

X-RAY GENERATORS & MONOBLOCK® X-RAY SOURCES

BAGGAGE SECURITY SCREENING

EXPLOSIVE DETECTION SYSTEMS

MEDICAL CT

FOOD AND PRODUCT INSPECTION

BONE DENSITOMETRY

PLATING MEASUREMENT

MINERAL ANALYSIS

X-RAY FLOURESCENCE

X-RAY INSPECTION

NON-DESTRUCTIVE TESTING

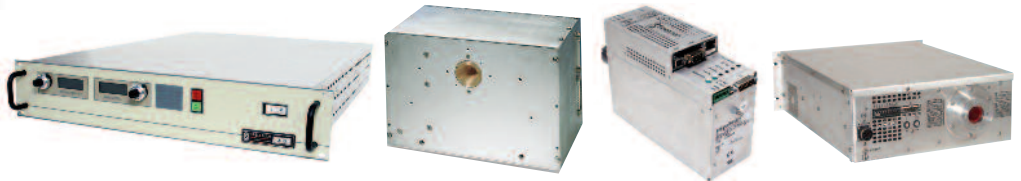
PLASTICS SORTING

CRYSTAL INSPECTION

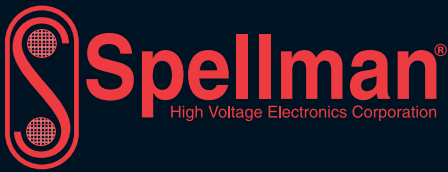
DIAMOND INSPECTION

X-RAY DIFFRACTION

PRODUCT SPECIFIER



www.spellmanhv.com



X-RAY GENERATORS & MONOBLOCK® X-RAY SOURCES

The following represents Spellman's selection of X-Ray Generators & Monoblock® X-Ray Sources. For more comprehensive specifications for our Rack Supplies, Modules, X-Ray Generators and X-Ray Sources, contact Spellman sales for our latest catalog, or visit our website:

www.spellmanhv.com

MONOBLOCK® 10kV—200kV

Input: Custom Configuration
Load Reg.: 0.1%
Line Reg.: 0.1%
Ripple: 0.02% to 1%
Dims.: Custom Configuration

- **INCLUDES POWER SUPPLY & X-RAY TUBE IN AN INTEGRATED SUBSYSTEM**
- **CUSTOM CONFIGURATIONS**
- **FULL REMOTE CONTROL OF KV & EMISSION CURRENT**
- **LINEAR RANGE OF KV & MA**
- **HIGH STABILITY**



Spellman has set the standard in development of integrated X-Ray sources with its Monoblock® series of X-Ray generators.

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, thus 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.

XLG 30kV—130kV

Input: 115Vac ±10%, 230Vac ±10%
Load Reg.: 0.005%
Line Reg.: 0.005%
Ripple: as low as 0.03% rms
Dims.: **30 to 60kV**
 3.5"H x 19"W x 19"D
 89mm x 483mm x 483mm
80 to 130kV
 3.5"H x 19"W x 24"D
 89mm x 483mm x 610mm

- **LOW RIPPLE**
- **"HOT ANODE"**
- **POSITIVE POLARITY**
- **LOCAL & REMOTE PROGRAMMING**
- **OEM CUSTOMIZATION AVAILABLE**



Spellman's XLG Series of X-ray generators are well regulated high voltage power supplies with output voltages to 130kV and very low ripple achieved through the use of advanced resonant conversion techniques. The XLG Series provides all the power, control and support functions required for X-ray applications including a regulated dc filament supply. These units incorporate local and remote programming, monitoring, safety interlock, short-circuit and overload protection.

XRM 25kV—65kV

Input: 24Vdc ±10%
Load Reg.: 0.01%
Line Reg.: ±0.01%
Ripple: 0.25% p-p
Dims.: 6.3"H x 3.94"W x 10"D
 160mm x 100mm x 254mm

- **ADJUSTABLE INTEGRATED FILAMENT SUPPLY**
- **OVERVOLTAGE & SHORT CIRCUIT PROTECTION**
- **VOLTAGE & CURRENT PROGRAMMING**
- **OEM CUSTOMIZATION AVAILABLE**



Spellman's XRM Series of regulated X-ray power supplies offer output voltages to 65kV and incorporate a filament supply which provides regulated dc current adjustable between 0.3A and 3.5A at 5.5V. High voltage and filament current can be linearly ramped up. The XRM incorporates local and remote programming, monitoring, safety interlock, short-circuit and overload protection.

