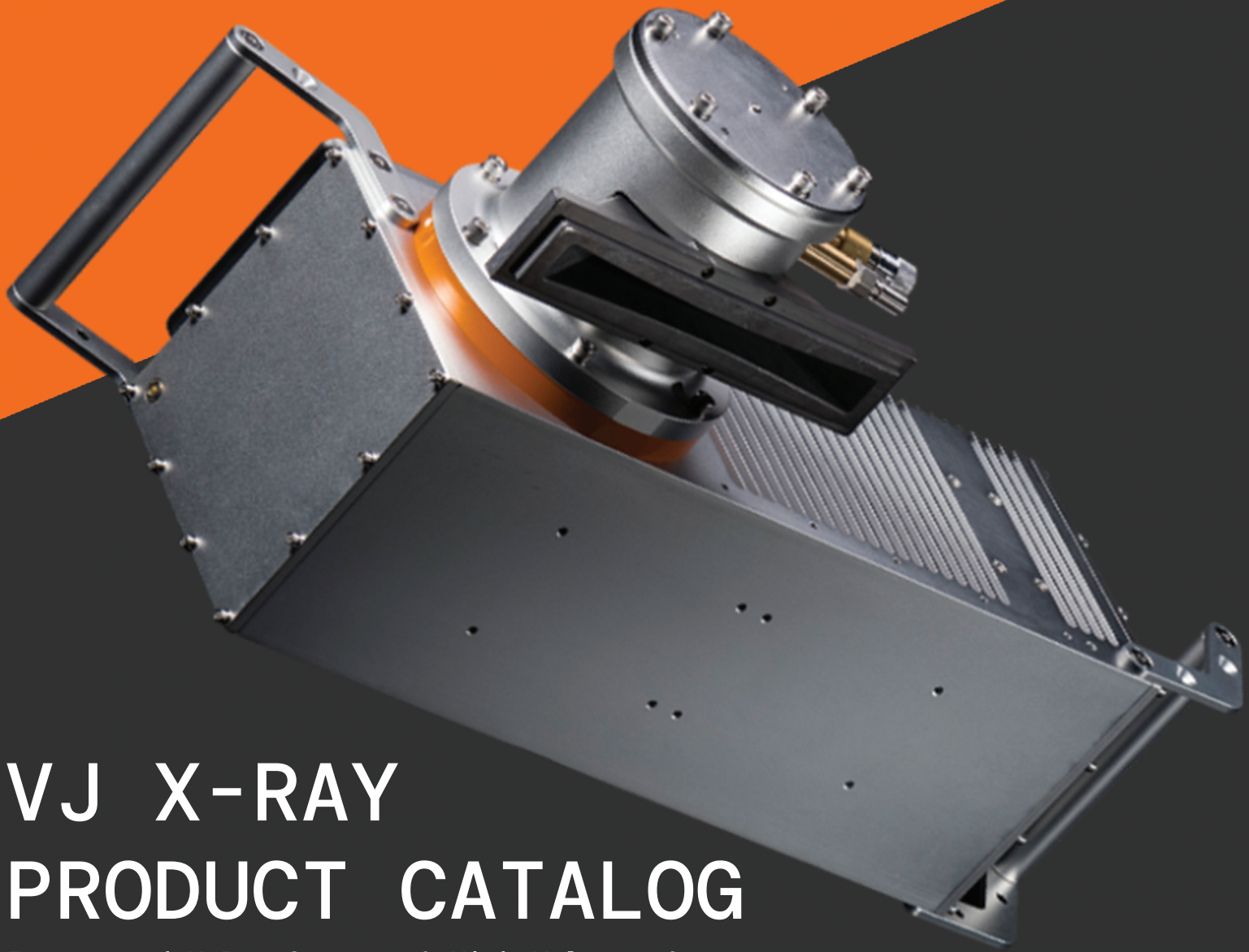
VJX

Powering Technology That Matters



VJ X-RAY PRODUCT CATALOG

Integrated X-Ray Sources & High Voltage Generators

VJ X-RAY Division of the VJ GROUP

New York, NY

VJ X-Ray was founded in 2008 with one mission: to bring out the best in your X-ray systems with our high voltage technology. To achieve this, we gathered industry-leading engineers and tasked them with pushing the boundaries of component design and quality for every OEM partner. Our engineering team leverages over three decades of combined experience in X-ray technology to create customizable solutions for any application.

We serve our global OEM partners from our facilities in Bohemia, New York (USA) and SIP, Suzhou (China). The key to our success as a global leader in X-ray technology is our drive to listen to and anticipate our customers' needs. The world's leading OEMs trust us because of our emphasis on the quality, performance, and reliability of our products. This allows our customers to hone their X-ray systems while we focus on our mission:

Powering technology that matters.

65,000+
UNITS SHIPPED

700+
CUSTOMIZED SOLUTIONS ENGINEERED

200+
WORLD LEADING OEMS SHIPPED

Core Strenghts

Suzhou, China

Expertise

With our accumulated knowledge designing, developing, and maintaining our production of over 600 models, we are well equipped to find your solution.
Coupled with our experience, we have strong relationships with X-ray tube manufacturers globally which enable us to launch new products every single year.

In addition, we have unfettered access to a world-leading DR + CT company which provides VJX with a unique advantage of being able to robustly test our products before bringing them to market, ensuring high reliability and performance.

Reliability

We are worldwide, and constantly expanding our production and service capacity. Our multi-sourcing strategy minimizes supply chain risk for our OEM partners.

Our standardized manufacturing processes across production facilities ensure consistent product quality.

Values

We put the confidentiality of all our OEM partners above all else. We implement NDAs for every unique solution and are committed to keeping information safe and secure.

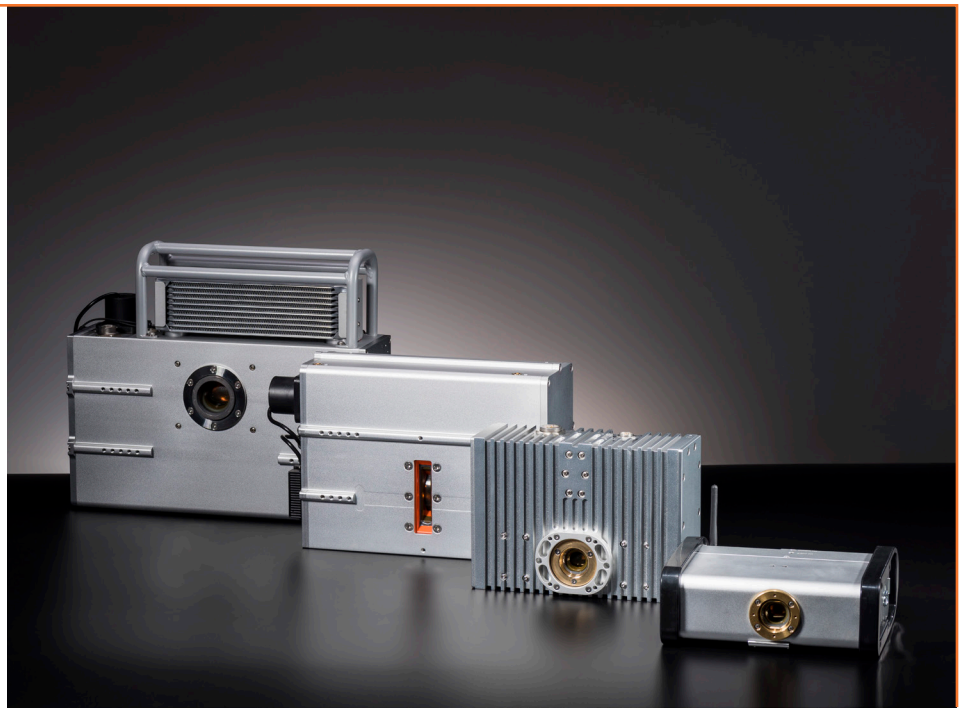
Product Overview

IXS Series
Integrated X-Ray Sources

Our IXS Series of integrated sources combine the high voltage power supply, X-ray tube, and control electronics into single compact products. These units boast high stability and performance over a wide range of operating voltage and current. Versatile design allows customization based on application need, and seamless integration into OEM systems.

Specification Range

Output Voltage : 20 kV – 320 kV
Output Current : 0.05 mA –25.0 mA
Output Power : 5 W – 2400 W
Focal Spot Size : 35 µm – 5.0 mm



HVG Series
High Voltage Generators

Our HVG and HVL Series of High Voltage Generators offer high stability and reliability over a variety of voltage and current outputs.

Units can be unipolar or bi-polar and can be customized per OEM requirements. The High Voltage Generators are compatible with most commonly used X-ray tubes, allowing for effortless OEM integration.

Specification Range

Output Voltage : 10 kV – 450 kV
Output Current : 0 mA – 30 mA
Output Power : 8 W – 4500 W

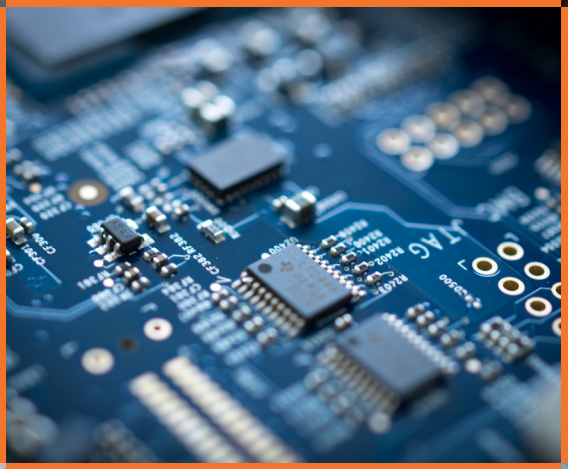
Industries Served

Security

Industrial

Food

Medical



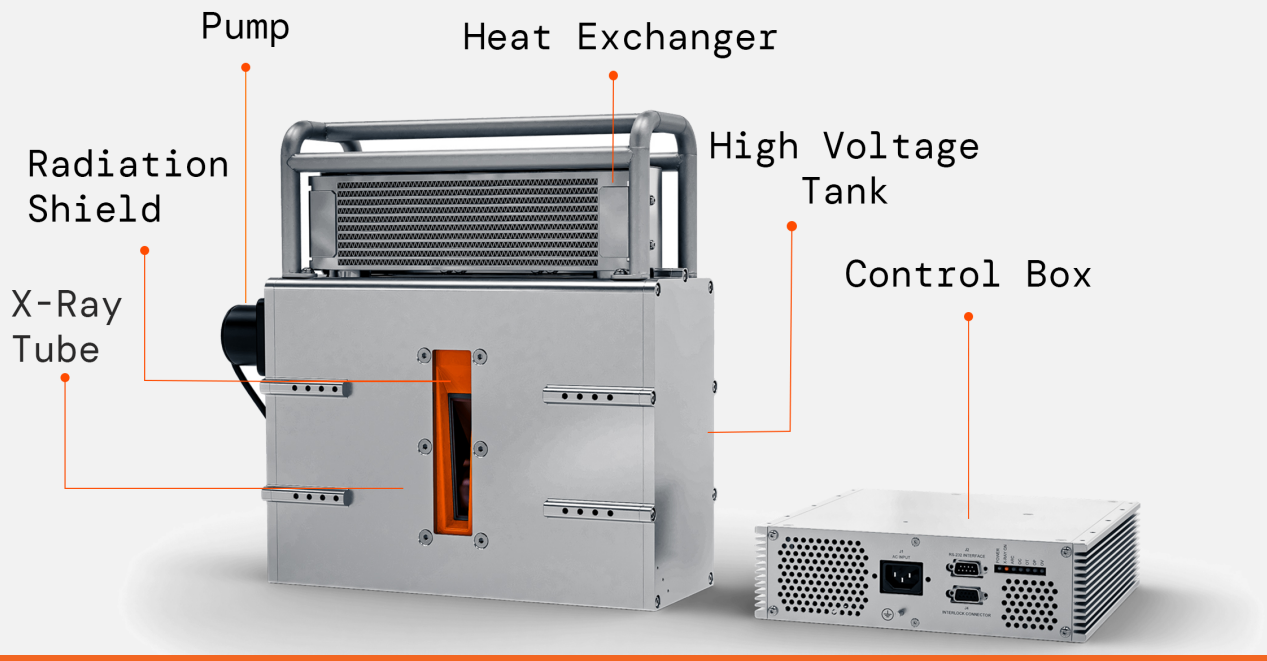
Analytical Instrumentation

Electronics

Contents

HOW WE NAME OUR PRODUCTS

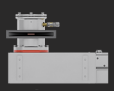
I	X	S	1	6	5	0
Product Platform Integrated X-Ray Source			Max Output Voltage E.g. 160kV		Max Output Power E.g. 500W	



Industry Application Overview

Security


IXS1620
160kV,200W


IXS161k
160kV,1-1.5k


IXS2050
200kV,500W

Food


IXS0835
80kV,350W


IXS1015
100kV,150W


IXS1650
160kV,500W

Industrial

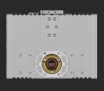

IXS1650
160kV,500W


IXS2050
200kV,500W


HVG225
225kV,3kW

HVG160
160kV,3kW

Medical


IXS101k
100kV,1kW


IXS1015
100kV,150W

HOW WE NAME OUR PRODUCTS

H	V	G	2	2	5

Product Platform
High Voltage Generator

Max Output Voltage
E.g. 225kV

High Voltage Connector

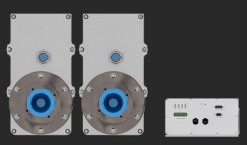
Control Interface

Meet The HVG/HVL Family

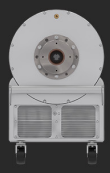
HVG060 Mini
60kV, 150W

HVG075 Mini
75kV, 350W/600W

HVG100
100kV, 1000W



HVL100-320
100-320kV
1kW



HVG160-450
160-450kV
2-4.5kW

IXS041K Beryllium Window

40 kV, 1000 W

Applications

- Food Inspection
- Industrial NDT

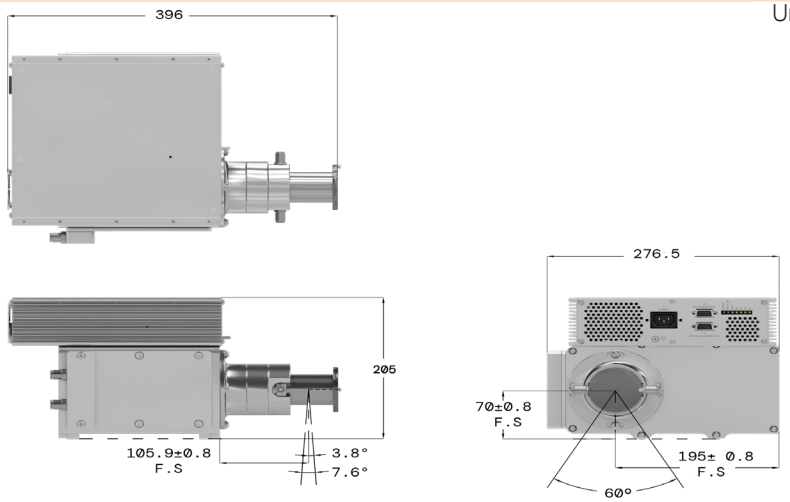
Key Features

- Integrated High Voltage Generator, Metal ceramic X-ray tube, and Control Electronics
- Be-Window for Low kV, Soft X-ray Applications
- High Power with Water Cooling
- Radiation Shielded
- User Friendly RS232 Digital Interface

Specifications	
Input Line Range	220VAC±10%, 50/60 Hz
Output kV	20 kV - 40 kV
Output mA	1.0 mA - 25.0 mA
Output Power	1000 W maximum continuous
Radiation shield	Less than 0.5 mR/hr at 5 cm from the surface of the chassis as per FDA 21 CFR 1020.40
Safety and Regulatory Compliances	Designed to meet CE, EN/UL61010-1 and EN61326-1.
Dimensions	Generator: 393mm x 275mm x 135mm Control unit: 264mm x 247mm x 70mm
Weight	Generator: 14 kg Control unit: 3 kg
X-Ray Tube	
X-ray Tube Type	Be-Window Metal Ceramic
X-ray Focal Spot Size	1.5 mm as per EN12543 (0.6 Nominal IEC60336)
Beam Port	Fan beam of 60º max. (Cone Beam available upon request)
Operating Environment	
Operating Temperature	5°C to 40°C
Storage Temperature	-20°C to 55°C
Thermal Cut Off	50ºC ± -2ºC of oil temperature
Humidity	98% non-condensing

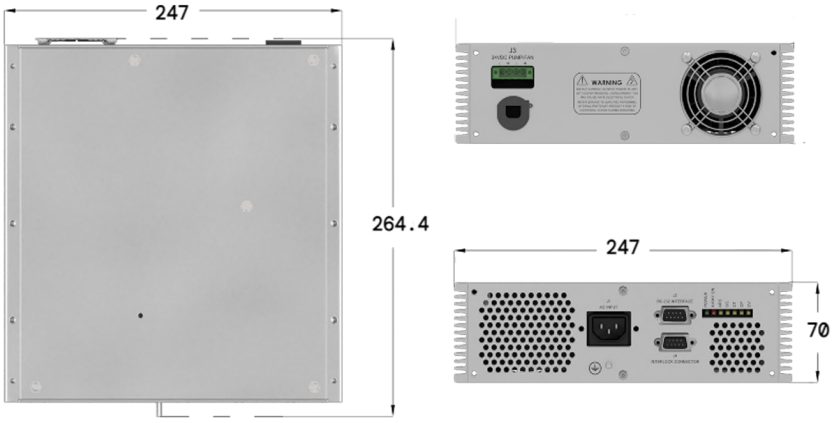
Generator

Unit: mm

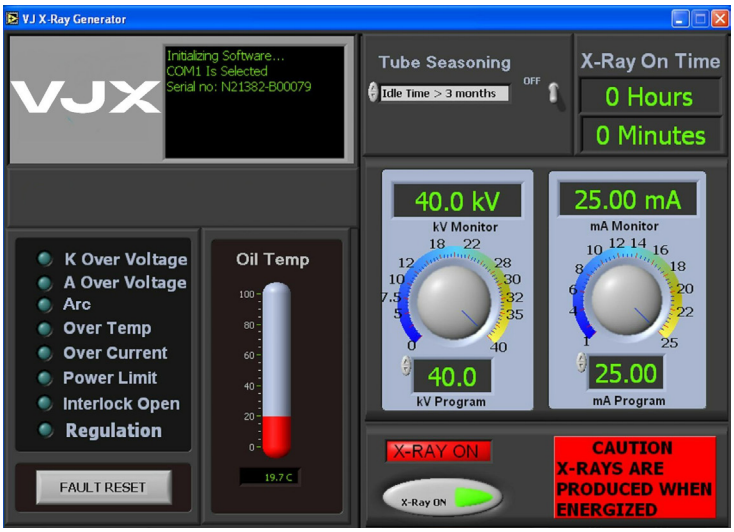


Control Unit

Unit: mm



Graphical User Interface



LED Indicators	
OP	Over Power fault
OC	Over current fault
ARC	ARC-ing fault
OT	Illuminated when oil temperature exceeds 60±3°C.
OV	Over voltage fault
X-Ray On	Illuminated when interlock is closed and HV is enabled
POWER	Illuminated when power is present

