Spellman®
High Voltage Electronics Corporation

SPELLMAN INDUSTRIAL X-RAY SYSTEMS

SPXSERIES

Innovative Vision in Portable Industrial Imaging

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Innovative Vision in Portable Industrial Imaging

Spellman's SPX Series has set new standards for non-destructive testing imaging systems for aerospace, defense and industrial NDT applications

Rugged, easy-to-transport, and economical to maintain, the portable SPX Series makes scenarios like this not only possible, but quick, accurate and cost-effective.

- ***Constant potential output***
- ***Excellent stability and regulation***
- ***Power factor corrected AC input circuitry***
- ***Digital interface, Ethernet and RS-232***
- ***End grounded exposed anode***
- ***15 to 300kV, 0.1 to 10mA (900 watt max)***
- ***100% duty cycle***
- ***Unparalleled resolution imaging***
- ***Liquid and air cooled models***
- ***Penetration of up to 76mm of Fe (300kV unit)***

Spellman Portable X-Ray

SPX160
SPX200
SPX300

AUTOMOTIVE

AEROSPACE

MANUFACTURING

DEFENSE

AVIATION

RAILROADS

MUSEUMS

SHIPYARDS

CASTINGS

STRUCTURAL DEFECTS

BATTERIES

ENERGY

SECURITY SYSTEMS

PIPELINE INSPECTION and MAINTENANCE

WELD INSPECTION

ALL GENERAL NDT

Portable NDT Imaging Systems

Spellman is a leading supplier of portable X-Ray systems for non-destructive testing applications. Our portable, constant potential SPX series X-Ray units have set new standards for non-destructive testing imaging systems in the aerospace and defense industry and in industrial applications where it is critical to pinpoint the tiniest fault before it results in a catastrophic failure.

Available in either liquid, air cooled and hybrid versions, SPX series systems produce variable outputs from 15 to 300kV, 0.1 to 10mA (900 watt max) resulting in unparalleled resolution imaging in a wide variety of materials. All SPX industrial X-Ray systems operate on a 100% duty cycle for cost-efficient continuous operation.

Digital Microprocessor Control

Spellman's SPX systems come standard with an exclusive microprocessor-driven control. In addition to automatic warm-up and self-diagnostic circuitry, the SPX series units have memory to store and recall up to 250 exposure techniques and will retain the last set of exposure parameters present before powering down. With SPX series units, kV is adjustable in 1kV increments and mA in 0.1 mA increments. Exposure duration can be set anywhere from 1 second to 99 min 59 seconds in 1 second increments. There are three models to choose from:160kV, 200kV and 300kV.

Constant Potential Output

The SPX series X-Ray units have been engineered to produce the sharpest possible images in industrial X-Ray. The high radiation output of the SPX systems allow for lower kV per exposure and increased film contrast for superior radiographic imaging.

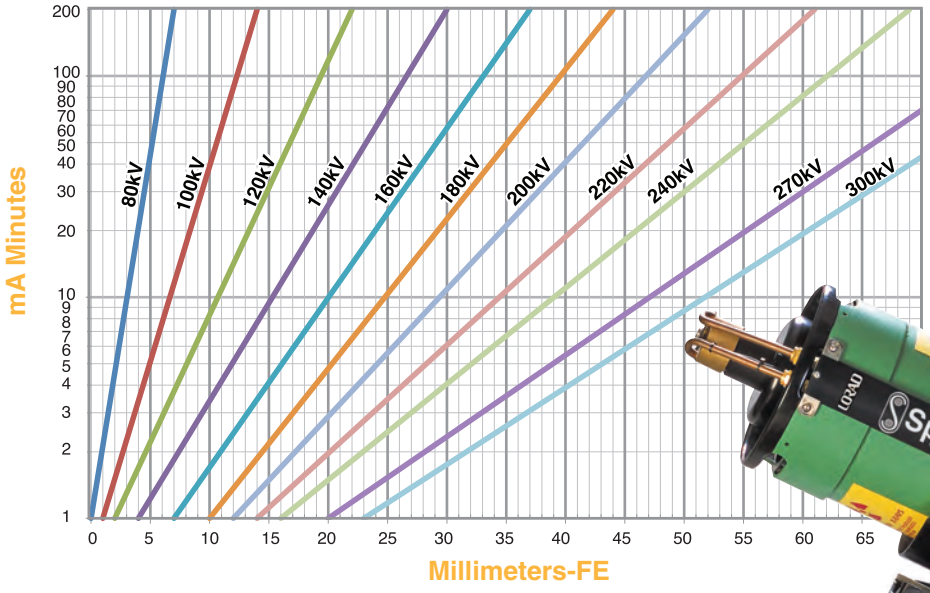
End-Grounded Anode

The SPX series X-Ray units are end grounded to allow for easier and more flexible positioning of the tubehead assembly. The end grounded X-Ray tubes have a focal spot size of 1.5mm sq. The tube port is built with a low-absorption beryllium window that allows the radiographer to utilize the full spectrum of X-Ray energy. This configuration permits shorter exposure times with high output for high resolution imaging of materials, from thin composites and honeycomb structures to various metals with differing thicknesses.

