OEM requirements.

Insulation Media:

Oil and Solid encapsulation

Operating Temperature:

0°C to 50°C

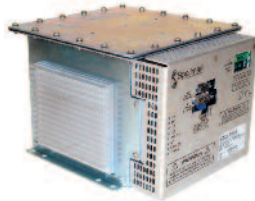
Long Term Storage Temp:

-20°C to 70°C

Humidity, Operating and Storage:

10-95%, non-condensing

We Offer a MONOBLOCK® Configuration for Virtually Every Application...



80kV @ 100 Watt

Plating Measurement, Food Inspection,
and Security Applications



130kV @ 65 Watt

Micro-Focus Inspection



150kV @ 330 Watt

Pre-Scanner for EDS System



100kV @ 100 Watt

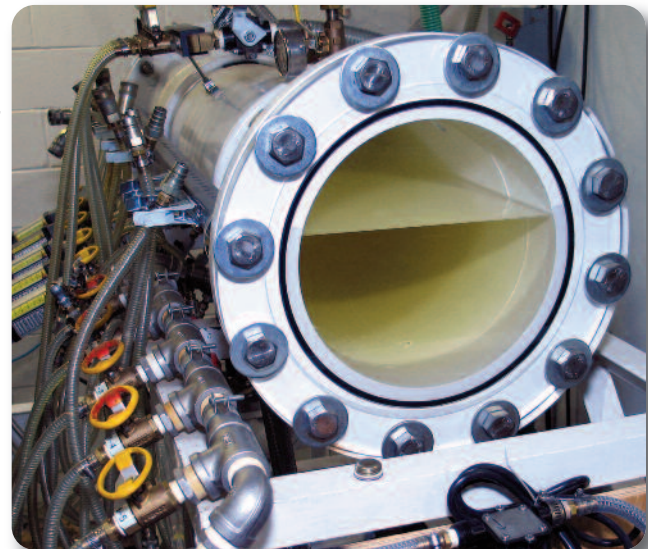
Plating Measurement, Fill Level,
Bone Densitometry.



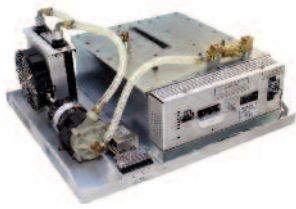
A typical Monoblock®
assembly station



Oil is processed using filtering, heat and vacuum to obtain superior electrical insulation. A proprietary oil distribution process flushes the unit, fills it with processed oil and evacuates any trapped air from the tank. All Monoblock® units are sealed using an internal bladder to accommodate oil expansion so insulating oil is not subjected to environmental contamination.



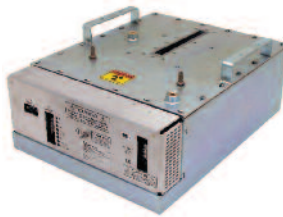
We Offer a MONOBLOCK® Configuration for Virtually Every Application...



160kV @ 480 Watt
Baggage Security Screening



150kV @ 450 Watt
Food and Product Inspection



160kV @ 200 Watt
Carry-On Baggage Screening



140kV @ 1kW
CT Scanning

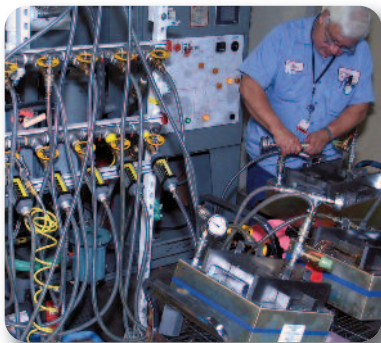


160kV @ 480 Watt
CT Based EDS Security System

- **Spellman has manufactured and shipped over 18,000 Monoblock® X-Ray Sources**
- **LEAN Six Sigma Manufacturing results in consistent quality**
- **Spellman's custom designs and vertically integrated, low cost manufacturing capabilities minimize system cost**
- **Automated testing reduces cost and process time, while maintaining process control**



Custom designed automatic test fixtures streamline testing processes such as X-Ray tube seasoning and data gathering.



Robotic tank welding helps assure high quality leak free performance.



Robotic X-Ray leakage survey stations assure accurate radiation scans.



Our low cost manufacturing center in China ensures OEM customers can be globally competitive.

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