J1: AC Input	
Pin Out	**Name**
N	Neutral
GND	Ground
L	220VAC ±10% Input

J2: Interlock	
Pin Out	**Name**
1	Interlock out
2	Interlock In
3	X-ray on relay contact common
4	X-ray on relay contact N/C
5	X-ray on Relay contact N/O
6	N/A
7	N/A
8	N/A
9	N/A

J3: RS232 Digital Interface	
Pin Out	**Name**
1	N/A
2	TX-(Transmit)
3	RX+(Received)
4	N/A
5	Signal Ground
6	N/A
7	N/A
8	N/A
9	N/A

J4: 24VDC Pump/Fan	
Pin Out	**Name**
+	+24 VDC
-	Return
+	+24 VDC
-	Return

IXS0520

50 kV, 200 W

Applications

- Baggage Inspections
- Security Body Scanners
- Food Safety
- Industrial

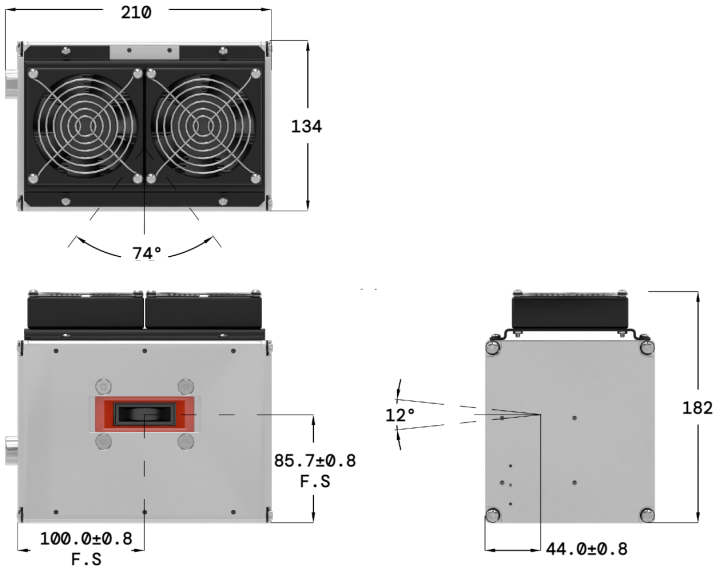
Key Features

- Integrated High Voltage Generator, X-ray Tube, and Control Electronics
- Compact and Robust
- High Stability
- High Resolution: 0.4 nominal Focal Spot
- Radiation Shielded
- User Friendly RS232 Digital Interface

Specifications	
Input Line Range	110–220VAC ±10%, 50/60 Hz
Output kV	20 kV – 50 kV up to 80 kV also available
Output mA	0.5 mA – 4.0 mA
Output Power	80 W continuous/ 200 W peak 30% or less Duty Cycle
Radiation shield	Less than 0.5 mR/hr at 5 cm from the surface of the chassis as per FDA 21 CFR 1020.40
Safety and Regulatory Compliances	Designed to meet CE, EN/UL61010-1 and EN61326-1
Dimensions	Generator: 226mm x 134mm x 188mm Control unit: 254mm x 134mm x 65mm
Weight	Generator: 11 Kg Control unit: 2 Kg
X-Ray Tube	
X-ray Tube Type	Glass
X-ray Focal Spot Size	0.4 nominal as per IEC60336
Beam Port	Fan beam: 80º X 10º , 74º X 12º Cone beam: 25º
Operating Environment	
Operating Temperature	5°C to 40°C
Storage Temperature	-20°C to 85°C
Thermal Cut Off	60ºC ± 3ºC of oil temperature
Humidity	98% non-condensing

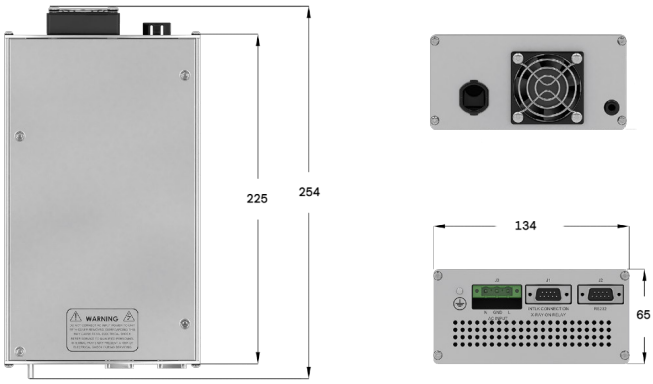
Generator

Unit: mm

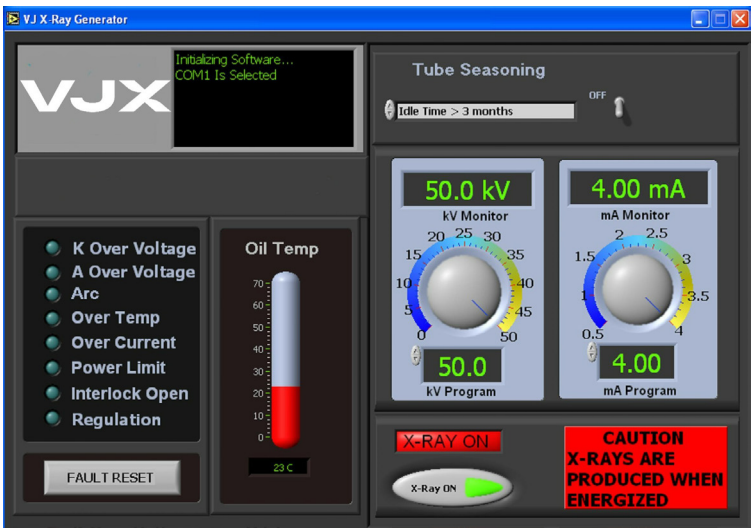


Control Unit

Unit: mm



Graphical User Interface



LED Indicators	
X-Ray On	Illuminated when interlock is closed and HV is enabled
POWER	Illuminated when power is present
OV	Over voltage fault
OP	Illuminated when selected power exceeds the rated power
OC	Over current fault
ARC	ARC-ing fault
OT	Illuminated when oil temperature exceeds 60°C ± 3°C

J1: Interlock Connection/ X-ray On Relay	
Pin Out	Name
1	Interlock out
2	Interlock in
3	X-ray On Relay contact common
4	X-ray On Relay contact N/C
5	X-ray On Relay contact N/O
6	N/A
7	N/A
8	N/A
9	N/A

J2: RS232 Digital Interface	
Pin Out	Name
1	N/A
2	TX-(Transmit)
3	RX+(Received)
4	N/A
5	Signal Ground
6	N/A
7	N/A
8	N/A
9	N/A

J3: AC Input	
N	Neutral
GND	Ground
L	110–220VAC ±10% Input

IXS0405 Beryllium Window

40 kV, 50 W

Applications

- Thickness Gauging
- X-Ray Fluorescence
- Sorting
- Material Analysis

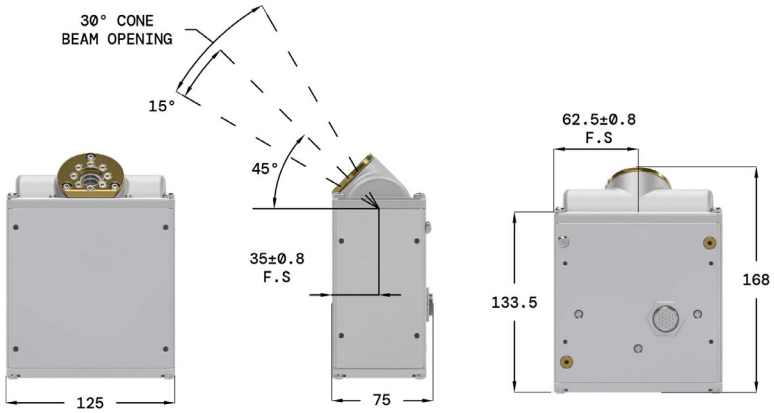
Key Features

- Integrated High Voltage Power Supply, X-ray tube with Beryllium Window, and Control Electronics
- Highly Stable
- Radiation Shielded
- User Friendly RS232 Digital Interface
- 24 VDC Input

Specifications	
Input Line Range	24 VDC ±10%
Output kV	10 kV - 40 kV
Output mA	0.05 mA - 2.0 mA
Output Power	50 W continuous maximum
Radiation shield	Less than 0.5 mR/hr at 5 cm from the surface of the chassis as per FDA 21 CFR 1020.40
Safety and Regulatory Compliances	Designed to meet CE, EN/UL61010-1 and EN61326-1.
Dimensions	Generator: 125 mm x 75 mm x 168 mm Control unit: 80 mm x 173 mm x 38.5 mm
Weight	Generator: 2.4 kg Control unit: 0.4 kg
X-Ray Tube	
X-ray Tube Type	Glass Tube with Be-Window
X-ray Focal Spot Size	1.0 mm (0.5 Nominal IEC60336)
Beam Port	Cone beam: 24°
Operating Environment	
Operating Temperature	5°C to 40°C
Storage Temperature	-20°C to 85°C
Thermal Cut Off	60°C ± 3°C of oil temperature
Humidity	98% non-condensing

Generator

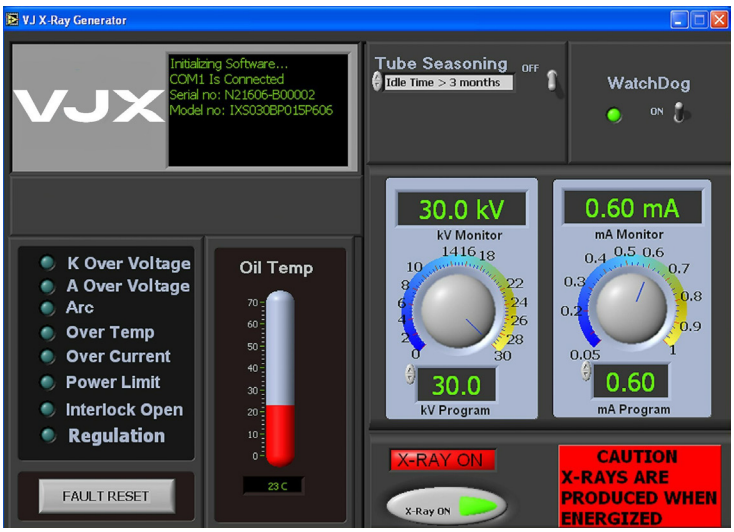
Unit: mm



Control Unit

Unit: mm

Graphical User Interface



J1: 24 VDC Input Connector	
Pin Out	**Name**
1	Interlock Out
2	Interlock In
3	+24VDC Input
4	+24VDC Input Return

J3: RS232 Digital Interface	
Pin Out	**Name**
1	N/A
2	TX-(Transmit)
3	RX+(Received)
4	N/A
5	Signal Ground
6	N/A
7	N/A
8	N/A
9	N/A

Ethernet Digital Interface	
Pin Out	**Name**
1	TX+
2	TX-
3	RX+
4	N/A
5	N/A
6	RX-
7	GROUND
8	GROUND

IXS0803

80 kV, 30 W

Applications

- Food & Pharmaceutical Inspections
- Fill Level Check

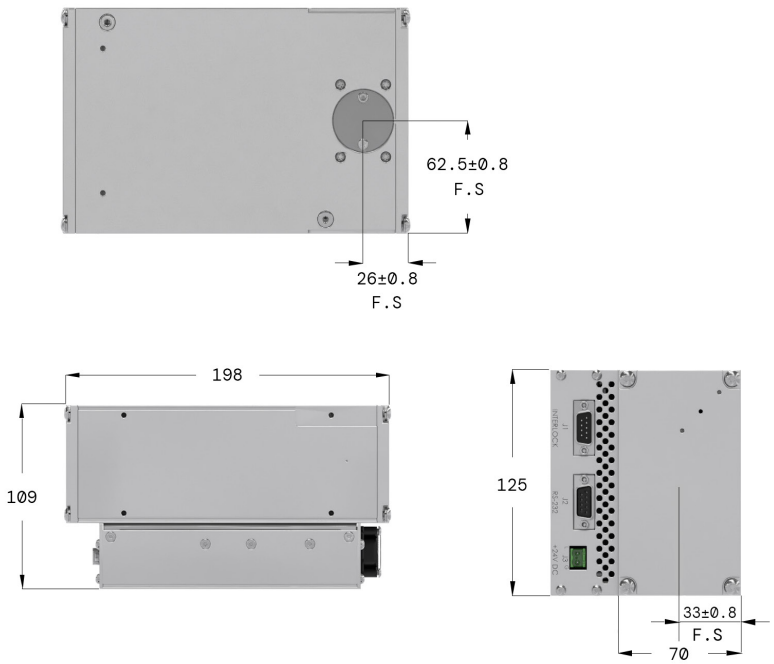
Key Features

- Integrated High Voltage Generator, X-ray Tube, and Control Electronics
- Radiation Shielded
- User Friendly RS232 Digital Interface
- 24 VDC Input

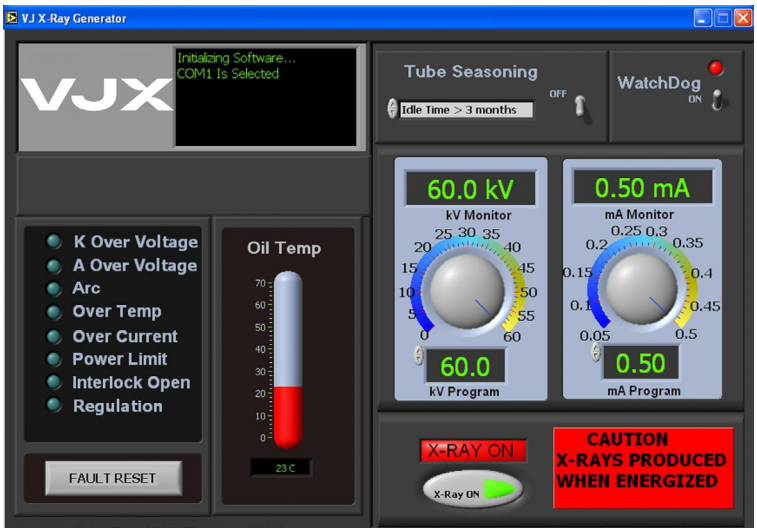
Specifications	
Input Line Range	24VDC ± 10%
Output kV	20 kV - 80 kV
Output mA	0 mA - 1.0 mA
Output Power	30 W continuous maximum
Radiation shield	Less than 0.5 mR/hr at 5 cm from the surface of the chassis as per FDA 21 CFR 1020.40
Safety and Regulatory Compliances	Designed to meet CE EN/UL61010-1 and EN61326-1
Dimensions	Generator: 198 mm x 125 mm x 70 mm Control unit: 176 mm x 125 mm x 39 mm
Weight	Generator: 7 kg Control unit: 1 kg
X-Ray Tube	
X-ray Tube Type	Glass
X-ray Focal Spot Size	0.8 nominal as per IEC60336
Beam Port	Cone beam: 25°
Operating Environment	
Operating Temperature	5°C to 40°C
Storage Temperature	-20°C to 85°C
Thermal Cut Off	60°C ± 3°C of oil temperature
Humidity	98% non-co ndensing

Generator

Unit: mm



Graphical User Interface



LED Indicators	
POWER	Illuminated when power is present
X-Ray On	Illuminated when interlock is closed and HV is enabled
ARC	ARC-ing fault
OC	Over current fault
OT	Illuminated when oil temperature exceeds 60°C ± 3°C
OP	Illuminated when selected power exceeds the rated power
OV	Over voltage fault

J1: Interlock Connection/ X-ray On Relay	
Pin Out	**Name**
1	Interlock 1 in
2	Interlock 1 in
3	Interlock 1 out
4	N/A
5	Interlock 2 in
6	Interlock 1 in
7	Interlock 1 out
8	Interlock 2 out
9	X-ray Enable (TBD)

J2: RS232 Interface	
Pin Out	**Name**
1	N/A
2	TX-(Transmit)
3	RX+(Received)
4	N/A
5	Signal Ground
6	External kV program
7	External mA program
8	External kV monitor
9	External mA monitor

J3: Power Input	
L	**G**
+24 VDC Input	Ground

IXS0808

80 kV, 80 W

Applications

- Food Inspection Systems
- Security Scanners
- Industrial NDT
- Product Quality Monitoring

