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# XRV Sub Systems

1.8KW—6.0KW **TURN KEY** X-RAY SOLUTIONS



Inspection/Security Industrial NDT/Inspection Automotive/Aerospace

# THE SPELLMAN XRV SERIES 1.8KW - 6.0KW X-RAY GENERATORS... IT ALL STARTS HERE



XR450



XR225



XR160



XR320

- **Adjustable arc count, quenching and ramping speeds protect X-Ray tubes**
- **Lightweight compact packaging**
- **Specialized warmup programs optimize tube performance and extend life**
- **Tube database for all standard X-Ray tubes is included with the XRV Controller**
- **The use of terminal blocks for installation offer quick set-up and replacement times**
- **Dual filament power supplies drive all conventional metal ceramic X-Ray tubes**

## RELIABILITY

**Design Validation** – Industry leading reliability and MTBF. Environmental stress screening, electrical overstress, extended arcing and HALT compliance. Testing conducted on X-Ray tube loads and beta testing in multiple applications.

**Encapsulation** – The XRV's oil free design eliminates leaks and environmental concerns. The encapsulated dielectric high voltage section – made of our proprietary large-pour formulation – provides significantly higher dielectric strength than oil, is more forgiving of field stresses, and eliminates the maintenance and biohazards associated with oil tanks.

**Safety and Compliance** – Complies with International Regulatory requirements for CE/UL/CSA.

## PERFORMANCE

**Output Stability and Ripple** – Industry best stability and lowest output ripple provide superior image quality.

**Fast Ramp Up Time** – Ramp time is adjustable from 100mS to 30 seconds through the proprietary XRV GUI control.

**Fast Digital Controller** – The XRV utilizes a DSP based microcontroller to monitor and control critical tube and generator parameters. Helps ensure accuracy, repeatability, and dose stability.

## FLEXIBILITY

**Small Size & Low Cost of Ownership** - XRV Series models measure and weigh far less than their industry counterparts.

**Plug-n-Play Compatibility & Ease of Use** – XRV comes with industry standard and custom digital and analog interfaces, including: RS-232, USB; Ethernet. An intuitive Windows-based GUI facilitates set-up, provides diagnostics and control of status, configuration and operation.

**Serviceability** - The XRV Series has a unique modular design, with four Field-Replaceable Units (FRUs) that minimize MTTR, service inventory and overall repair cycle time. A trouble-shooting tree and fault indicators simplify problem detection for faster, more accurate servicing. And, of course, Spellman's technical support is global, ensuring swift worldwide coverage.

# XRV Sub Systems

1.8KW—6.0KW **TURN KEY** X-RAY SOLUTIONS



*Typical Turn-Key X-Ray Source Solution from Spellman High Voltage.*

When it comes to dependable HV power for X-Ray applications, Spellman High Voltage leads the way. No other manufacturer builds a more reliable, efficient, stable, or compact X-Ray Generator. Offering negative, positive or bipolar output ranging from 160kV to 450kV, Spellman can deliver an ideal solution for a wide variety of applications.

Today's X-Ray applications demand greater performance, higher reliability, and increased flexibility. Spellman has responded with the compact, powerful, and reliable XRV Series. Consider the benefits of the groundbreaking XRV: Low ripple and active power factor correction result in reduced banding and higher quality images; an encapsulated high-voltage section cuts size and reduces weight, enabling the unit to operate oil-free and with little or no maintenance; an innovative, proprietary inverter topology allows for very high efficiency and power density, thus enhancing the overall performance of your equipment.

Combine Spellman's XRV series generator with the Industry's best X-Ray tubes and accessories and the result is an X-Ray sub system second to none.

## APPLICATIONS

- NDT/Inspection
- Medical Sterilization/Irradiation
- Analytical X-RAY
- Medical X-RAY
- ATE
- Security Cargo Scanning
- Digital Radiography (DR)
- Industrial CT
- Computed Radiography (CR)

Inspection/Security Industrial NDT/Inspection Automotive/Aerospace

# TURN-KEY X-RAY SOURCES FOR INDUSTRIAL NDT APPLICATIONS.

System Matched, Integrated, Tested, and Warrantied... all from One Source

- Tube, generator, HV cable(s), cooler, controller & I/O fully tested together at Spellman High Voltage
- Assembly ready "Plug And Play" out of the box
- Cables, hoses, fittings all part of the packaged solution
- One purchase order
- One phone call to Spellman for support
- 2 year warranty for system exceeds that of individual outsourced components/assemblies. X-Ray tube warranty is prorated.



Shown above, with an output voltage of 450kV is our complete XRV450 turn-key sub system.



Spellman's XRV X-Ray Sub Systems and XRV high voltage power supplies set the standard for compact 1.8kW to 6.0kW, high performance X-Ray inspection generators. Shown here, with an output voltage of 320kV is our complete XRV320 turn-key sub system.

## XR V Controller

With its' One-Shot Profiles, intuitive Touch-Centric menu and interface flexibility, this powerful controller is the perfect match for your system.

- 7" Touch Screen LCD
- 10/100/1000MBIT Ethernet
- Unlimited storage and recall of X-Ray tube profiles
- Complete X-Ray tube database
- Auto and customizable tube seasoning profiles
- Bench and rack mount available



## XR V System Interface Box

- Power distribution for System Components
- Safety interlocks for doors and Tube Cooler
- Rack, bench or wall mount IP65 enclosure
- Meets requirements of 21 CFR 1020.40



## Industrial X-Ray Tube Chillers and Coolers

X-Ray tube coolers and chillers from Industry leading manufacturers are designed and validated to work with standard metal ceramic X-Ray tube offerings

- Closed loop X-Ray tube coolers for water and oil
- Closed loop X-Ray tube chillers for water and oil when ambient temperature rises to 40°C
- Coolers available with WW or OW options



## Metal Ceramic X-Ray Tubes

- Full range of metal ceramic tubes from Industry leading manufacturers
- Water cooled unipolar designs offered in 100, 160 and 225kV configurations
- Oil cooled bipolar designs offered in 320, 350 and 450kV configurations
- Available in a variety of power levels, focal spots and target angles



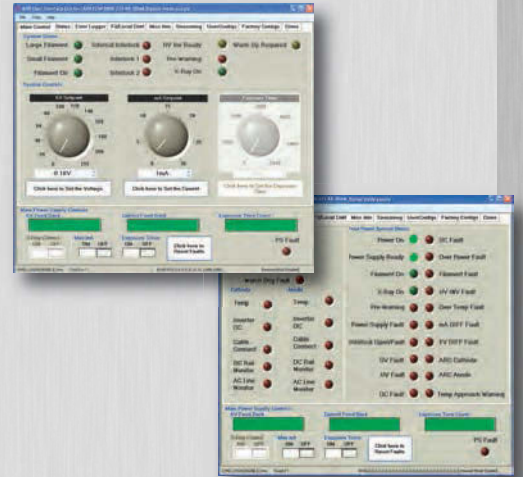
## Standard and Custom HV X-Ray Cables

- Available in custom lengths from Industry leading manufacturers
- Straight and right angle connections available
- Standard or Spring loaded connections available



## GUI Control Software for XR V

The GUI is specifically designed for controlling XR V series power supplies. As an alternative to the analog control, the GUI will allow the user to control all necessary functions of the HVPS from a user-friendly windows based menu. Additionally the GUI can be used as a diagnostic tool when the HVPS is controlled via the analog interface.



- Automatic X-Ray tube warm-up
- Max watts operation
- Timed or Continuous Exposure modes
- Configuration menu for user options
- Fault and status monitor
- Easy set up and integration



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