



- **Constant Potential Output, 20kV to 160kV, 0.1mA to 5mA**
- **Excellent Stability and Regulation**
- **Power Factor Corrected AC Input Circuitry**
- **RS-232 Interface**
- **100% Duty Cycle, Air Cooled, End Grounded Anode**
- **Unparalleled Resolution Imaging**
- **Warm up/Seasoning of the X-Ray Tube**
- **Penetration of up to 25.4mm Fe**
- **Quick 1/4 Turn Connectors**
- **Fail Safe Light Circuitry Inhibits X-Rays if Light Fails**

TYPICAL APPLICATIONS

- Aerospace
- Manufacturing
- Defense
- Aviation
- Energy
- Security Systems
- NDT Applications

SPECIFICATIONS

Input Line Requirements:

Automatically adapts to input line voltage
 100-130Vac, 50/60Hz, 20 Amperes maximum
 200-250Vac, 50/60Hz, 10 Amperes maximum
 May also be portable-generator powered

X-Ray Output:

20 to 160kV, 0.5mA to 5.0mA (800 watts max.)
 Constant potential, end-grounded anode

X-Ray Tube Window:

Beryllium 0.8mm (directional)

Radiation Coverage:

40° x 60° directional

Radiation Output:

14R/min at 50cm filtered with 0.5 inches (12.7mm) aluminum at 160kV, 5mA

Radiation Leakage:

Less than 100m Roentgens per hour at 1 meter from the X-Ray tube target

Effective Focal Spot:

1.5mm x 1.5mm (0.06in x 0.06in) EN12543

Duty Cycle:

100%

Ambient Temp:

100% duty cycle @ 120°F (49°C)

Operating Temp:

32°F to 120°F (0°C to 49°C)

Storage Temp:

-30°F to 160°F (-35°C to 71°C)

Anode Cooling:

Fan forced air cooling

Spellman's SPX160-NX is perfectly suited for today's demanding NDT inspection requirements. SPX160-NX units are rugged, yet easy to transport and economical to maintain. They can be line or portable generator powered automatically adapting to standard input voltages to permit all day inspection under extreme conditions virtually anywhere.

The end grounded X-Ray tubes have a focal spot size of 1.5mm sq. and the exposed anode allows for easy and flexible positioning of the tube head assembly. Tube ports use a low-absorption beryllium window that allows the radiographer to utilize the full spectrum of X-Ray energy. The high radiation output of the SPX160-NX systems allow for lower kV per exposure, shorter exposure times and increased film contrast for superior radiographic imaging.

The SPX160-NX microprocessor-driven control unit provides automatic warm-up and comprehensive self-diagnostic circuitry. Memory to store and recall exposure techniques is standard and the last set of exposure parameters is retained before powering down. The SPX160-NX is adjustable in 1kV and 0.1mA increments. Exposure duration can be set from 1 second to 99 min 59 seconds in 1 second increments.



Tube Head Dimensions:

Please reference dimension drawings

Tube Head Weight:

40lbs. (18.14kg)

X-Ray Control Unit:

Digital microcomputer based with local control, and RS-232

X-Ray Control Unit Dimensions:

Please reference dimension drawings

X-Ray Control Unit Weight:

35lbs. (15.88kg) approx.

Safety Devices:

- Tubehead Pressure Relief Valve
- Tubehead Thermal Cut-Out
- Tubehead Pressure Gauge
- Tubehead Low Pressure Cut-Out @ 25psi (1.72 Bar)
- Control Unit Safety Keyswitch
- Self Diagnostics
- Continuous Exposure Parameter Display

Standard Accessories:

- Operation manual
- Tubehead carrying case
- Tubehead Cable– 2 x 50' 1/4 turn quick disconnect with strain relief
- Power cable– 10' & 50' 1/4 turn quick disconnect with strain relief
- Extra key (1) for Control Unit Safety Lock
- Safety interlock cable assembly– 10' with strain relief

OPTIONAL ACCESSORIES

Laser Pointer

Spellman's exclusive Laser Pointer allows pinpoint image area targeting. The Laser Pointer 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.