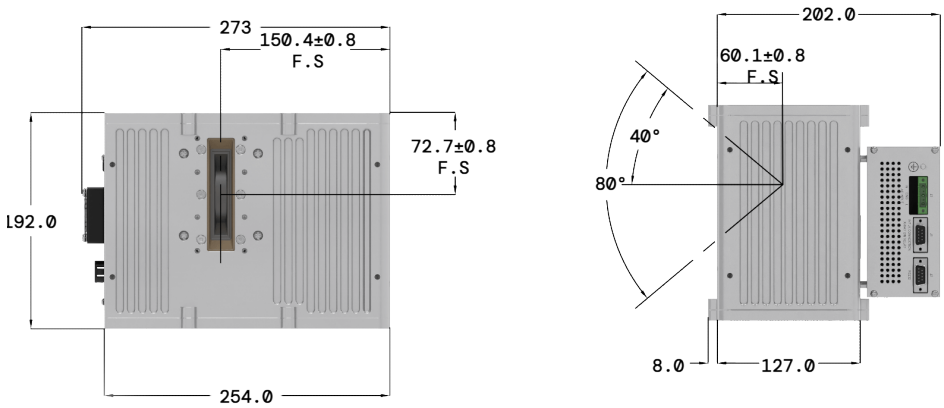
Key Features

- Integrated High Voltage Generator, X-ray Tube, and Control Electronics
- Water Cooled Option for Improved Stability
- Compact and Robust
- Radiation Shielded
- User Friendly RS232 Digital Interface

Specifications	
Input Line Range	90–264 VAC, 50/60 Hz
Output kV	20 kV – 80 kV
Output mA	0.05 mA - 1.0 mA
Output Power	80 W continuous maximum
Stability	kV: <0.01% per °C over the operational ambient temperature range
Radiation shield	Less than 0.5 mR/hr at 5 cm from the surface of the chassis as per FDA 21 CFR 1020.40
Safety and Regulatory Compliances	Designed to meet CE EN/UL61010-1 and EN61326-1
Dimensions	Generator: 273mm x 127mm x 192mm Control unit: 254mm x 134mm x 65mm
Weight	Generator: 11 Kg Control unit: 2 Kg
X-Ray Tube	
X-ray Tube Type	Glass
X-ray Focal Spot Size	0.8 nominal as per IEC60336
Beam Port	Fan beam: 80° X 10° max Cone beam: 30°
Operating Environment	
Operating Temperature	5°C to 40°C
Storage Temperature	-20°C to 85°C
Thermal Cut Off	60°C ± 3°C of oil temperature
Humidity	98% non-condensing

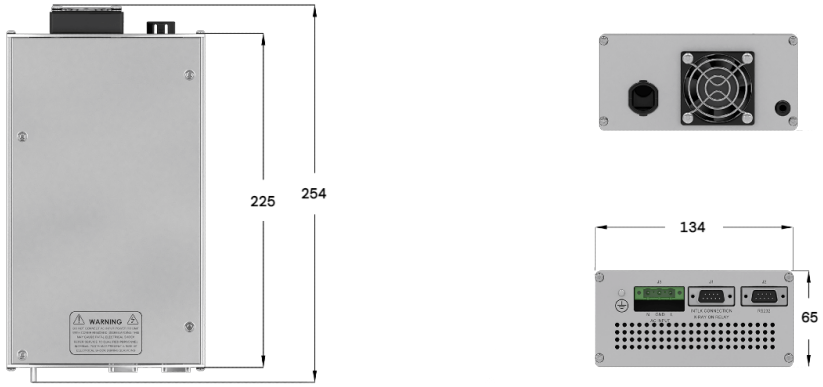
Generator

Unit: mm



Control Unit

Unit: mm



Graphical User Interface

LED Indicators

X-Ray On	Illuminated when interlock is closed and HV is enabled
POWER	Illuminated when power is present
OV	Over voltage fault
OP	Illuminated when selected power exceeds the rated power
OC	Over current fault
ARC	ARC-ing fault
OT	Illuminated when oil temperature exceeds 60°C ± 3°C

J1: Interlock Connection/ X-ray On Relay

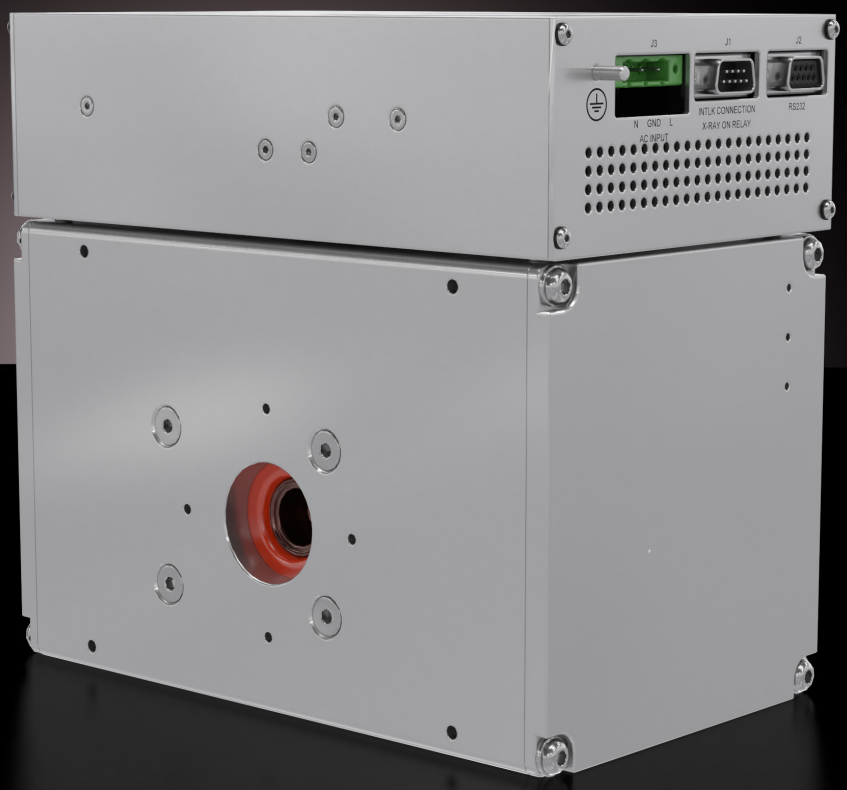
Pin Out	Name
1	Interlock out
2	Interlock in
3	X-ray On Relay contact common
4	X-ray On Relay contact N/C
5	X-ray On Relay contact N/O
6	N/A
7	N/A
8	N/A
9	N/A

J2: RS232 Interface

Pin Out	Name
1	N/A
2	TX-(Transmit)
3	RX+(Received)
4	N/A
5	Signal Ground
6	N/A
7	N/A
8	N/A
9	N/A

J3: AC Input

N	Neutral
GND	Ground
L	90-264 VAC Input



IXS0808 Mini-Focus

80 kV, 56 W

Applications

- Electronic Inspections
- Food & Pharmaceutical Safety Inspections
- Industrial

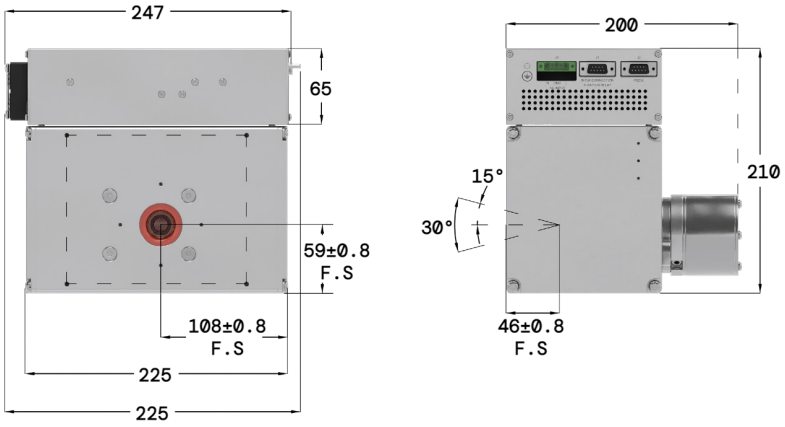
Key Features

- Integrated High Voltage Generator, X-ray Tube, and Control Electronics
- Wide Beam Angle
- High Resolution
- Compact and Robust
- Cone or Fan beam available for flat panel or line sensor detection
- Radiation Shielded
- User Friendly RS232 Digital Interface

Specifications	
Input Line Range	90–264 VAC, 50/60 Hz
Output Voltage	20 kV – 80 kV
Output Current	0.2 mA - 0.7 mA
Output Power	56 W continuous maximum
Stability	kV: <0.01% per °C over the operational ambient temperature range
Radiation shield	Less than 0.5 mR/hr at 5 cm from the surface of the chassis as per FDA 21 CFR 1020.40
Safety and Regulatory Compliances	Designed to meet CE, EN/UL61010-1 and EN61326-1
Dimensions	Generator: 247mm x 187mm x 144mm Control unit: 254mm x 134mm x 65mm
Weight	Generator: 11 Kg Control unit: 2 Kg
X-Ray Tube	
X-ray Tube Type	Glass
X-ray Focal Spot Size	30-50 µm
Beam Port	Fan beam: 80° X 10° max Cone beam: 30°
Operating Environment	
Operating Temperature	5°C to 40°C
Storage Temperature	-20°C to 85°C
Thermal Cut Off	60°C ± 3°C of oil temperature
Humidity	98% non-condensing

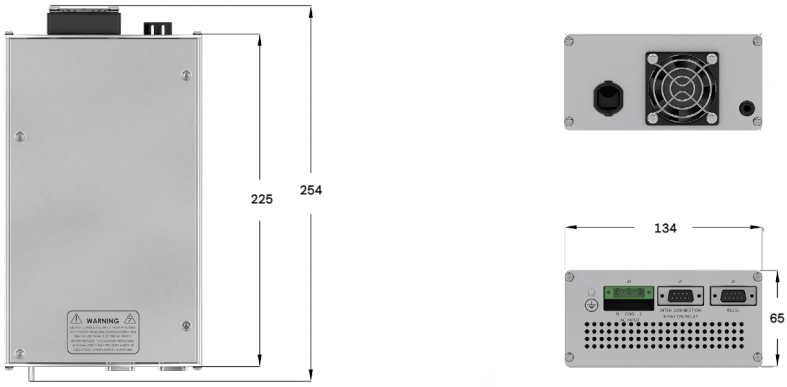
Generator

Unit: mm

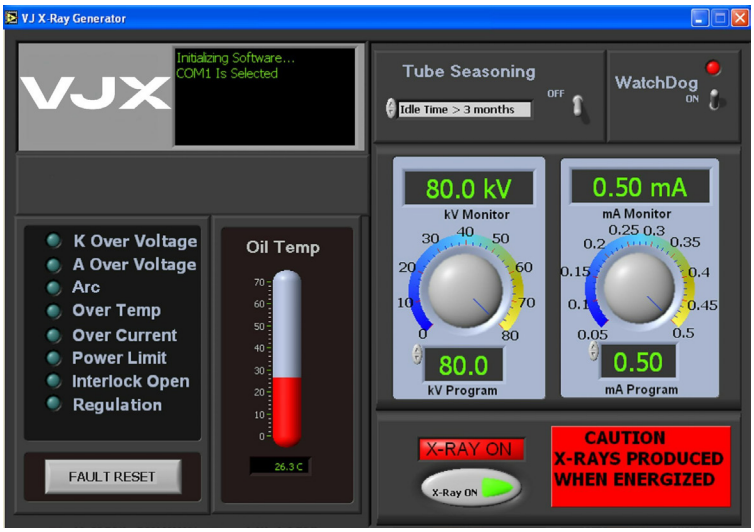


Control Unit

Unit: mm



Graphical User Interface



LED Indicators

X-Ray On	Illuminated when interlock is closed and HV is enabled
POWER	Illuminated when power is present
OV	Over voltage fault
OP	Illuminated when selected power exceeds the rated power
OC	Over current fault
ARC	ARC-ing fault
OT	Illuminated when oil temperature exceeds 60°C ± 3°C

J1: Interlock Connection/ X-ray On Relay

Pin Out	Name
1	Interlock out
2	Interlock in
3	X-ray On Relay contact common
4	X-ray On Relay contact N/C
5	X-ray On Relay contact N/O
6	N/A
7	N/A
8	N/A
9	N/A

J2: RS232 Interface

Pin Out	Name
1	N/A
2	TX-(Transmit)
3	RX+(Received)
4	N/A
5	Signal Ground
6	N/A
7	N/A
8	N/A
9	N/A

J3: AC Input

N	Neutral
G	Ground
L	90-264 VAC Input

IXS0810

80 kV, 100W

Applications

- Industrial CT
- Electronic Inspection
- Veterinary Imaging

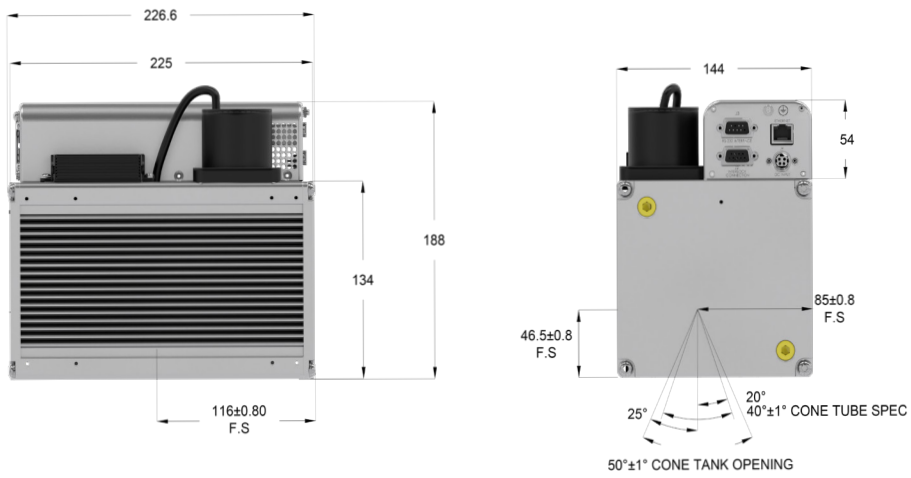
Key Features

- Integrated high voltage power supply, X-ray tube, and control electronics
- Small focal spot size with high output power
- DC input power

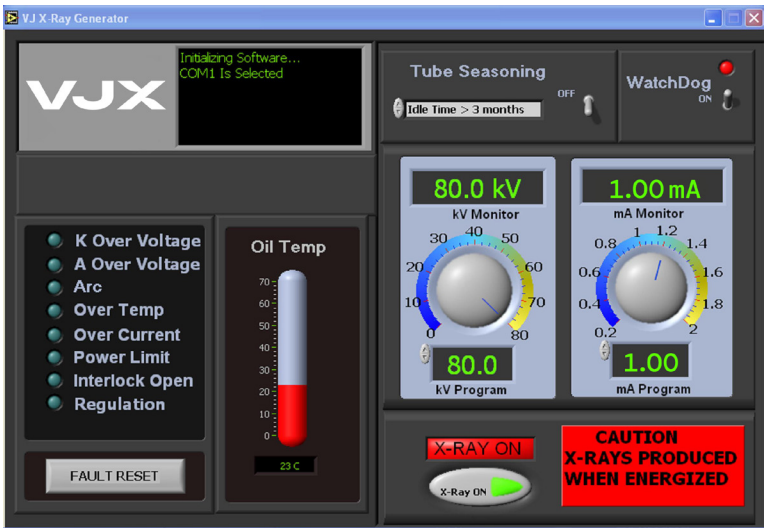
Specifications	
Input Line Range	48 VDC ±2%, 2.5 Amps
Output kV	30 kV - 80 kV
Output mA	0.2 mA - 1.25 mA
Output Power	100 W
Radiation shield	Less than 0.5 mR/hr at 5 cm from the surface of the chassis as per FDA 21 CFR 1020.40
Safety and Regulatory Compliances	Designed to meet CE, EN/UL61010-1 and EN61326-1.
Dimensions	Generator: 125 mm x 75 mm x 168 mm Control unit: 80 mm x 173 mm x 38.5 mm
Weight	Generator: 11 kg Control unit: 2 kg
X-Ray Tube	
X-ray Tube Type	Glass
X-ray Focal Spot Size	100-200 µm
Beam Port	Cone beam: 40°
Operating Environment	
Operating Temperature	5°C to 40°C
Storage Temperature	-20°C to 85°C
Thermal Cut Off	60°C ± 3°C of oil temperature
Humidity	98% non-condensing

Generator & Control Unit

Unit: mm



Graphical User Interface



J2: Interlock	
Pin Out	**Name**
1	Interlock Out
2	Interlock In
3	X-Ray On Relay Common
4	X-Ray On Relay Contact N/C
5	X-Ray On Relay Contact N/O
6	X-Ray Prewarning
7	X-Ray Prewarning Return
8	N/A
9	N/A

J3 Connector: RS232 Interface	
Pin Out	**Name**
1	N/A
2	TX-
3	RX+
4	N/A
5	N/A
6	N/A
7	N/A
8	N/A
9	N/A

RJ45: Ethernet Digital Interface	
Pin Out	**Name**
1	TX+
2	TX-
3	RX+
4	N/A
5	N/A
6	RX-
7	GROUND
8	GROUND

J4 Connector: DC Input	
Pn in	**Name**
1	+48VDC, 3.5A Input
2	48VDC HV Return
3	N/A
4	N/A