SPX Series... Powerful, Accurate and Efficient

SPX EXPOSURE CHART

Agfa D7 Film, 700mm SFD, D=2.5



The SPX300 offers a penetration depth of up to 76mm of FE!

This exposure chart is only a general reference. As thickness and material density vary so will the kV/penetration capability of the SPX.
The baseline material standard is Fe.

Standard SPX System Components

- Tube head
- Digital controller
- Chiller (water-cooled units only)
- Operation and maintenance manual
- Tubehead carrying case
- Tubehead cable- 100' with strain relief
- Extra key (1) for control unit safety lock
- Power cable - 25' with strain relief
- Coolant hose - twin, 50' with self sealing terminations (water-cooled only)
- Cooling/fan cable

Options

Air Cooled Tube Head Assembly

The air cooled tube head assembly uses a heat sink and high volume fan to dissipate heat from the anode and typically is used in applications that do not have limited access and are not in a volatile fuel vapor atmosphere. The air cooled tube head does not require a cooler unit.

Panoramic Tube Head Assembly

The panoramic tube head assembly comes in a liquid cooled version only and produces radiation in a 360 degree cone making it ideal for aircraft FOD inspection, inspection of tanks or pipes or any application that requires circumferential radiographic inspection

GUI Control Software

GUI is specifically designed for controlling SPX series systems. As an alternative to the front panel control, the GUI will allow the user to control all necessary functions of the system from a user friendly windows based menu. The GUI can be used as a diagnostic tool when the system is controlled via the front panel.

Laser Pointer

Spellman's exclusive Laser Pointer allows pinpoint image area targeting. It projects a highly visible reference laser beam from the tubehead to surfaces up to 75 feet away, showing precisely where the central X-Ray beam will be located, providing unmatched accuracy for greater efficiency and reduced set-up times.

Tube Head Stand

The SPX tubehead stand has been designed for quick set up and rigid support for optimal image quality. The stand incorporates telescoping legs, handwheel-driven height adjustment and a gearhead which provides lockable handwheel control of the tubehead tilt and rotation. (160kV and 200kV tubeheads only) 35lbs. (16kg)

SPECIFICATIONS

SPX160

X-Ray Output
15 to 160kV, 0.1 to 5.0mA (800 watts max) constant potential, end-grounded anode, air or liquid cooled versions available

X-Ray Tube Window
Beryllium .8mm (Directional), Nickel .6mm (Panoramic)

Radiation Coverage
40° (360° Panoramic tube available)

Radiation Output
14R/min at 50cm filtered with .5 inches (12.7mm) aluminum at 160kV, 5mA

Dimensions
7.25″ Diam. x 28.5″L (184.2mm x 723.9mm) WC
7.25″ Diam. x 30.5″L (184.2mm x 774.7mm) AC

Weight
29lbs. (13.15kg) WC 33lbs. (14.97kg) AC

SPX200

X-Ray Output
10 to 200kV, 0.1 to 10.0mA (900 watts max) constant potential, end-grounded anode, air or liquid cooled versions available

X-Ray Tube Window
Beryllium 1.0mm

Radiation Coverage
40° x 60° (360° Panoramic tube available)

Radiation Output
21R/min at 50cm filtered with .5 inches (12.7mm) aluminum at 200kV, 4.5mA

Dimensions
8.38″ Diam. x 26.5″L (212.9mm x 673.1mm) WC
8.38″ Diam. x 30.0″L (212.9mm x 762mm) AC

Weight
37lbs. (16.78kg) WC 41lbs. (18.6kg) AC

SPX300

X-Ray Output
10 to 300kV, 0.1 to 10.0mA (900 watts max) constant potential, end-grounded anode, air or liquid cooled versions available

X-Ray Tube Window
Beryllium 1.0mm

Radiation Coverage
40° x 60°

Radiation Output
30R/min at 50cm filtered with .5 inches (12.7mm) aluminum at 300kV, 3.0mA

Dimensions
12.00″ Diam. x 43.00″L (304.8mm x 1092.2mm) WC

Weight
98lbs. (44.5kg) WC

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