Tubehead Stand

An optional X-Ray Tubehead Stand allows for quick set up and provides rigid support for optimal image quality with three-axis positioning of the tube head assembly. The stand incorporates telescoping legs, a hand wheel-driven variable height adjustment and lockable hand wheel controlling the tubehead tilt and horizontal rotation. The tubehead cradle is cushioned for secure mounting and vibration damping. A bubble-type indicator is included for quick and easy leveling of the tubehead. Black anodized aluminum construction. 35lbs. (16kg)

GUI Control Software for the SPX160-NX

GUI is specifically designed for controlling SPX160-NX 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. Additionally the GUI can be used as a diagnostic tool when the system is controlled via the front panel.

- **Warm-up/seasoning of the X-Ray tube**
- **Timed or continuous exposure modes**
- **Fault and status monitor**



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MAIN AC INPUT CONNECTOR

Controller Side; Male, 3 pins, 1/4 turn quick disconnect

PIN	SIGNAL
A	LINE 1 120/220Vac
B	LINE 2 Neutral 120/220Vac
C	Ground

INTERLOCK CONNECTOR

Controller Side; Female, 4 pins, 1/4 turn quick disconnect

PIN	SIGNAL
A	External Interlock
B	External Interlock
C	X-Ray ON Contact
D	X-Ray ON Contact

TUBE HEAD CONNECTOR

Controller Side; Female, 17 pins, 1/4 turn quick disconnect
Tube Side; Male, 17 pins, 1/4 turn quick disconnect

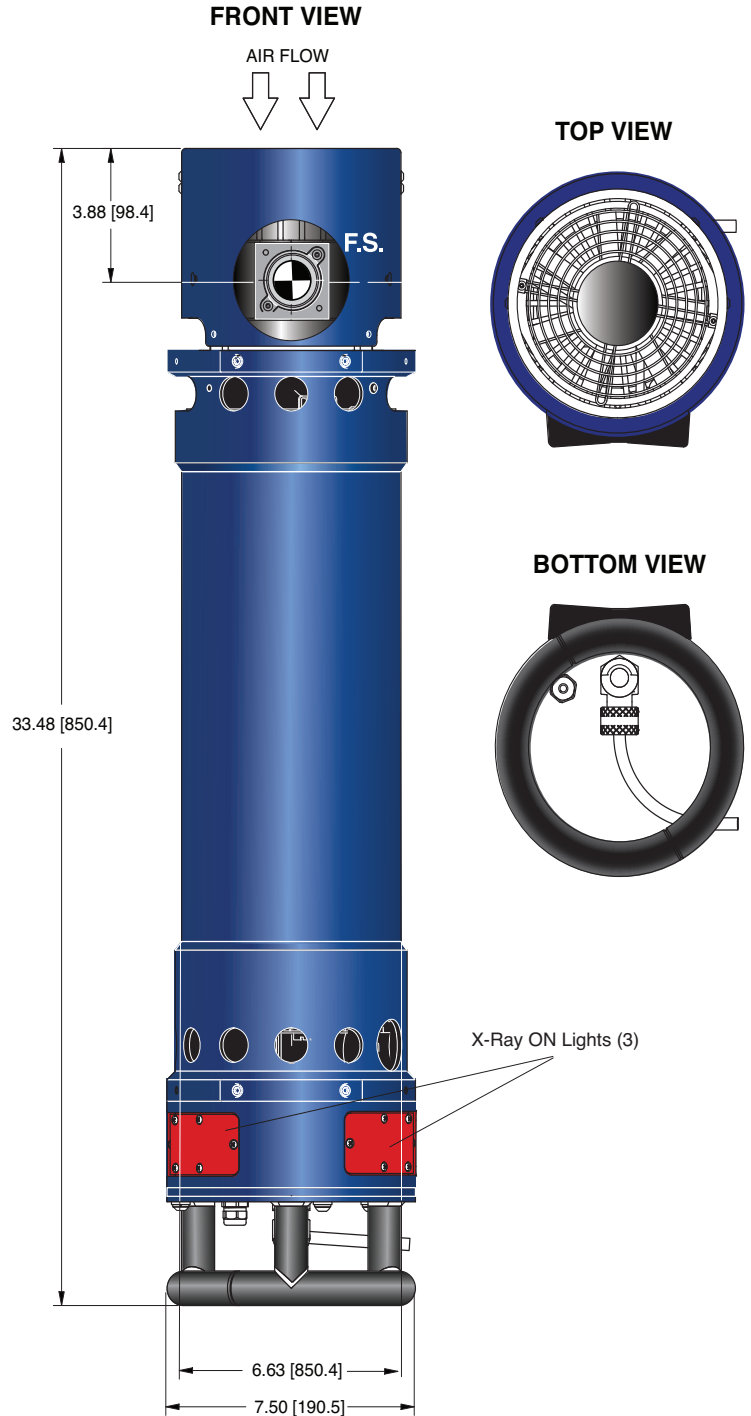
PIN	SIGNAL
A	Interlock Temperature/Pressure
B	X-ray ON light return
C	+24VDC
D	24VDC Return
E	+24VDC
F	Chassis Ground
G	Filament Transformer, Primary 1
H	Filament Transformer, Primary 2
J	kV Feedback Return (GND)
K	mA Feedback
L	kV Feedback
M	N/C
N	N/C
P	N/C
R	HV Transformer, Primary 1
S	HV Transformer, Primary 2
T	N/C