IXS0835 Beryllium Window

80 kV, 350W

Applications

- Food Inspection
- Industrial NDT

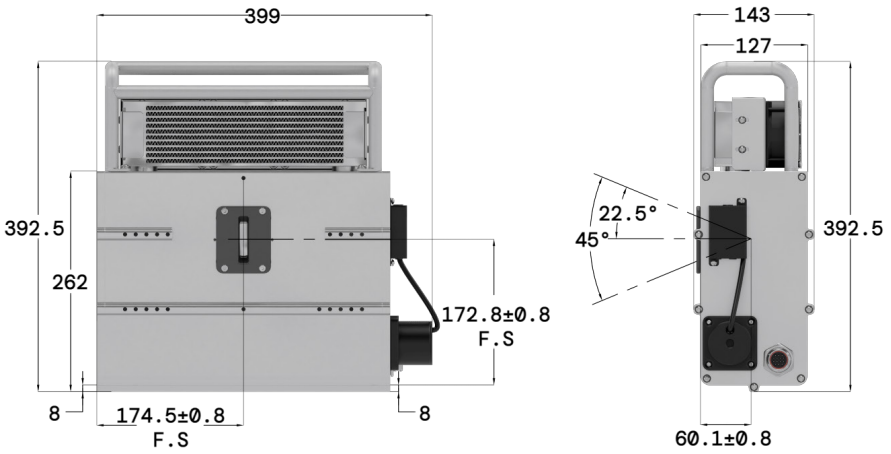
Key Features

- Integrated High Voltage Generator, X-ray tube with Be-window and Control Electronics
- Low absorption and good resolution, prefect for soft X-ray applications
- Radiation Shielded
- User Friendly RS232 Digital Interface

Specifications	
Input Line Range	220 VAC ±10%, 50/60 Hz
Output kV	30 kV - 80 kV
Output mA	0.2 mA - 8.0 mA
Output Power	350 W continuous maximum
Radiation shield	Less than 0.5 mR/hr at 5 cm from the surface of the chassis as per FDA 21 CFR 1020.40
Safety and Regulatory Compliances	Designed to meet CE EN/UL61010-1 and EN61326-1
Dimensions	Generator: 420mm x 143mm x 393mm Control unit: 264mm x 247mm x 70mm
Weight	Generator: 23 kg Control unit: 3 kg
X-Ray Tube	
X-ray Tube Type	Glass with Be-Window
Inherent Filtration	1.6mm Be
X-ray Focal Spot Size	0.5 or 0.8 nominal as per IEC60336
Beam Port	Fan beam: 45°
Operating Environment	
Operating Temperature	5°C to 40°C
Storage Temperature	-20°C to 85°C
Thermal Cut Off	60°C ± 3°C of oil temperature
Humidity	98% non-condensing

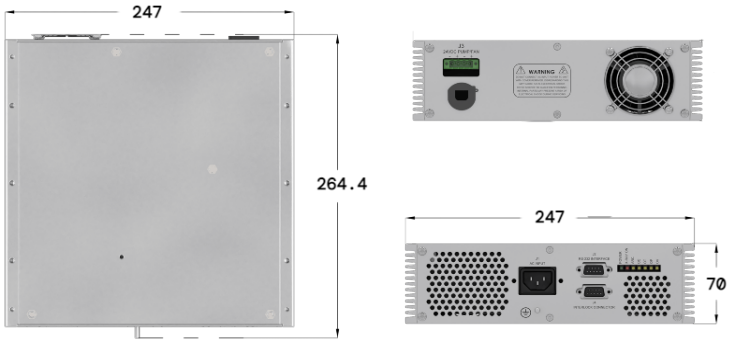
Generator

Unit: mm

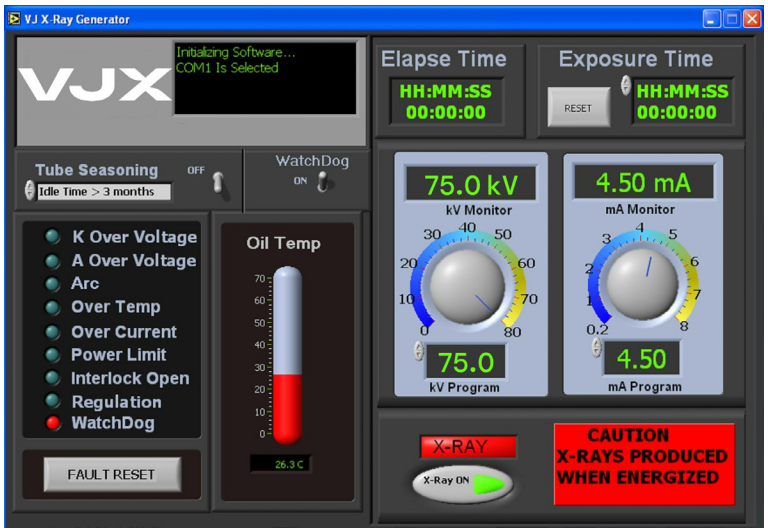


Control Unit

Unit: mm



Graphical User Interface



LED Indicators	
POWER	Illuminated when Power is present
X-Ray On	Illuminated when Interlock is closed and HV is enabled
ARC	ARC-ing fault
OC	Over Current Fault
OT	Illuminated when oil temperature exceeds 60±3°C
OP	Illuminated when selected power exceeds the rated power
OV	Over Voltage fault

J1: AC Input	
N	Neutral
GND	Ground
L	220 VAC ±10% Input

J2: RS232 Interface	
Pin Out	Name
1	N/A
2	TX-(Transmit)
3	RX+(Received)
4	N/A
5	Signal Ground
6	N/A
7	N/A
8	N/A
9	N/A

J3: 24 VDC Pump/Fan	
+	+24 VDC
-	Return
+	+24 VDC
-	Return

J4: Interlock Connection/ X-ray On Relay	
Pin Out	Name
1	Interlock out
2	Interlock in
3	X-ray On Relay contact common
4	X-ray On Relay contact N/C
5	X-ray On Relay contact N/O
6	N/A
7	N/A
8	N/A
9	N/A

IXS0850

80 kV, 500 W

Applications

- Food Inspection
- Industrial NDT

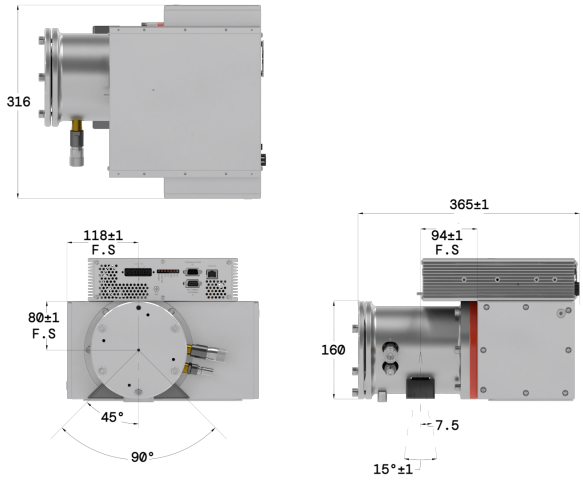
Key Features

- Integrated High Voltage Generator, Metal Ceramic X-ray tube, and Control Electronics
- Robust Configuration with Metal Ceramic tube for High Power and Performance
- Radiation Shielded
- User Friendly RS232 and Ethernet Digital Interface

Specifications	
Input Line Range	220 VAC ±10%, 50/60 Hz
Output kV	30 kV - 80 kV
Output mA	1.0 mA - 12.5mA
Output Power	500 W continuous maximum (Up tp 1 kW available upon request)
Radiation shield	Less than 0.5 mR/hr at 5 cm from the surface of the chassis as per FDA 21 CFR 1020.40
Safety and Regulatory Compliances	Designed to meet CE EN/UL61010-1 and EN61326-1
Dimensions	Generator: 384mm x 316mm x 160mm Control unit: 264mm x 247mm x 70 mm
Weight	Generator: 23 kg Control unit: 3 kg
X-Ray Tube	
X-ray Tube Type	Be-Window Metal Ceramic
Inherent Filtration	2.mm Be
X-ray Focal Spot Size	1.2 mm as per EN12543 (<0.5 nominal IEC60336)
Beam Port	Fan beam: 85°
Operating Environment	
Operating Temperature	5°C to 40°C
Storage Temperature	-20°C to 85°C
Thermal Cut Off	60°C ± 3°C of oil temperature
Humidity	98% non-condensing

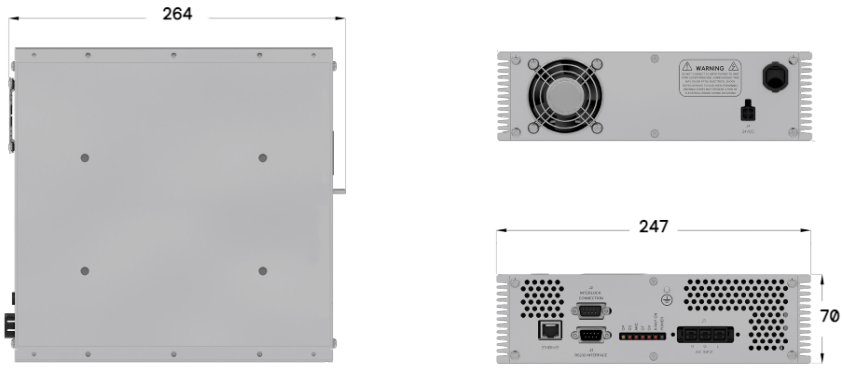
Generator

Unit: mm

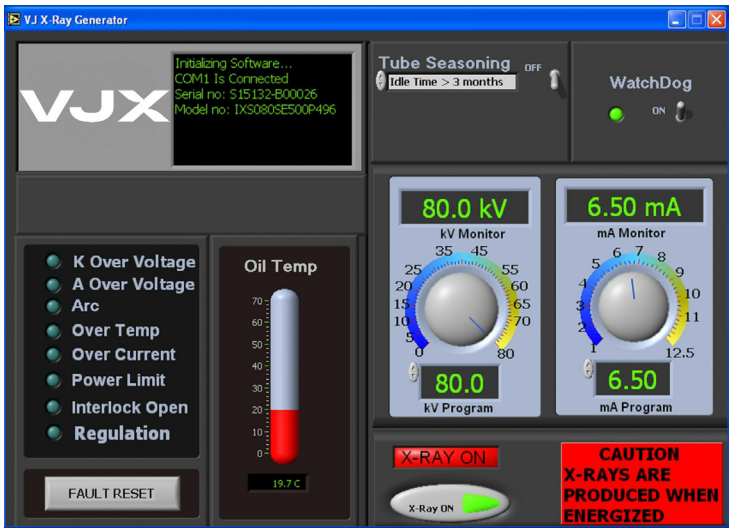


Control Unit

Unit: mm



Graphical User Interface



LED Indicators	
POWER	Illuminated when Power is present
X-RAY ON	Illuminated when Interlock is closed and HV is enabled
ARC	ARC-ing fault
OC	Over Current Fault
OT	Illuminated when oil temperature exceeds 60±3°C
OP	Illuminated when selected power exceeds the rated power
OV	Over Voltage fault

J1: AC Input	
N	Neutral
G	Ground
L	220 VAC ±10% Input

J2: Interlock (9 Pin Male)	
Pin Out	Name
1	Interlock out
2	Interlock in
3	X-ray On Relay contact common
4	X-ray On Relay contact N/C
5	X-ray On Relay contact N/O
6	N/A
7	N/A
8	N/A
9	N/A

J3: RS232 (9 Pin Female)	
Pin Out	Name
1	N/A
2	TX-(Transmit)
3	RX-(Received)
4	N/A
5	Signal Ground
6	N/A
7	N/A
8	N/A
9	N/A

J4: 24VDC	
Pin Out	Name
1	N/A
2	+24VDC Gnd
3	+24VDC@1.5A for Control Circuit
4	24VDC Return for Control

IXS1010

100 kV, 100 W

Applications

- Thickness Gauging
- X-ray Analysis

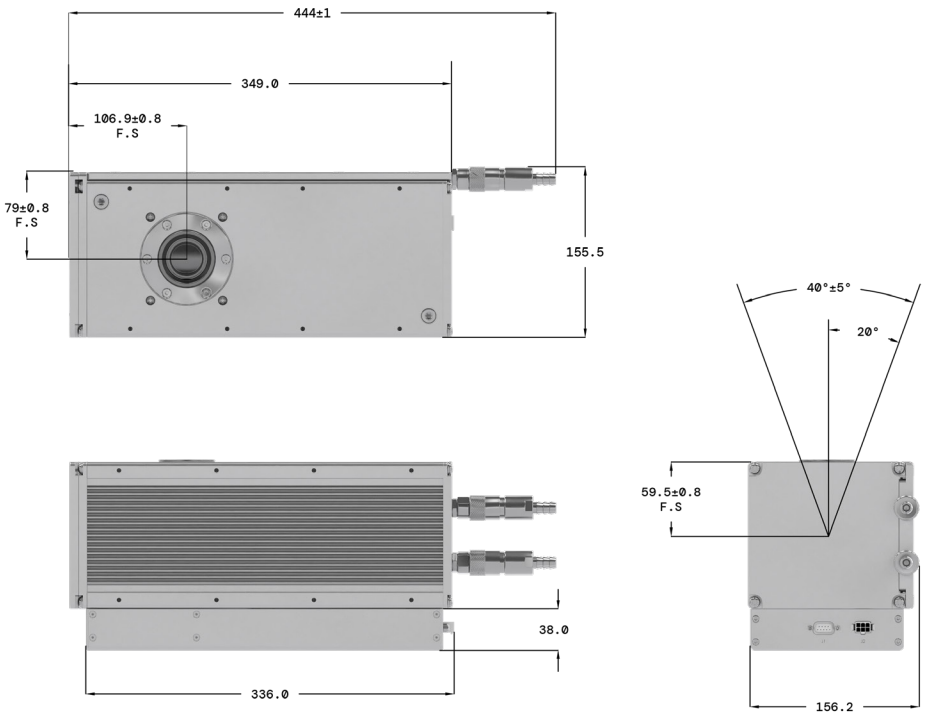
Key Features

- Integrated High Voltage Generator, X-ray Tube, and Control Electronics
- High Stability
- Form Factor Designed Specifically for Thickness Gauging
- Radiation Shielded
- User Friendly RS232 Digital Interface
- 24 VDC Input

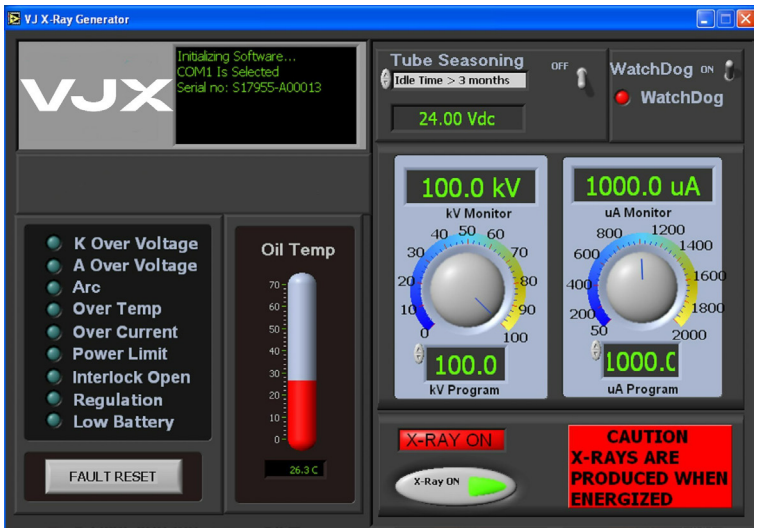
Specifications	
Input Line Range	24 VDC ± 10%
Output kV	30 kV - 100 kV
Output mA	0.05 mA - 2.0 mA
Output Power	100 W (Continuous)
kV Stability	0.01% per °C over the operational ambient temperature range; 0.1% in 8 hours after 40 min warm up
Radiation shield	Less than 0.5 mR/hr at 5 cm from the surface of the chassis as per FDA 21 CFR 1020.40
Safety and Regulatory Compliances	Designed to meet CE EN/UL61010-1 and EN61326-1
Dimensions	Generator: 349mm x 156mm x 172mm
Weight	Generator: ~15 kg
X-Ray Tube	
X-ray Tube Type	Glass
X-ray Focal Spot Size	0.8 nominal as per IEC60336
Beam Port	Cone beam: 40°
Operating Environment	
Operating Temperature	5°C to 40°C
Storage Temperature	-20°C to 85°C
Thermal Cut Off	60°C ± 3°C of oil temperature
Humidity	98% non-condensing

Generator & Control Box

Unit: mm



Graphical User Interface



LED Indicators

POWER	Illuminated when Power is present
X-Ray On	Illuminated when Interlock is closed and HV is enabled
ARC	ARC-ing fault
OC	Over Current Fault
OT	Illuminated when oil temperature exceeds 60±3°C
OP	Illuminated when selected power exceeds the rated power
OV	Over Voltage fault

J1 Connector: (RS232 9 Pin Female)

Pin Out	Name
1	N/A
2	TX-(Transmit)
3	RX-(Received)
4	N/A
5	Signal Ground
6	N/A (or External kV Program)
7	N/A (or External mA Program)
8	N/A (or External kV Monitor)
9	N/A (or External mA Monitor)

J2 Connector

Pin Out	Name
1	+24VDC Input
2	+24VDC Input Return
3	Power Interlock Out
4	Power Interlock In
5	X-Ray On Lamp(24VDC,0.2A max.)
6	X-Ray On Lamp Return

IXS1015

100 kV, 150 W

Applications

- Food Inspection Systems
- Security Scanners
- Industrial NDT
- Product Quality

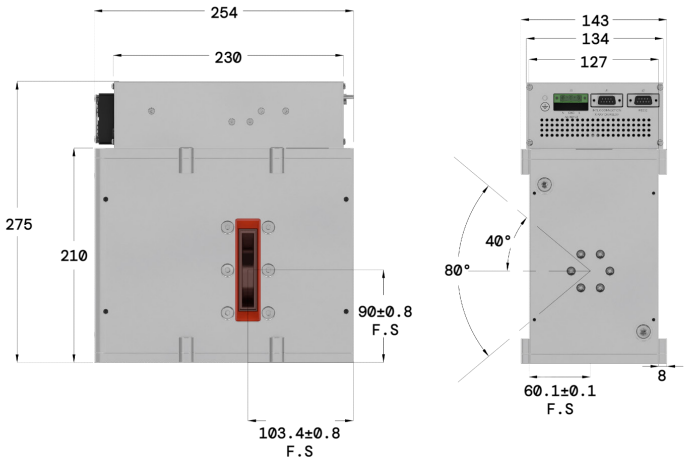
Key Features

- Integrated High Voltage Generator, X-ray Tube, and Control Electronics
- High Stability
- Compact and Robust
- Radiation Shielded
- User Friendly RS232 Digital Interface