MNX 50kV

Input: 24Vdc ±10%
Load Reg.: 0.01%
Line Reg.: ±0.01%
Ripple: 0.01% p-p
Dims.: 5"H x 2.87"W x 8"D
 127mm x 72.9mm x 203mm

- **ADJUSTABLE INTEGRATED FILAMENT SUPPLY**
- **OVERVOLTAGE & SHORT CIRCUIT PROTECTION**
- **VOLTAGE & CURRENT PROGRAMMING**
- **LOCAL AND REMOTE EMISSION CONTROL**
- **OEM CUSTOMIZATION AVAILABLE**



The MNX Series is designed to power grounded cathode X-ray tubes from a variety of well known manufacturers. It features a 0 to 50kV high voltage output, and up to 2mA of emission current limited to 50 Watts, operating from a +24Vdc input. The ground referenced low noise dc filament supply operates between 0.3 and 3.5 amps.

XRF 160kV

Input: **80W:** 90-125Vac
320W: 180-264Vac
640W: 180-264Vac
Load Reg.: 0.01%
Line Reg.: ±0.01%
Ripple: as low as <0.1% p-p
Dims.: 7"H x 19"W x 22"D
 178mm x 483mm x 559mm

- **RACK-MOUNTABLE**
- **FLOATING FILAMENT**
- **POWER FACTOR CORRECTION**
- **CLOSED-LOOP EMISSION CONTROL**
- **OEM CUSTOMIZATION AVAILABLE**



Spellman's XRF Series allow for a wide range of input voltages and supply either 80W, 320W or 640W of output power at up to 160kVdc. These lightweight rack-mountable X-ray generators house a miniaturized high voltage system in a solid encapsulated, oil-free design. The XRF Series is designed with a power factor corrected input circuit which reduces harmonic emissions and noise normally associated with other high frequency switching power supplies.

XRB 80kV

Input: 90-264Vac
 Load Reg.: $\leq 0.1\%$
 Line Reg.: $\leq 0.05\%$
 Ripple: $\leq 1\%$ p-p
 Dims.: 9.6"H x 7.6"W x 7"D
 243mm x 193mm x 178mm

- **INTEGRATED HV SUPPLY, FILAMENT SUPPLY, X-RAY TUBE, BEAM PORT AND CONTROL ELECTRONICS**
- **COMPACT & LIGHTWEIGHT**
- **CAN BE MOUNTED IN ANY PHYSICAL ORIENTATION**



Spellman's new XRB Series of Monoblock® X-Ray sources are designed for OEM applications. Features like universal input, small package size and a standard analog and RS-232 digital interface simplify integrating the XRB into your X-Ray analysis system. Standard models are available either with fan shaped or cone shaped beam geometries.

DXM 20kV-70kV

Input: 300W: 90-264Vac
 600W: 180-264Vac
 Load Reg.: $\leq 0.01\%$
 Line Reg.: $\leq 0.01\%$
 Ripple: $\leq 1\%$ rms
 Dims.: 4.75"H x 6"W x 12"D
 121mm x 152mm x 305mm

- **COMPACT & LIGHTWEIGHT**
- **UNIVERSAL INPUT, POWER FACTOR CORRECTED**
- **STANDARD DIGITAL INTERFACES: USB, ETHERNET AND RS-232**
- **CE COMPLIANT**



Spellman's new DXM Series offers universal input, small package size and choice of three standard digital interfaces, this simplifies integrating the DXM into your X-Ray analysis system. Models are available to operate either floating filament (negative HV polarity) or ground referenced filament (positive HV polarity), X-Ray tube designs. DSP based emission control circuitry provides excellent regulation of emission current, along with outstanding stability performance.

XLF 30kV-60kV

Input: 600W: 115, or 220Vac $\pm 10\%$
 1200W: 220Vac $\pm 10\%$
 Load Reg.: 0.005%
 Line Reg.: 0.005%
 Ripple: as low as 0.03% rms
 Dims.: 3.5"H x 19"W x 20"D
 89mm x 483mm x 508mm

- **INTEGRATED FLOATING FILAMENT SUPPLY**
- **LOW RIPPLE**
- **"HOT CATHODE"**
- **NEGATIVE POLARITY**
- **LOCAL & REMOTE PROGRAMMING**
- **OEM CUSTOMIZATION AVAILABLE**



Spellman's XLF Series of X-ray generators are well regulated high voltage power supplies with output voltages to 60kV and very low ripple achieved through the use of advanced resonant conversion techniques. The XLF Series provides power, control and support functions required for X-ray applications including a regulated ac filament supply referenced to the cathode. These units also incorporate local and remote programming, monitoring, safety interlock, short circuit and overload protection.

