

# X-Ray Generators for Radiography X-Ray Generators for Radiography and Fluoroscopy



technical specifications



[spellmanhv.com](http://spellmanhv.com)



# From Our High Performance Z Series to Our Powerful HFe Series, Spellman has a Solution to Meet Your Unique Imaging Requirements

For over 70 years, Spellman High Voltage has been the leader in high voltage innovation. We offer an extensive portfolio of X-Ray Generators and Monoblock® Integrated X-Ray sources for diverse applications such as CT, DR, Mammography, Bone Densitometry, Surgical C-Arms, and Dental Imaging.

## GXR APPLICATIONS MATRIX

Veterinary	Radiographic	R&F	Interventional	Oncology
<b>Z Series</b>				
	<b>HFe Series</b>			

### Z Series

### HFe Series

- |   |   |
|---|---|
| <ul style="list-style-type: none"> <li>MOSFET inverter technology ●</li> <li>Platform: Fixed card and cable harness design ●</li> <li>Industry leading output frequency (450 kHz) ●</li> <li>Reduced ripple for superior image quality ●</li> </ul> | <ul style="list-style-type: none"> <li>● IGBT Inverter Technology</li> <li>● Platform: Modular card and backplane design</li> <li>● High Speed Ethernet communications port</li> <li>● Fluoroscopy available</li> </ul> |
|---|---|

## Powered by Spellman® Subsystem Solutions

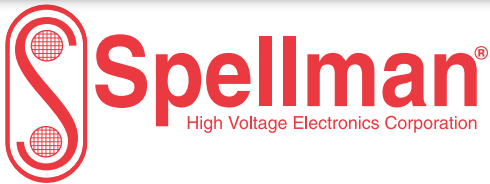
Powered by Spellman® is a value-added proposition that allows our customers access to high quality X-Ray components including generators, tubes, collimators and other devices. This streamlined system enables simplified sales, installation and service for our customers' convenience.



- Subsystem components are received into one of Spellman's Medical ISO 13485 facilities
- All components undergo quality control and verification inspection by Spellman engineers
- All components are tested individually
- Components are then integrated and calibrated as part of a system
- Shipped as one complete subsystem to customer for installation

Please consult factory regarding product configuration availability and regulatory requirements for specific markets





# HFe Series X-Ray Generators for Radiography and Fluoroscopy

## EDITOR HFe Series

HIGH FREQUENCY X-RAY GENERATORS

- ✓ **Modular, back-plane design for simplified serviceability and support**
- ✓ **Isolated circuit breakers improve trouble shooting and increase safety: this gives service engineers the ability to power down specific sections of the generator as needed**
- ✓ **Extensive tube library: supporting most X-Ray tubes on the market**
- ✓ **Comprehensive PC service utility tool**

As the world's leader in high voltage innovation, Spellman is proud to introduce the HFe Series of high frequency, diagnostic imaging generators.

These versatile high performance, high frequency X-Ray generators for radiographic and fluoroscopic imaging are feature packed and offer world-class performance specifications, with power levels from 40kW to 80kW. Plus, Spellman's engineering team will support your OEM integration from beginning to end, for seamless and smooth market launch. Compatible with most digital interfaces and X-Ray room system mechanics, the HFe Series is the intelligent choice for the medical OEM seeking the latest technology and global support.

### Typical Applications

- Remote R&F
- Classical R&F
- Urology
- Tomography
- Functional Imaging
- Image Guided Radiation Therapy



EDITOR HFe-1M Vertical Cabinet  
(cover removed for clarity)

- Interface for Automatic Exposure Control
- Interface for external Dose Area Product (DAP) and Air Kerma (AK) devices
- Continuous Fluoroscopy
- Pulsed Fluoroscopy
- Powering 1 tube and 2 tube configurations
- Integrated 3 Phase, dual speed starter
- Input power options: 1Ø and 3Ø configurations available
- Output power options: 40kW, 50kW, 65kW, 80kW
- Digital and Analog auto brightness stabilization
- Multiple fluoroscopic to radiographic transfer curves



EDITOR HFe-UT Under Table Cabinet

**EDITOR HFe Controller Options**

Spellman EDITOR HFe X-Ray generators are available for either integrated and non-integrated X-Ray rooms. Our control consoles offer an intuitive approach to the selection of X-Ray techniques and imaging control. Touch Screen, Membrane and Integrated Consoles available.