Specifications	
Input Line Range	90–264 VAC, 50/60 Hz
Output kV	30 kV – 100 kV
Output mA	0.05 mA – 6.0 mA
Output Power	150 W continuous maximum
Radiation shield	Less than 0.5 mR/hr at 5 cm from the surface of the chassis as per FDA 21 CFR 1020.40
Safety and Regulatory Compliances	Designed to meet CE, EN/UL61010-1 and EN61326-1
Dimensions	Generator: 254mm x 143mm x 210mm Control unit: 254mm x 134mm x 65mm
Weight	Generator: 14 Kg Control unit: 2 Kg
X-Ray Tube - Control Unit	
X-ray Tube Type	Glass
X-ray Focal Spot Size	0.8 nominal as per IEC60336 0.5 available upon request
Beam Port	Fan beam: 80° X 10° max Cone beam: 30°
Operating Environment	
Operating Temperature	5°C to 40°C
Storage Temperature	-20°C to 85°C
Thermal Cut Off	60°C ± 3°C of oil temperature
Humidity	98% non-condensing

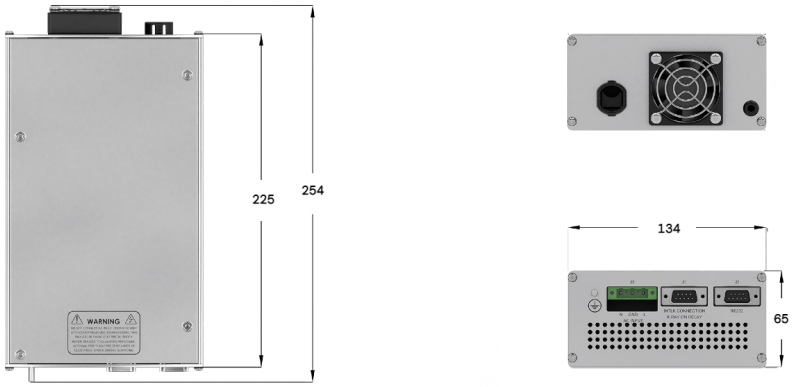
Generator

Unit: mm

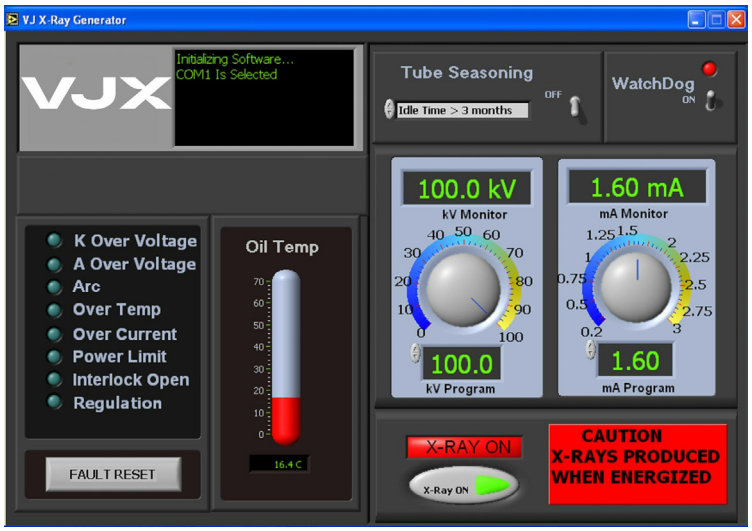


Control Unit

Unit: mm



Graphical User Interface



LED Indicators

X-Ray On	Illuminated when interlock is closed and HV is enabled
POWER	Illuminated when power is present
OV	Over voltage fault
OP	Illuminated when selected power exceeds the rated power
OC	Over current fault
ARC	ARC-ing fault
OT	Illuminated when oil temperature exceeds 60°C ± 3°C

J1: Interlock Connection/ X-ray On Relay

Pin Out	Name
1	Interlock out
2	Interlock in
3	X-ray On Relay contact common
4	X-ray On Relay contact N/C
5	X-ray On Relay contact N/O
6	N/A
7	N/A
8	N/A
9	N/A

J2: RS232 Interface

Pin Out	Name
1	N/A
2	TX-(Transmit)
3	RX+(Received)
4	N/A
5	Signal Ground
6	N/A
7	N/A
8	N/A
9	N/A

J3: AC Input

N	Neutral
GND	Ground
L	90-264 VAC Input

IXS1020

100 kV, 200 W

Applications

- Thickness Gauging
- X-ray Analysis
- Industrial NDT
- Security Scanners

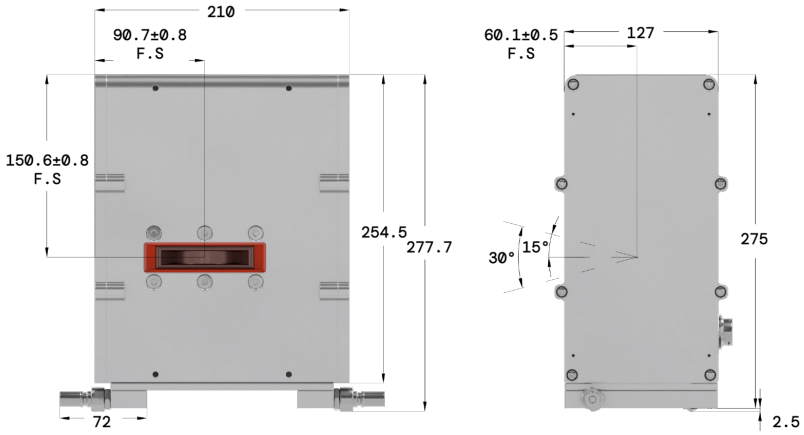
Key Features

- Integrated High Voltage Generator, X-ray Tube, Control Electronics and Liquid to Liquid Heat Exchanger
- High Stability
- Compact and Robust
- Radiation Shielded
- User Friendly RS232 Digital Interface

Specifications	
Input Line Range	90–264 VAC, 50/60 Hz
Output kV	25 kV – 100 kV
Output mA	0.05 mA – 8.0 mA
Output Power	200 W continuous maximum
Stability	kV: <0.01% per °C over the operational ambient temperature range
Radiation shield	Less than 0.5 mR/hr at 5 cm from the surface of the chassis as per FDA 21 CFR 1020.40
Safety and Regulatory Compliances	Designed to meet CE EN/UL61010-1 and EN61326-1
Dimensions	Generator: 254mm x 143mm x 210mm Control unit: 254mm x 134mm x 65mm
Weight	Generator: 14 Kg Control unit: 2 Kg
X-Ray Tube	
X-ray Tube Type	Glass
X-ray Focal Spot Size	0.8 nominal as per IEC60336 0.5 available upon request
Beam Port	Fan beam: 80° X 10° max - Cone beam: 30°
Operating Environment	
Operating Temperature	5°C to 40°C
Storage Temperature	-20°C to 85°C
Thermal Cut Off	60°C ± 3°C of oil temperature
Humidity	98% non-condensing

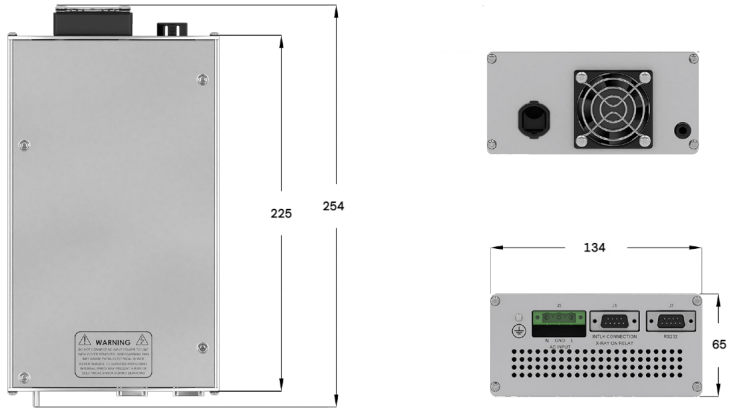
Generator

Unit: mm



Control Unit

Unit: mm



Graphical User Interface

LED Indicators

X-Ray On	Illuminated when interlock is closed and HV is enabled
POWER	Illuminated when power is present
OV	Over voltage fault
OP	Illuminated when selected power exceeds the rated power
OC	Over current fault
ARC	ARC-ing fault
OT	Illuminated when oil temperature exceeds 60°C ± 3°C

J1: Interlock Connection/ X-ray On Relay

Pin Out	Name
1	Interlock out
2	Interlock in
3	X-ray On Relay contact common
4	X-ray On Relay contact N/C
5	X-ray On Relay contact N/O
6	N/A
7	N/A
8	N/A
9	N/A

J2: RS232 Interface

Pin Out	Name
1	N/A
2	TX-(Transmit)
3	RX+(Received)
4	N/A
5	Signal Ground
6	N/A
7	N/A
8	N/A
9	N/A

J3: AC Input

N	Neutral
GND	Ground
L	90-264 VAC Input

IXS1050

100 kV, 500 W

Applications

- Dental CT
- Panoramic Dental
- Medical Research

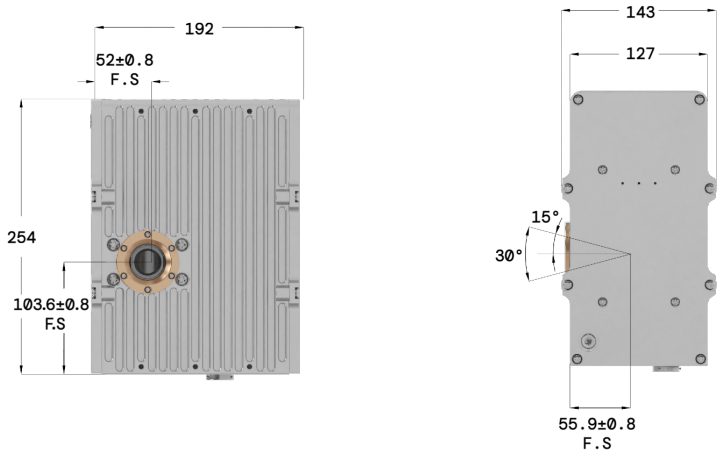
Key Features

- Ideal for panoramic dental and CBCT applications
- Integrated High Voltage Generator, X-ray Tube, and Control Electronics
- Radiation Shielded
- User Friendly RS232 Digital Interface

Specifications	
Input Line Range	220 VAC ±10%, 50/60 Hz
Output kV	40 kV - 100 kV
Output mA	2.0 mA - 10.0 mA
Output Power	150 W continuous maximum 500W peak power up to 1 kW peak also available
Stability	kV: ± 1.0% - mA: ± 1.0%
Radiation shield	Less than 0.5 mR/hr at 5 cm from the surface of the chassis as per FDA 21 CFR 1020.40
Safety and Regulatory Compliances	Designed to meet CE, EN60601-1-3,CFDA, EN60601-1, EN60601-2-2, EN60601-1- 3 EN60601-2-7, EN60601-2-63
Dimensions	Generator: 254mm x 192mm x 143mm Control unit: 264mm x 247mm x 70mm
Weight	Generator: 12 kg- Control unit: 3 kg
X-Ray Tube	
X-ray Tube Type	Glass
X-ray Focal Spot Size	0.4 nominal as per IEC60336 (Option for 0.2 FS with Limited Power)
Beam Port	Cone beam: 30º
Operating Environment	
Operating Temperature	5°C to 40°C
Storage Temperature	-20°C to 80°C
Thermal Cut Off	60ºC ± 3ºC of oil temperature
Humidity	98% non-condensing

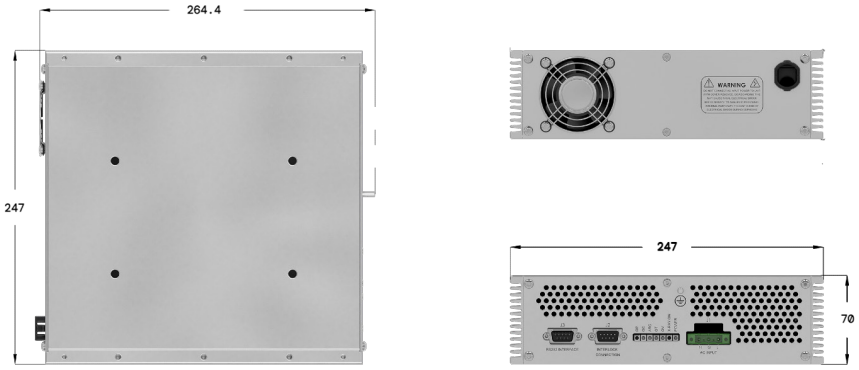
Generator

Unit: mm

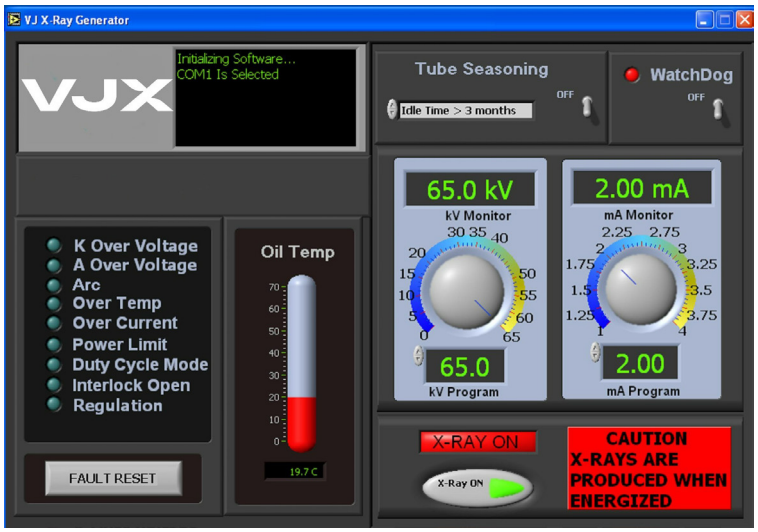


Control Unit

Unit: mm



Graphical User Interface



LED Indicators	
OP	Over Power fault
OC	Over current fault
ARC	ARC-ing fault
OT	Illuminated when oil temperature exceeds 60±3°C.
OV	Over voltage fault
X-Ray On	Illuminated when interlock is closed and HV is enabled
POWER	Illuminated when power is present

J1: AC Input	
N	Neutral
GND	Ground
L	220 VAC ±10% Input

J2: Interlock	
Pin Out	Name
1	Interlock out
2	Interlock In
3	X-ray on relay contact common
4	X-ray on relay contact N/C
5	X-ray on Relay contact N/O
6	N/A
7	N/A
8	N/A
9	N/A

J3: RS232 Interface	
Pin Out	Name
1	N/A
2	TX-(Transmit)
3	RX+(Received)
4	N/A
5	Signal Ground
6	N/A
7	N/A
8	N/A
9	N/A

IXS101k Pulsing

100 kV, 1 kW

Applications

- Dental X-Ray
- Panoramic and CT
- Medical Research

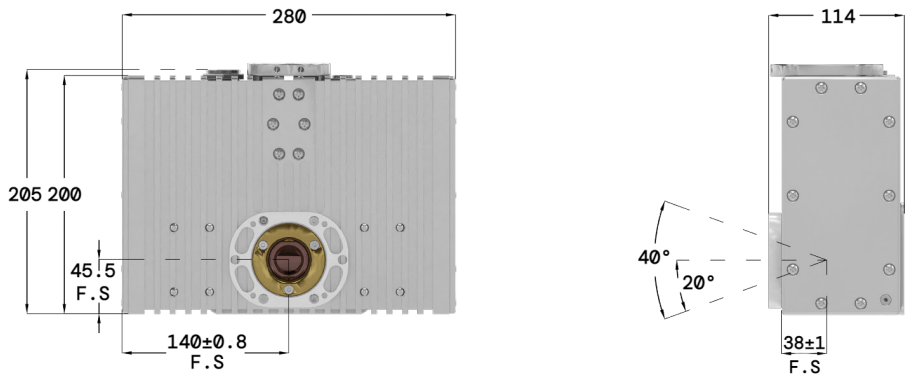
Key Features

- Ideal for panoramic dental and CBCT applications
- Pulsing and continuously operated integrated source
- Radiation Shielded
- User Friendly RS232 Digital Interface

Specifications	
Input Line Range	180 - 264 VAC, 50/60 Hz
Output kV	60 kV - 100 kV
Output mA	2.0 mA - 10.0 mA
Output Power	1 kW Peak, 60 - 100 kV, 10 mA Continuous (Panoramic): 1kW, 20 sec. maximum exposure with duty cycle 10% or less Pulsing (CT): 1kW, 25 sec., Exposure Frame rate: up to 40 FPS
Stability	kV: ± 0.5% - mA: ± 0.5%
Radiation shield	Less than 0.5 mR/hr at 5 cm from the surface of the chassis as per FDA 21 CFR 1020.40
Safety and Regulatory Compliances	Designed to meet CE, EN60601-1-3, CFDA, EN60601-1, EN60601-1-2, EN60601-1- 3, EN60601-2-7, EN60601-2-63, CSA
Dimensions	Tank: 274.1mm x 226mm x 114mm Control unit: 229mm x 64.5mm x 263.4mm
Weight	Generator: 7.5 kg - Control unit: 3 kg
X-Ray Tube	
Target Material	Tungsten
Target Angle	5 °
X-ray Focal Spot Size	0.5 nominal as per IEC60336-2005
Beam Port	Cone beam: 40º
Operating Environment	
Operating Temperature	5°C to 40°C
Storage Temperature	-20°C to 80°C
Thermal Cut Off	60ºC ± 3ºC of oil temperature
Humidity	98% non-condensing