DF/FF 60kV

Input: 220Vac $\pm 10\%$
 Load Reg.: 0.005%
 Line Reg.: 0.005%
 Ripple: 0.03% rms
 Dims.: 5.25"H x 19"W x 22"D
 133mm x 483mm x 559mm

- **IDEAL FOR USE WITH MOST COMMON XRD & XRF X-RAY TUBES**
- **HIGH STABILITY**
- **SYSTEM FAULT DIAGNOSTICS**
- **OEM CUSTOMIZATION AVAILABLE**



Spellman's DF/FF Series of X-ray Generators feature our new inverter design which incorporates IGBTs for power switching and provides new levels of reliability. The DF/FF's utilize a sine wave current source, produced by phase shifting series resonant circuits at switching frequencies greater than 20kHz to generate high voltage dc. This technique eliminates undesirable electromagnetic radiation normally associated with switching and power control regulators.

XRV 160kV-450kV

Input: 180-264Vac
 Load Reg.: $\pm 0.05\%$
 Line Reg.: $\pm 0.05\%$
 Ripple: as low as $< 0.1\%$
 Dims.: 160kV
 10.47"H x 19"W x 24"D
 266mm x 483mm x 609mm
 225kV
 18.9"H x 17"W x 30.72"D
 480mm x 432mm x 780mm

- **POWER FACTOR CORRECTED AC INPUT CIRCUITRY**
- **INTEGRATED DUAL FILAMENT SUPPLIES**
- **DIGITAL INTERFACE—USB, ETHERNET AND RS232**
- **EXCELLENT STABILITY AND REGULATION**



Spellman's XRV series of X-Ray high voltage power supplies sets the standard for compact 3.0kW to 4.5kW, high performance X-Ray inspection generators.

Active power factor correction circuitry reduces input current requirements while minimizing line related EMI. Spellman's proprietary inverter topology allows for unprecedented efficiencies and power densities. The two DC output, current regulated filament power supplies are controlled via sophisticated emission current regulation circuitry to provide accurate and stable X-Ray tube currents.

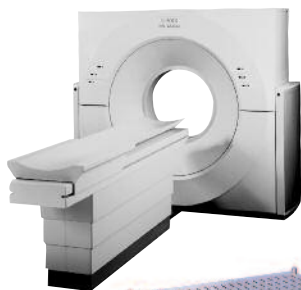
MAMX 40kV

Input: Mains: 380-415Vac $\pm 10\%$
 Aux: 230Vac $\pm 10\%$
 Load Reg.: $\pm 0.05\%$
 Line Reg.: $\pm 0.05\%$
 Ripple: as low as $\leq 1\%$ rms
 Dims.: 6.30"H x 7.87"W x 27.62"D
 160mm x 200mm x 701mm

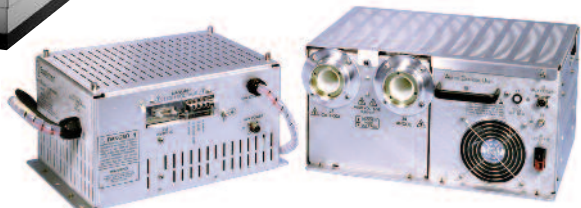
- **COMPLETE X-RAY GENERATOR PACKAGE**
- **INTEGRATED HIGH VOLTAGE/FILAMENT/STATOR SUPPLY**
- **DIGITAL INTERFACE—USB, ETHERNET AND RS232**
- **EXCELLENT STABILITY AND REGULATION**



Spellman's new MAMX Series of X-ray generators set the standard for compact, high performance Mammography applications. Spellman's proprietary pulse width modulated inverter topology allows for unprecedented efficiencies and power densities. The internal DC output, current regulated filament supply is controlled via sophisticated emission current regulation circuitry to provide accurate and stable X-ray tube currents.



- **EMISSION CURRENT: 0 TO 560MA**
- **FILAMENT: 15VDC, 0 TO 6A REFERENCED TO CATHODE**
- **DUAL FOCAL SPOT**
- **CONTROLS FOR KV, MA, FILAMENT**



Spellman has produced CT Scanner X-ray generators for over 25 years and was the first supplier to provide generators for continuous rotation in a production system. This expertise has made it possible to develop and produce a highly reliable 84kW scanner power supply specifically designed to meet the exacting requirements for helical scanning. It has low ripple to make enhanced image quality possible.

Various other power levels and configurations are available for OEM requirements. Contact our sales department for additional details.



- **DUAL FOCAL SPOT**
- **CONTROLS FOR KV, MA, FILAMENT CURRENT AND POWER LIMIT**
- **DIGITAL METERING FOR KV, MA, FILAMENT CURRENT AND POWER**
- **FEDERAL STANDARD 75KV CONNECTORS FOR ANODE AND CATHODE**
- **OEM CUSTOMIZATION AVAILABLE**

The rugged Spellman 24kW X-ray Tube Test System provides anode and cathode voltage, filament power and extensive local and remote controls for integration into automatic Tube Test and Aging Systems.



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