**Non-Integrated**  
 EDITOR HFe full-featured membrane console available.  
 \*Consult factory regarding released DR interfaces

**Integrated**  
 The EDITOR HFe Mini Console allows simplified control of the generator techniques for POWER ON/OFF and PREP/EXPOSE buttons

**EDITOR HFe SPECIFICATIONS**

MODEL	EDITOR HFe 401	EDITOR HFe 501	EDITOR HFe 601	EDITOR HFe 801
Output Power	40kW	50kW	65kW	80kW
mA/kW @ 0, 1s				
@ 40kV	400 / 16	400 / 16	400 / 16	400 / 16
@ 60kV	500 / 30	650 / 39	800 / 48	800 / 48
@ 80kV	500 / 40	625 / 50	800 / 64	800 / 64
@ 100kV	400 / 40	500 / 50	650 / 65	800 / 80
@ 125kV	320 / 40	400 / 50	520 / 65	640 / 80
@ 150kV	266 / 40	330 / 50	430 / 65	530 / 80
Continuous falling load (with AEC)	Yes			
kV range for exposure	40-150kV			
Increments of	1kV in 27 steps			
kV accuracy	±(5%+1kV)			
mA range for exposure in	10-500 mA 18 steps	10-650 mA 19 steps	10-800 mA 20 steps	10-800 mA 20 steps
mA accuracy	±(6% +1mA) ±(10% +1mA for ms≤10ms)			
Max. mA @ max kV	500mA @ 80kV	650mA @ 76kV	800mA @ 81kV	800mA @ 100kV
ms range for exposure	1-6300 ms in 38 steps			
ms accuracy	±(4% +1ms) ±(10% +1ms for ms≤10ms)			
mAs range	0.5-600 mAs in 32 steps			
mAs range (optional)	0.5-1000 mAs in 34 steps			
mAs accuracy	±(10% +0, 2mAs)			
Automatic Exposure Control (AEC)	Optional (Ionization/solid state)			
AEC mAs range	0.5-600 mAs			
Interface for Air Kerma/Dose Area Product	Optional			
Printer and PC interface	RS-232			
High Speed Starter HSS1/ Dual Speed Starter DSS2	Optional			
Generator operating control console	Optional			
Tube Calibration	Auto, with manual override			
Digital integration without console	Ethernet and RS-232			
Fluoroscopy Option	Yes			
kV range for fluoroscopy	40-125kV in 1kV increments			
mA range for fluoroscopy	0.5-5.0mA			
Continuous fluoroscopy	1-20mA			
Pulsed fluoroscopy	10-150mA			
Max. mA @ max kV				
Continuous	8.2mA @ 125kV			
Pulsed	150mA @ 125kV			

Please consult factory regarding product configuration availability and regulatory requirements for specific markets

# Z Series High Frequency X-Ray Generators for Radiography

Spellman's Z Series of high frequency, diagnostic imaging generators is a proven system for dedicated radiographic applications providing unique benefits to the customer.

These highly compact and reliable radiographic generators feature the medical industry's highest output frequency at 450kHz and world-class performance specifications, spanning 32kW to 80kW. And best of all, you get Spellman's engineering support your for your OEM integration.



- ✓ 450kHz output frequency
- ✓ Specially designed for DR systems
- ✓ Simple Integration via SDK to any workstation
- ✓ Automatic calibration
- ✓ Service-friendly design



- Interface for Automatic Exposure Control
- Interface for dose measuring devices
- Dual speed starter
- Single console integration to your DR software

## Z SERIES SPECIFICATIONS

Power Level	32kW	40kW	50kW	65kW	80kW
Input Power Voltage	3 $\phi$ /380/400/480 VAC 1 $\phi$ /208/230 VAC		3 $\phi$ /380/400/480 VAC		
Maximum Output Frequency	450kHz				
Tube Voltage Range	40~150kV				
Tube Voltage Accuracy	$\pm$ (5%+1kV)				
Tube Current Range	10~400mA	10~500mA	10~630mA	10~800mA	10~1000mA
Tube Current Accuracy	$\pm$ (10%+1mA)				
mAs Range	0.1~500mAs		0.1~1000mAs		
Exposure Time Range	1.0~10000 ms				
Coefficient of linearity	$\leq$ 0.05				
Coefficient of Reproducibility	$\leq$ 0.05				
Operating Modes Selection	kV/mA/ms, kV/mAs, AEC, APR				
Anode Rotation Drive	Low Speed / Dual Speed Starter				
Communication Port	RS-232				
Tube Calibration	Automatic				
AEC Interface	Analog AEC Interface for Three Field Chambers				
DAP Interface	Optional				

Please consult factory regarding product configuration availability and regulatory requirements for specific markets



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