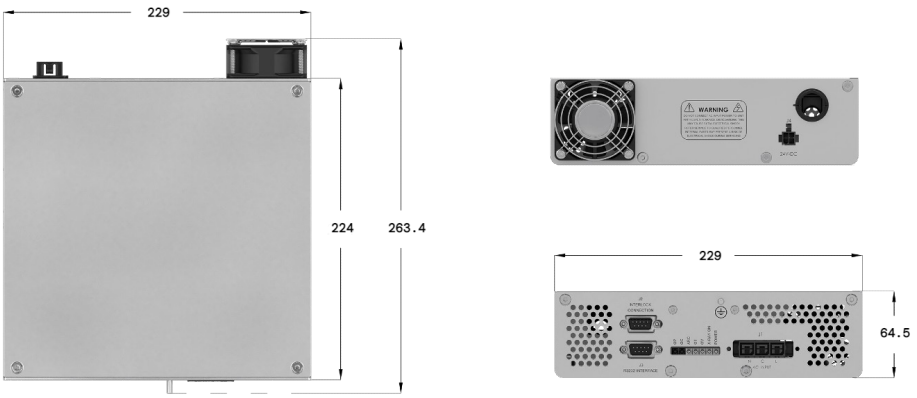
Generator

Unit: mm

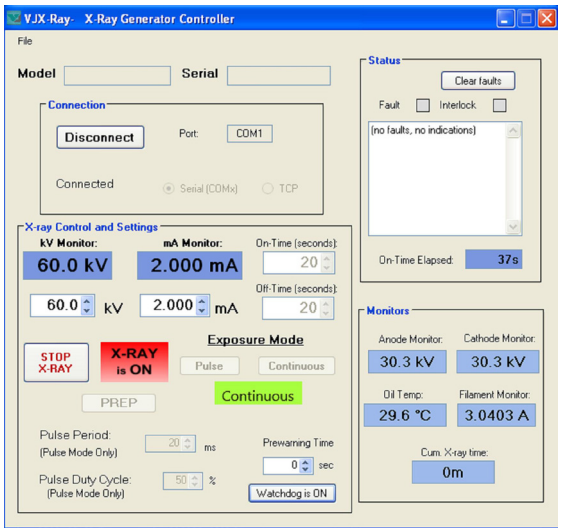


Control Unit

Unit: mm



Graphical User Interface



LED Indicators

OP	Over Power fault
OC	Over current fault
ARC	ARC-ing fault
OT	Illuminated when oil temperature exceeds 60±3°C.
OV	Over voltage fault
X-Ray On	Illuminated when interlock is closed and HV is enabled
POWER	Illuminated when power is present

J1: AC Input

N	Neutral
GND	Ground
L	180 - 264 VAC

J2: Interlock

Pin Out	Name
1	Interlock out
2	Interlock In
3	X-ray on relay common (SSR)
4	N/A
5	X-ray on Relay (SSR) N/O
6	X-ray Pre-Warning Common (SSR)
7	X-ray Pre-Warning (SSR) N/O
8	Signal Ground
9	Ext X-ray Enable (+24V)

J3: RS232 Interface

Pin Out	Name
1	N/A
2	TX-(Transmit)
3	RX+(Received)
4	N/A
5	Signal Ground
6	N/A
7	N/A
8	N/A
9	N/A

J4 Connector

Pin Out	Name
1	+24VDC @ 2A
2	24VDC Return

IXS1212 Portable

120 kV, 120 W

Applications

- EOD for Military and Law Enforcement
- NDT Field Inspection
- Security
- General X-ray Operations

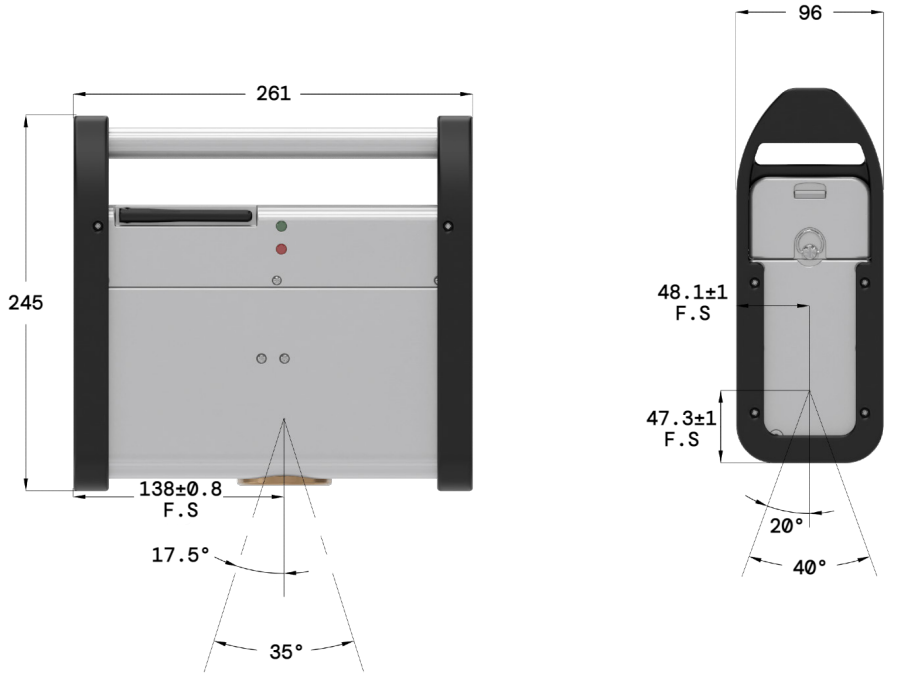
Key Features

- Battery Operated
- Integrated High Voltage Generator, X-ray Tube, Control Electronics, and Exchangeable Lithium Battery Pack
- Radiation Shielded
- Wifi, and Ethernet or RS232
- Accessories: Tripod Mount, Protective Cover, and Carrying Handle

Specifications	
Input Line Range	24V Lithium-ion Battery Pack or 24VDC ± 10% (External Supply)
Output kV	30 kV – 120 kV
Output mA	0.2 mA – 1.0 mA
Battery Power	Continuous: 14min @120W (Based on new fully charged battery) Pulsing: 21min,15sec. On/15sec. Off
Battery Charging Time	2 hours from low line (21V)
Radiation Shield	<3mr/hr with 5 sec scan 120 kV@1mA at 1 meter distance
Safety and Regulatory Compliances	Designed to meet CE, EN/UL61010-1 and EN61326-1
Dimensions	Generator: 261mm x 96mm x 245mm
Weight	6.6 kg (Includes battery)
X-Ray Tube	
X-ray Tube Type	Glass
X-ray Focal Spot Size	0.5 nominal as per IEC60336
Beam Port	Cone beam: 35°; Fan beam 60°
Operating Environment	
Operating Temperature	5°C to 40°C
Storage Temperature	-30°C to 80°C
Thermal Cut Off	60°C ± 3°C of oil temperature
Humidity	98% non-condensing

Generator

Unit: mm

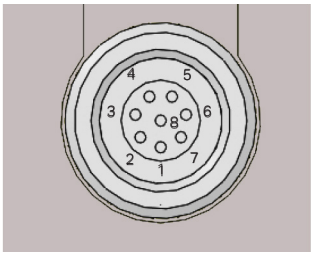


Graphical User Interface

Connectors

J1	Safety Key Lock
J2	RJ45 Connector (Ethernet or RS232)
J3	Input Power and Battery Charger

Input Power Connector



Pin Out	Name
1 & 6	24VDC Return
2 & 3	24VDC/12A External Power Supply
4	24VDC Battery Charger
5	Battery Charger Return
7	Interlock Out
8	Interlock In

Accessories

Item	Part Number	Description
1	AS3001-319M	Battery pack(inc. 24V LiFeO4 battery)
2	AS3001-320M	Charging Station
3	DS3000-041M	Protective Cover and Handle
4	DB3000-122M	Tripod Mount
5	DS3000-106	Laser Alighment Guide
6	JP3000-019	Transport Case

IXS1303 Mini-Focus

130 kV, 39 W

Applications

- Electronic Inspections
- Food & Pharmaceutical Safety Inspections
- Industrial CT

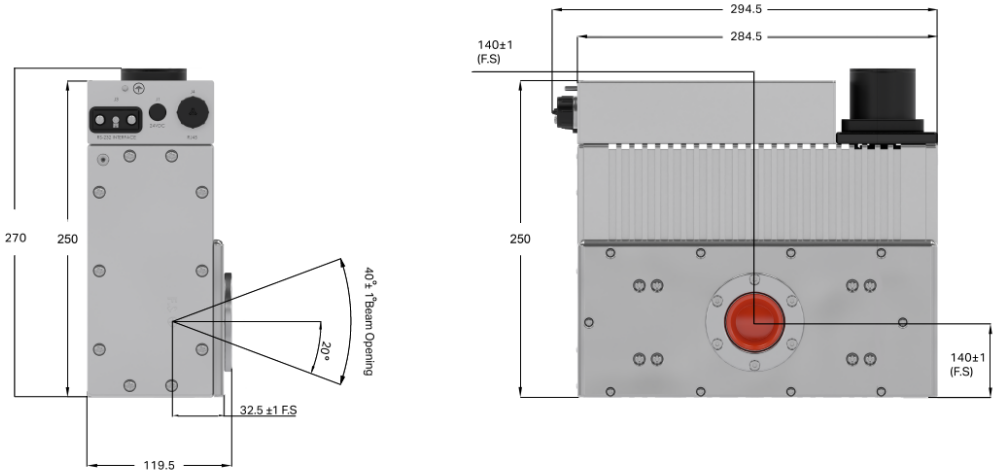
Key Features

- Integrated High Voltage Generator, X-ray Tube, and Control Electronics
- High Resolution
- Compact and Robust
- Cone or Fan beam available for flat panel or line sensor detection
- Radiation Shielded
- User Friendly RS232 and Ethernet Digital Interface

Specifications	
Input Line Range	24VDC
Output Voltage	60 kV – 130 kV
Output Current	0.05 mA - 0.3 mA
Output Power	39 W continuous maximum
Stability	kV: <0.01% per °C over the operational ambient temperature range
Radiation shield	Less than 0.5 mR/hr at 5 cm from the surface of the chassis as per FDA 21 CFR 1020.40
Safety and Regulatory Compliances	Designed to meet CE, IEC/EN61010-1 and EN61326-1
Dimensions	Generator: 295mm x 270mm x 120mm
Weight	Generator: 12 kg
X-Ray Tube	
X-ray Tube Type	Glass
X-ray Focal Spot Size	70 µm Nominal at 39W 100 µm Nominal at 65W
Beam Port	Cone beam: 40º
Operating Environment	
Operating Temperature	0°C to 40°C
Storage Temperature	-20°C to 85°C
Thermal Cut Off	60ºC ± 3ºC of oil temperature
Humidity	98% non-condensing

Generator

Unit: mm

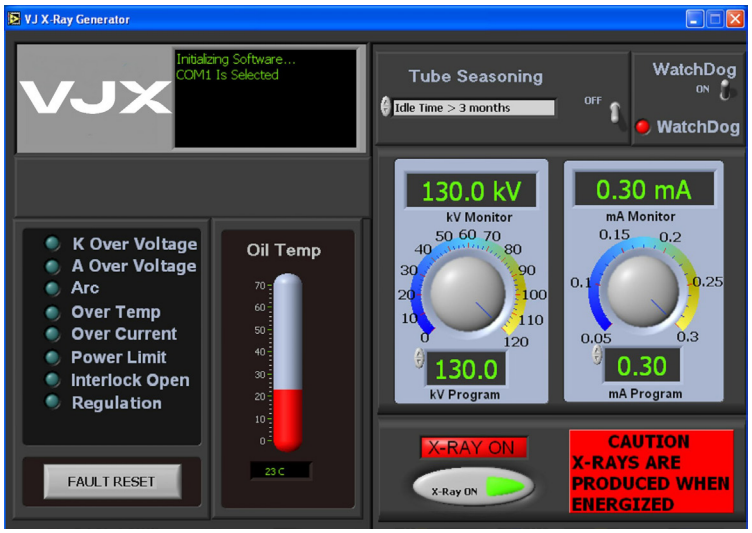


J2: Interlock	
Pin Out	Name
1	Interlock out
2	Interlock in
3	X-Ray On Relay contact common
4	X-Ray On Relay contact N/C
5	X-Ray On Relay contact N/O
6	X-Ray Prewarning
7	X-Ray Prewarning Return
8	N/A
9	N/A

J3: RS232 Interface	
Pin Out	Name
1	N/A
2	TX-
3	RX+
4	N/A
5	SIGNAL GRD
6	N/A
7	N/A
8	N/A
9	N/A

J4: DC Input	
Pin Out	Name
1+3	+24VDC, 8A Input + pump
2+4	+24VDC Return + pump

Graphical User Interface



RJ45: Ethernet Digital Interface	
Pin Out	Name
1	TX+
2	TX-
3	RX+
4	N/A
5	N/A
6	RX-
7	Ground
8	Ground

IXS1515 Portable

150 kV, 150 W

Applications

- EOD for Military and Law Enforcement
- Security
- General X-ray Operations
- NDT Field Inspection

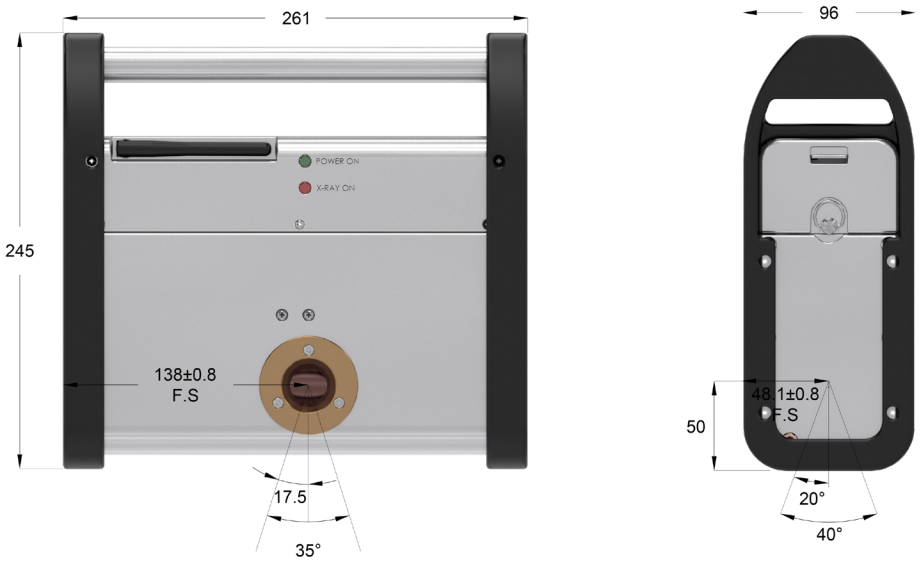
Key Features

- Battery Operated
- Integrated High Voltage Generator, X-ray Tube, Control Electronics, and Exchangeable Lithium Battery Pack
- Radiation Shielded
- Wifi, and Ethernet or RS232
- Accessories: Tripod Mount, Protective Cover, and Carrying Handle

Specifications	
Input Line Range	24V Lithium-ion Battery Pack or 24VDC ± 10% (External Supply)
Output kV	30 kV – 150 kV
Output mA	0.2 mA – 1.0 mA
Battery Power	Continuous: 14min @150W (Based on new fully charged battery) Pulsing: 21min,15sec. On/15sec. Off
Battery Charging Time	2 hours from low line (21V)
Radiation Shield	<8mR/hr at 150kV@1mA, measured at 1 meter distance
Safety and Regulatory Compliances	Designed to meet CE, EN/UL61010-1 and EN61326-1
Dimensions	Generator: 261mm x 96mm x 245mm
Weight	6.6 kg (Includes battery)
X-Ray Tube	
X-ray Tube Type	Glass
X-ray Focal Spot Size	0.5 nominal as per IEC60336
Beam Port	Cone beam: 35°; Fan beam 60°
Operating Environment	
Operating Temperature	5°C to 40°C
Storage Temperature	-30°C to 80°C
Thermal Cut Off	50°C ± 3°C of oil temperature
Humidity	98% non-condensing

Generator

Unit: mm

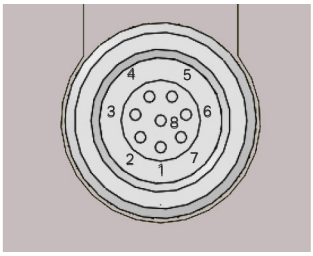


Graphical User Interface

Connectors

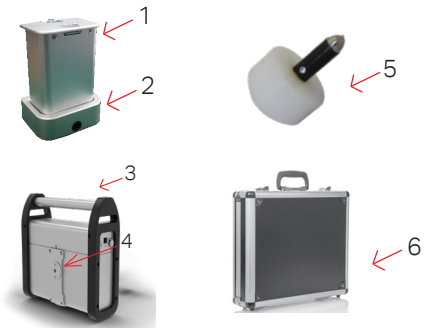
J1	Safety Key Lock
J2	RJ45 Connector (Ethernet or RS232)
J3	Input Power and Battery Charger

Input Power Connector



Pin Out	Name
1 & 6	24VDC Return
2 & 3	24VDC/12A External Power Supply
4	24VDC Battery Charger
5	24VDC Return
7	Interlock Out
8	Interlock In

Accessories



Item	Part Number	Description
1	AS3001-319M	Battery pack(inc. 24V LiFeO4 battery)
2	AS3001-320M	Charging Station
3	DS3000-041M	Protective Cover and Handle
4	DB3000-122M	Tripod Mount
5	DS3000-106	Laser Alighment Guide
6	JP3000-019	Transport Case

IXS1515+ Portable

150 kV, 150 W

Applications

- EOD for Military and Law Enforcement
- Security
- General X-ray Operations
- NDT Field Inspection