HOW TO ORDER

Description	Part Number
SPX160-NX System; Air Cooled, 40° x 60° Directional Beam, Metal Ceramic insert	SPX160ACDBCX
Tubehead Stand	3-000-0754
Laser pointer with adapter	K935

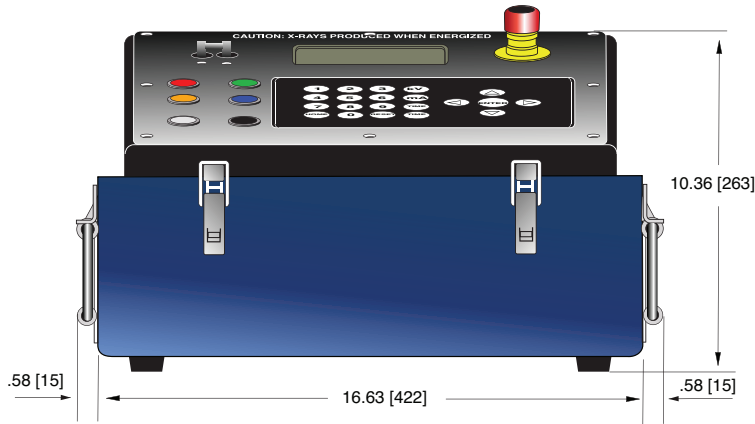
SPX160-NX Tubehead

DIMENSIONS: in.[mm]

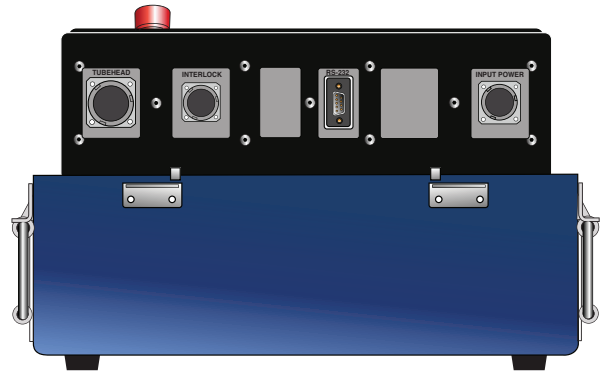


SPX160-NX Controller
 DIMENSIONS: in.[mm]

FRONT VIEW



BACK VIEW



TOP VIEW



SIDE VIEW