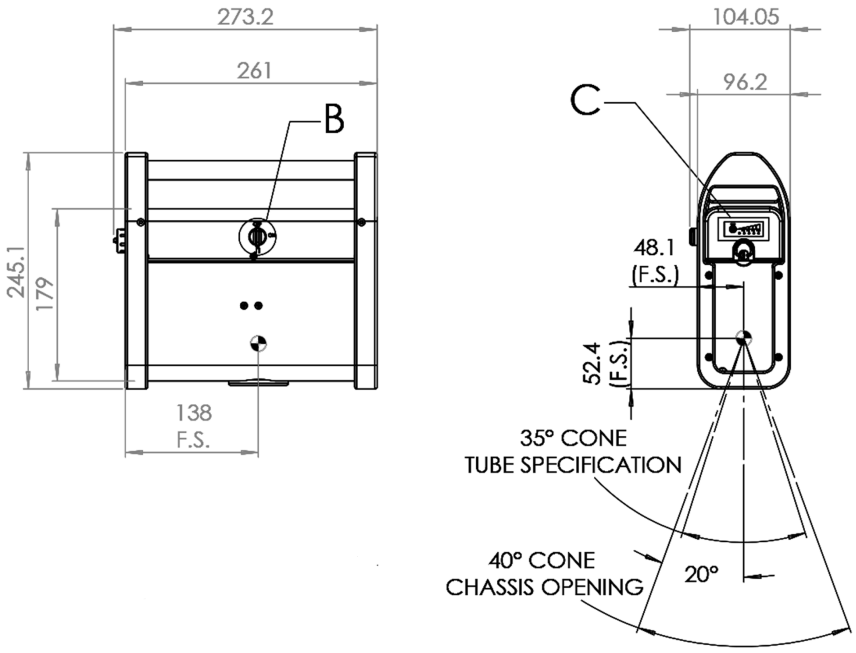
Key Features

- Battery Operated
- Integrated High Voltage Generator, X-ray Tube, Control Electronics, and Exchangeable Lithium Battery Pack
- Radiation Shielded
- IP64
- Wifi, and Ethernet
- Accessories: Tripod Mount, Protective Cover, and Carrying Handle

Specifications	
Input Line Range	24V Li-ion Battery Pack or 24VDC (External Supply)
Output kV	30 kV – 150 kV
Output mA	0.2 mA – 1.0 mA
Battery Power	3000mAH, >400 shots with 2 sec exposure at full power, 5 sec idle
Battery Charging Time	2 hours from low line (21V)
Radiation Shield	<0.5mR/hr at 150kV measured 5 sec scan at 1 meter distance <20mR/hr at 150kV measured 5 sec scan at 50mm distance
Safety and Regulatory Compliances	Designed to meet CE, IEC/EN61010-1 and EN61326-1
Dimensions	Generator: 273mm x 104mm x 245mm
Weight	6.8 kg (Includes battery)
X-Ray Tube	
X-ray Tube Type	Glass
X-ray Focal Spot Size	0.5 nominal as per IEC60336
Beam Port	Cone beam: 35°
Operating Environment	
IP Class	IP64
Operating Temperature	0°C to 40°C
Ambient Temperature	-30°C to 80°C
Thermal Cut Off	60°C ± 3°C of oil temperature
Humidity	98% non-condensing

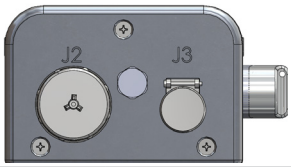
Generator

Unit: mm



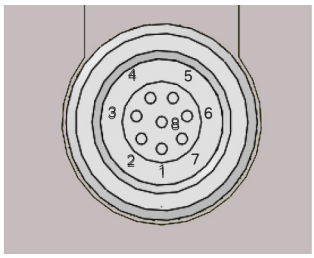
Graphical User Interface

Connectors



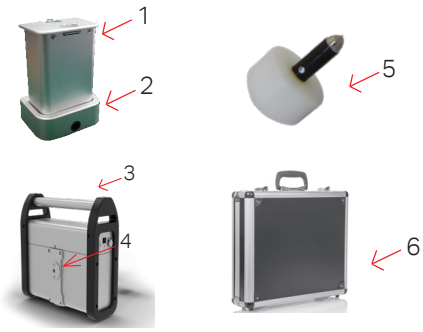
J1	Safety Key Lock
J2	RJ45 (Ethernet Connector)
J3	Input Power

Input Power Connector



Pin Out	Name
1 & 5 & 6	24VDC Return
2 & 3 & 4	24VDC/15A External Power Supply
7	N/A
8	N/A

Accessories



Item	Part Number	Description
1	AS3001-992M	Battery pack(inc. 24V LiFeO4 battery)
2	AS3001-320M	Charging Station
3	DS3000-041M	Protective Cover and Handle
4	DB3000-122M	Tripod Mount
5	DS3000-106	Laser Alighment Guide
6	JP3000-019	Transport Case

IXS1610 Mini-Focus

160 kV, 100W

Applications

- Industrial CT
- Electronic Inspection

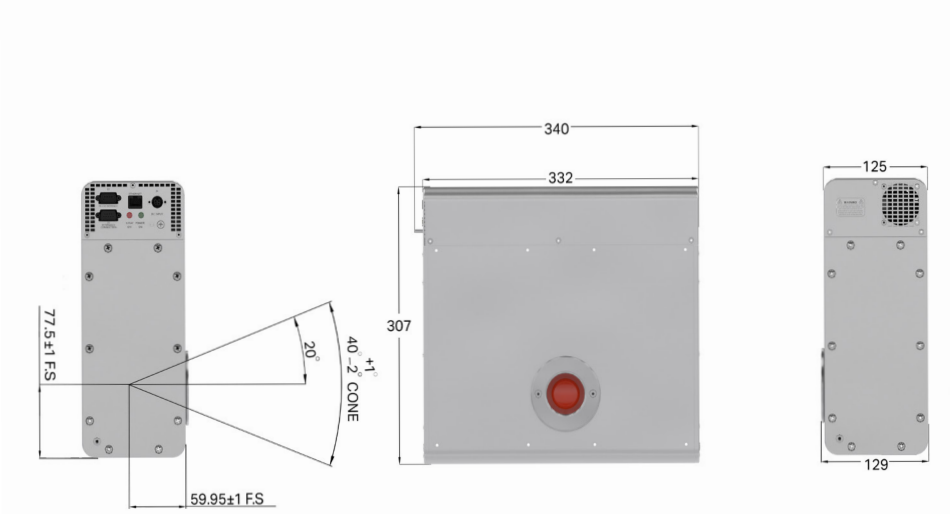
Key Features

- Small focal spot size with high output power
- DC input power
- Integrated high voltage power supply, X-ray tube, and control electronics

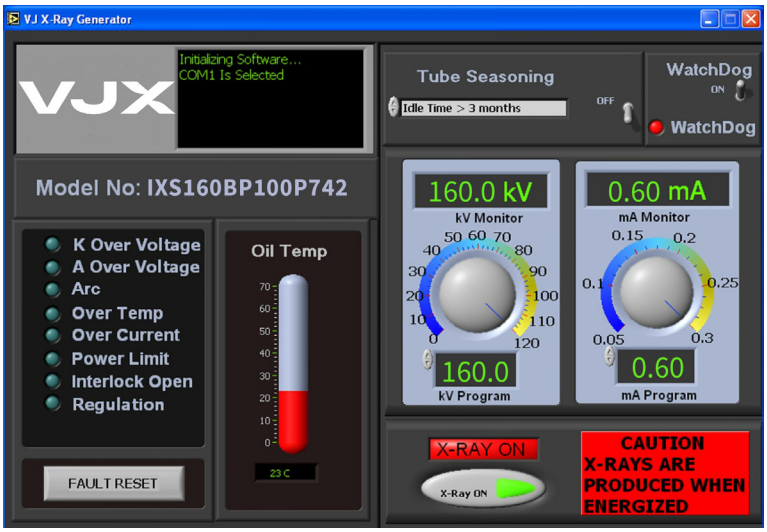
Specifications	
Input Line Range	24 VDC ±2%, 7.3 Amps
Output kV	80 kV - 160 kV
Output mA	0.05 mA - 0.625 mA
Output Power	100 W
Radiation shield	Less than 0.5 mR/hr at 5 cm from the surface of the chassis as per FDA 21 CFR 1020.40
Safety and Regulatory Compliances	Designed to meet CE, IEC/EN61010-1 and EN61326-1.
Dimensions	Generator: 332 mm x 307 mm x 129 mm
Weight	22 kg
X-Ray Tube	
X-ray Tube Type	Glass
X-ray Focal Spot Size	100µm nominal per IEC60336
Beam Port	Cone beam: 40º
Operating Environment	
Operating Temperature	5°C to 40°C
Storage Temperature	-20°C to 85°C
Thermal Cut Off	60ºC ± 3ºC of oil temperature
Humidity	98% non-condensing

Generator & Control Unit

Unit: mm



Graphical User Interface



J2: Interlock	
Pin Out	**Name**
1	Interlock Out
2	Interlock In
3	X-Ray On Relay Common
4	X-Ray On Relay Contact N/C
5	X-Ray On Relay Contact N/O
6	X-Ray Prewarning
7	X-Ray Prewarning Return
8	N/A
9	N/A

J3 Connector: RS232 Interface	
Pin Out	**Name**
1	N/A
2	TX-
3	RX+
4	N/A
5	SIGNAL GRD
6	N/A
7	N/A
8	N/A
9	N/A

RJ45: Ethernet Digital Interface	
Pin Out	**Name**
1	TX+
2	TX-
3	RX+
4	N/A
5	N/A
6	RX-
7	GROUND
8	GROUND

J4 Connector: DC Input	
Pn in	**Name**
1	+24VDC, 7.3A Input
2	24VDC Return
3	N/A
4	N/A

IXS1620

160 kV, 200 W

Applications

- Medical Imaging
- Security Inspections
- Industrial NDT
- Food Inspection
- Quality

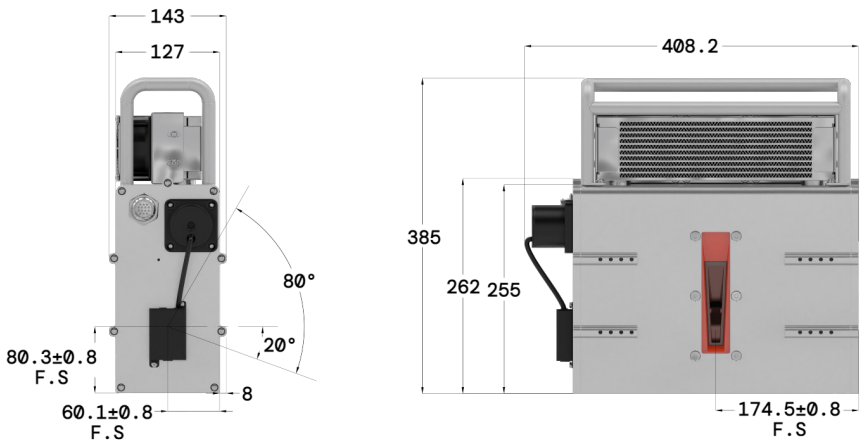
Key Features

- Integrated High Voltage Generator, X-ray Tube, and Control Electronics
- Compact and Robust
- Wide Beam Angle
- Fast Rise time
- Radiation Shielded
- User Friendly RS232 Digital Interface

Specifications	
Input Line Range	110-220 VAC±10%, 50/60 Hz
Output kV	30 kV - 160 kV
Output mA	0.2 mA - 5.0 mA
Output Power	200 W continuous
Radiation shield	Less than 0.5 mR/hr at 5 cm from the surface of the chassis as per FDA 21 CFR 1020.40
Safety and Regulatory Compliances	Designed to meet CE, EN/UL61010-1 and EN61326-1
Dimensions	Generator: 409mm x 143mm x 385mm Control unit: 264mm x 247mm x 70mm (Smaller control unit for models ≤100kV)
Weight	Generator: 23 Kg Control unit: 3 Kg
X-Ray Tube	
X-ray Tube Type	Glass
X-ray Focal Spot Size	0.8 nominal as per IEC60336 0.5 available upon request
Beam Port	Fan beam: 80° X 10° Cone beam: 30°, 40°
Operating Environment	
Operating Temperature	5°C to 40°C
Storage Temperature	-20°C to 85°C
Thermal Cut Off	60°C ± 3°C of oil temperature
Humidity	98% non-condensing

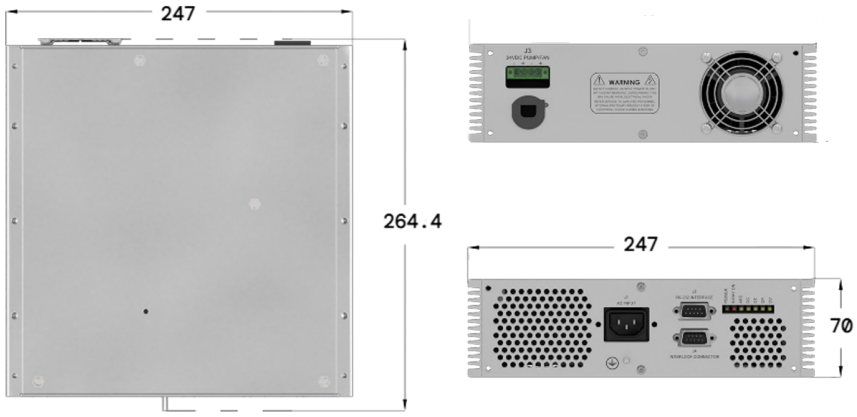
Generator

Unit: mm

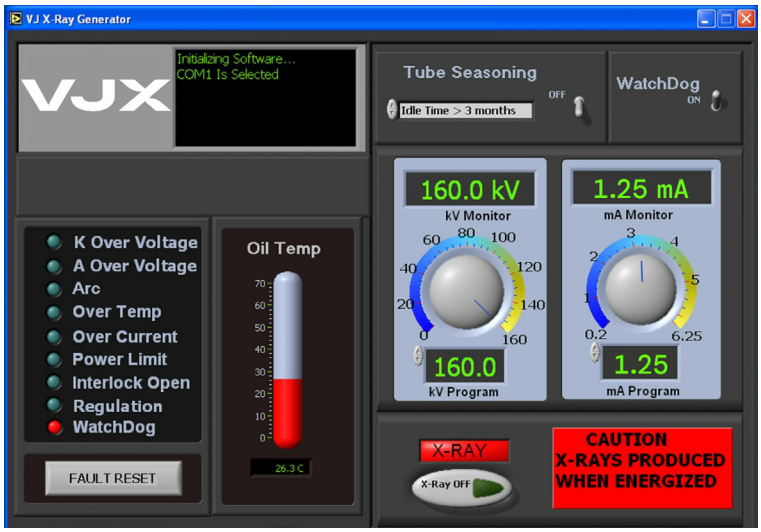


Control Unit

Unit: mm



Graphical User Interface



LED Indicators	
POWER	Illuminated when power is present
X-Ray On	Illuminated when interlock is closed and HV is enabled
ARC	ARC-ing fault
OC	Over current fault
OT	Illuminated when oil temperature exceeds 60°C ± 3°C
OP	Illuminated when selected power exceeds the rated power
OV	Over voltage fault

J1: AC Input	
N	Neutral
GND	Ground
L	110-220 VAC±10% Input

J2: RS232 Interface	
Pin Out	Name
1	N/A
2	TX-(Transmit)
3	RX+(Received)
4	N/A
5	Signal Ground
6	N/A
7	N/A
8	N/A
9	N/A

J3: 24 VDC Pump/Fan	
Pin Out	Name
+	+24 VDC
-	Return
+	+24 VDC
-	Return

J4: Interlock Connection/ X-ray On Relay	
Pin Out	Name
1	Interlock out
2	Interlock in
3	X-ray On Relay contact common
4	X-ray On Relay contact N/C
5	X-ray On Relay contact N/O
6	N/A
7	N/A
8	N/A
9	N/A

IXS1650

160 kV, 500 W

Applications

- Industrial NDT
- Security Scanners
- Medical Research
- Product Quality Monitoring

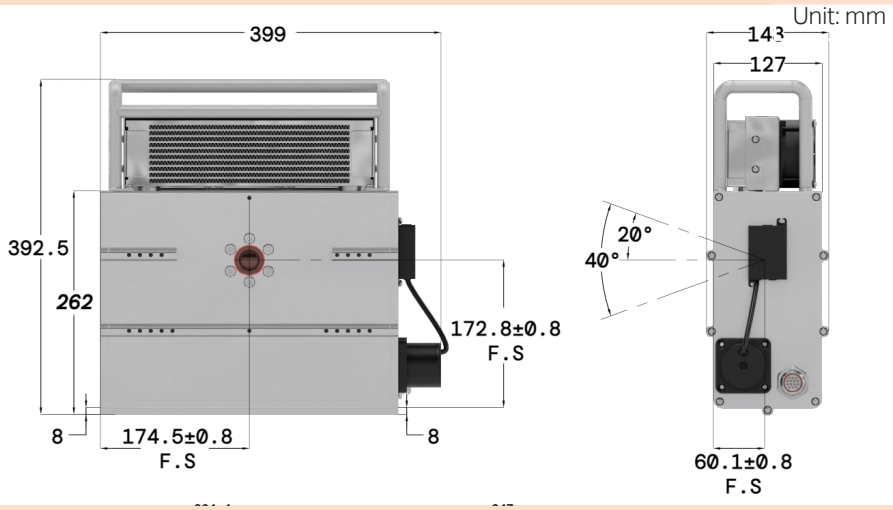
Key Features

- Ideal Alternative to Conventional High Voltage Generator and X-ray Tube Setup
- Integrated High Voltage Generator, X-ray Tube, Control Electronics, and Heat Radiator
- Radiation Shielded
- Cone or Fan beam available for flat panel or line sensor detection
- User Friendly RS232 Digital Interface

Specifications		
Input Line Range	220 VAC ±10%, 50/60 Hz	
Output kV	30 kV – 160 kV	
Output mA	0.2 mA – 5.0 mA	
Output Power	500 W continuous maximum	
Cooling	Air Cooled or liquid Cooled (Several heat exchanger options available)	
Radiation shield	Less than 0.5 mR/hr at 5 cm from the surface of the chassis as per FDA 21 CFR 1020.40	
Safety and Regulatory Compliances	Designed to meet CE, EN/UL61010-1 and EN61326-1	
Dimensions	Generator Control unit	419mm x 143mm x 393mm 264mm x 247mm x 70mm
Weight	Generator Control unit	23 Kg 3 Kg
X-Ray Tube		
X-ray Tube Type	Glass	
X-ray Focal Spot Size	0.8 nominal as per IEC60336 0.5 available upon request	
Beam Port	Fan beam: 80° X 10° Cone beam: 30°, 40°	
Operating Environment		
Operating Temperature	5°C to 40°C	
Storage Temperature	-20°C to 85°C	
Thermal Cut Off	60°C ± 3°C of oil temperature	
Humidity	98% non-condensing	

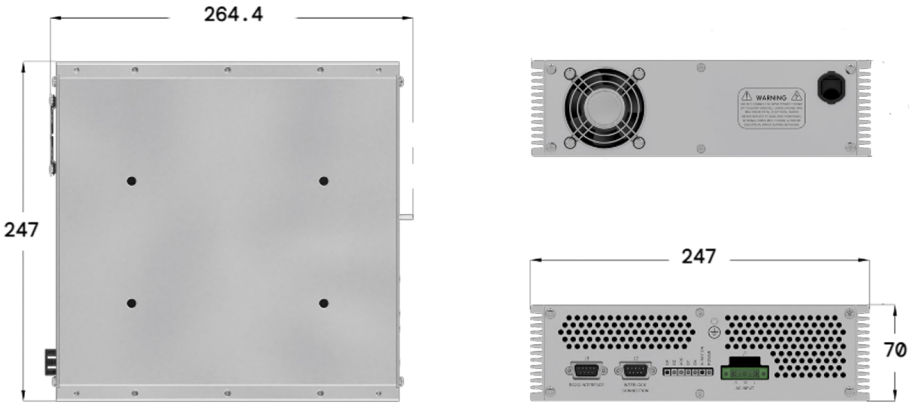
Generator

Unit: mm

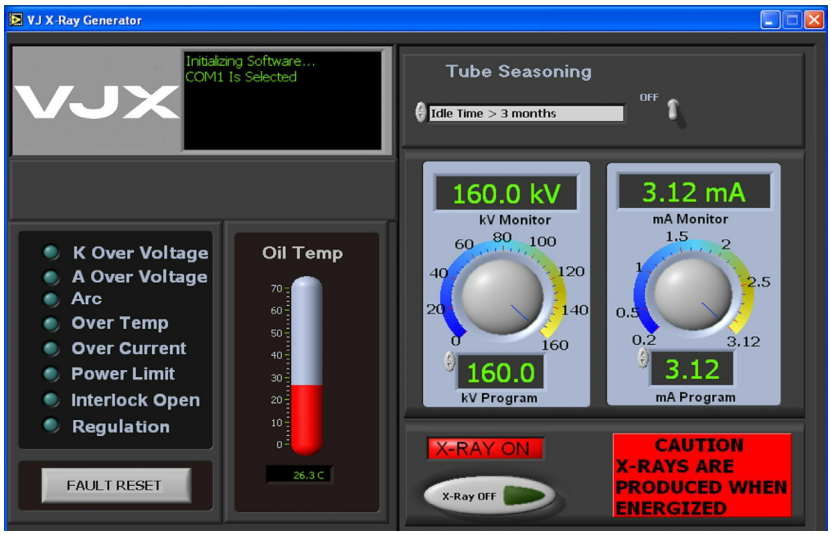


Control Unit

Unit: mm



Graphical User Interface



LED Indicators

POWER	Illuminated when power is present
X-Ray On	Illuminated when interlock is closed and HV is enabled
ARC	ARC-ing fault
OC	Over current fault
OT	Illuminated when oil temperature exceeds 60ºC ± 3ºC
OP	Illuminated when selected power exceeds the rated power
OV	Over voltage fault

J1: AC Input

N	Neutral
GND	Ground
L	220 VAC ±10% Input

J2: Interlock Connection/ X-ray On Relay

Pin Out	Name
1	Interlock out
2	Interlock in
3	X-ray On Relay contact common
4	X-ray On Relay contact N/C
5	X-ray On Relay contact N/O
6	N/A
7	N/A
8	N/A
9	N/A

J3: RS232 Interface

Pin Out	Name
1	N/A
2	TX-(Transmit)
3	RX+(Received)
4	N/A
5	Signal Ground
6	N/A
7	N/A
8	N/A
9	N/A

IXS1680

160 kV, 800 W

Applications

- Industrial NDT
- Sorting
- Food Inspection
- Security Scanners
- Medical Research

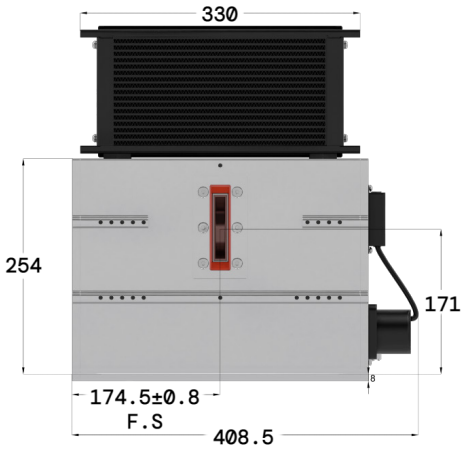
Key Features

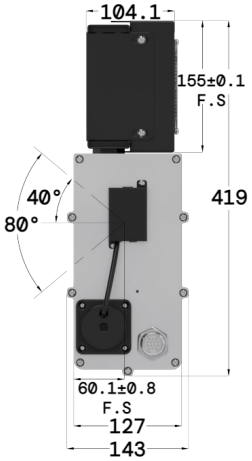
- Ideal Alternative to Conventional High Voltage Generator and X-ray Tube Setup
- Integrated High Voltage Generator, X-ray Tube, Control Electronics, and Heat Radiator
- Radiation Shielded
- Cone or Fan beam available for flat panel or line sensor detection
- User Friendly RS232 Digital Interface
- Ethernet & Wifi (optional)

Specifications	
Input Line Range	220 VAC ±10%, 50/60 Hz
Output kV	40 kV – 160 kV
Output mA	0.5 mA –10.0 mA
Output Power	800 W continuous maximum
Radiation shield	Less than 0.5 mR/hr at 5 cm from the surface of the chassis as per FDA 21 CFR 1020.40
Safety and Regulatory Compliances	Designed to meet CE, EN/UL61010-1 and EN61326-1
Dimensions	Generator: 408mm x 143mm x 419mm Control unit: 264mm x 247mm x 70mm
Weight	Generator: 23 Kg Control unit: 3 Kg
X-Ray Tube	
X-ray Tube Type	Glass
X-ray Focal Spot Size	1.2 nominal as per IEC60336
Beam Port	Fan beam: 80º X 10º Cone beam: 30º, 40º
Operating Environment	
Operating Temperature	5°C to 40°C
Storage Temperature	-20°C to 85°C
Thermal Cut Off	60ºC ± 3ºC of oil temperature
Humidity	98% non-condensing

Generator

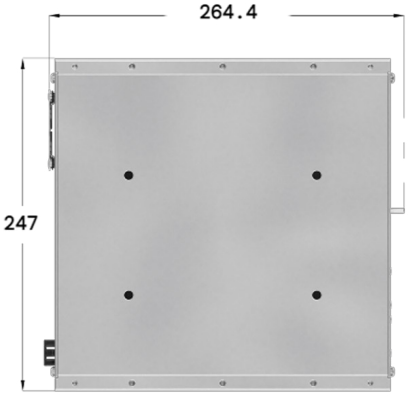
Unit: mm

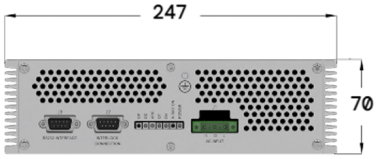




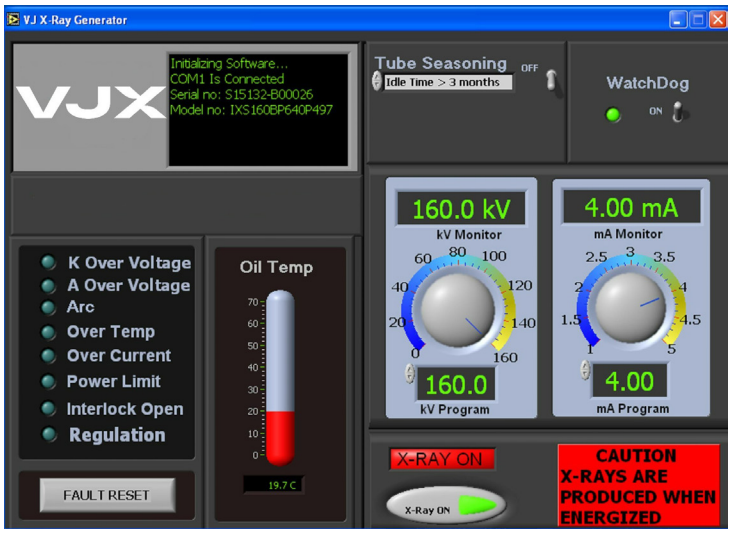
Control Unit

Unit: mm





Graphical User Interface



LED Indicators

POWER	Illuminated when power is present
X-Ray On	Illuminated when interlock is closed and HV is enabled
ARC	ARC-ing fault
OC	Over current fault
OT	Illuminated when oil temperature exceeds 60°C ± 3°C
OP	Illuminated when selected power exceeds the rated power
OV	Over voltage fault

J1: AC Input

N	Neutral
GND	Ground
L	220 VAC ±10% Input

J2: Interlock Connection/ X-ray On Relay

Pin Out	Name
1	Interlock out
2	Interlock in
3	X-ray On Relay contact common
4	X-ray On Relay contact N/C
5	X-ray On Relay contact N/O
6	N/A
7	N/A
8	N/A
9	N/A

J3: RS232 Interface

Pin Out	Name
1	N/A
2	TX-(Transmit)
3	RX+(Received)
4	N/A
5	Signal Ground
6	N/A
7	N/A
8	N/A
9	N/A

IXS161k

160 kV, 1 -1.5 kW

Applications

- Industrial NDT
- Security
- Irradiation
- Sorting
- General X-ray Operations

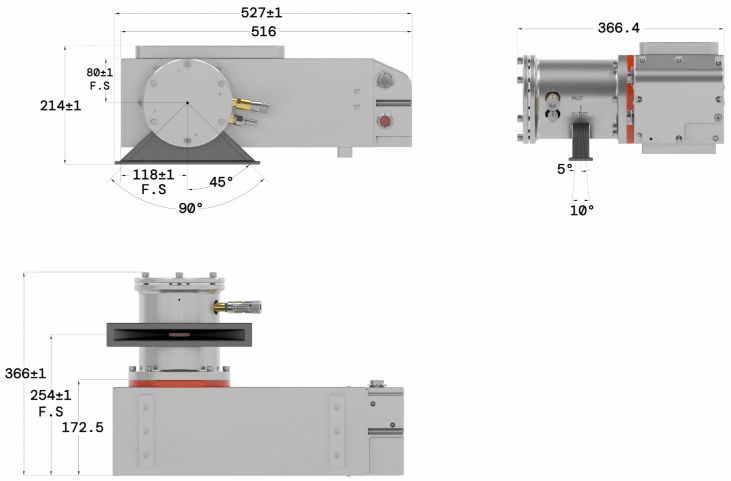
Key Features

- Integrated High Voltage Generator, Metal Ceramic X-ray Tube, and Control Electronics
- Robust Configuration with Metal Ceramic tube for higher Performance and Power
- Designed to operate in rotational gantry attributed to its compactness
- Modular design for weight distribution and balance
- Radiation Shielded
- RS232 Digital Interface and Ethernet

Specifications	
Input Line Range	220 VAC ±10%, 50/60 Hz
Output kV	80 kV - 160 kV
Output mA	1.0 mA - 8.0 mA
Output Power	1kW continious (up to 1.5kW)
Radiation shield	Less than 0.5 mR/hr at 5 cm from the surface of the chassis as per FDA 21 CFR 1020.40
Safety and Regulatory Compliances	Designed to meet CE, EN/UL61010-1 and EN61326-1
Dimensions	Generator: 527mm x 214mm x 368mm Control unit: 411mm x 259mm x 133mm
Weight	Generator: 36 Kg Control unit: 10Kg
X-Ray Tube	
X-ray Tube Type	Metal Ceramic, Anode Grounded
Beam Port & Focal Spot Size	Fan beam: 90° x 10° F.S. = 1.5 x 1.6mm Cone beam: 40° F.S. = 5.0mm (per EN12543)
Operating Environment	
Operating Temperature	5°C to 40°C
Storage Temperature	-20°C to 80°C
Thermal Cut Off	60°C ± 3°C of oil temperature
Humidity	10%-90% non-condensing

Generator

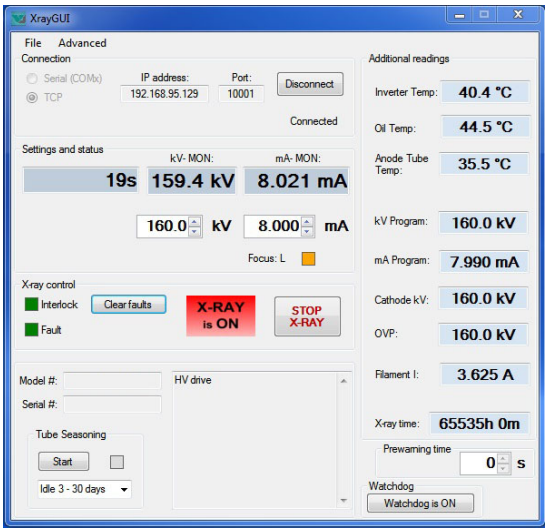
Unit: mm



Control Unit

Unit: mm

Graphical User Interface



J1: AC Input

L1	Neutral
GND	Ground
L2	220 VAC ±10% Input

J2: Interlock Connection

Pin Out	Name
1	Interlock out (15VDC)
2	Interlock In (15VDC)
3	Relay Contractor (+24V) IN
4	LED (24VDC) @ 100 mA max
5	LED (24VDC Return)
6	Ground
7	N/A
8	N/A
9	N/A
10	N/A
11	N/A
12	N/A
13	N/A
14	N/A
15	N/A
16	X-ray Pre-warning
17	N/A
18	N/A
19	Cooler Fault
20	N/A
21	N/A
22	X-ray Pre-warning Return
23	N/A
24	N/A
25	N/A

J3: RS232 Interface

Pin Out	Name
1	N/A
2	TX-
3	RX +
4	N/A
5	Signal Ground
6	N/A
7	N/A
8	N/A
9	N/A

J4: 24VDC Input

Pin Out	Name
1	+24 VDC @ 4A (for control circuit & fan)
2	24VDC Return
3	N/A
4	N/A

RJ45 Ethernet Digital Interface (USR-TCP232-T)

Pin Out	Name
1	TX+
2	TX -
3	RX+
4	N/A
5	N/A
6	RX-
7	Ground
8	Ground

IXS182k

180 kV, 2 -2.4kW

Applications

- Industrial NDT
- Security
- Irradiation
- Sorting
- General X-ray Operations

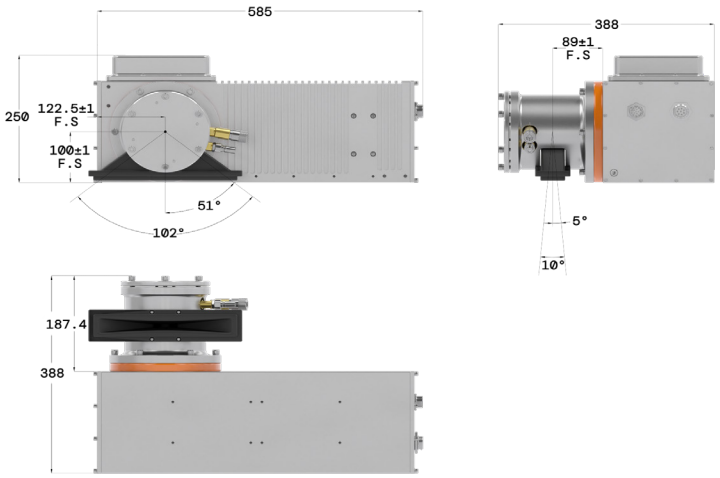
Key Features

- Integrated High Voltage Generator, Metal Ceramic X-ray Tube and Control Electronics
- Robust Configuration with Metal Ceramic tube for higher Performance and Power
- Designed to operate in rotational gantry attributed to its compactness
- Modular design for weight distribution and balance
- Radiation Shielded
- RS232 Digital Interface and Ethernet

Specifications	
Input Line Range	220VAC ± 10% , 50/60 Hz
Output kV	90 kV - 180 kV
Output mA	5.0 mA - 13.3 mA
Output Power	2394W max.
Radiation shield	Less than 0.5 mR/hr at 5 cm from the surface of the chassis as per FDA 21 CFR 1020.40
Safety and Regulatory Compliances	Designed to meet CE, EN/UL61010-1 and EN61326-1
Dimensions	Generator: 698mm x 412mm x 250mm Control unit: 510mm x 263mm x 130mm
Weight	Generator: 57Kg Control unit: 11Kg
X-Ray Tube	
X-ray Tube Type	Be-Window Metal Ceramic
Beam Port & Focal Spot Size	102° x 10°, F.S. = 2.4mm, 2.4kW max 60° x 40°, F.S. = 1.0mm, 1kW max
Operating Environment	
Operating Temperature	5°C to 40°C
Storage Temperature	-20°C to 80°C
Thermal Cut Off	60°C ± 3°C of oil temperature
Humidity	10%-85% non-condensing

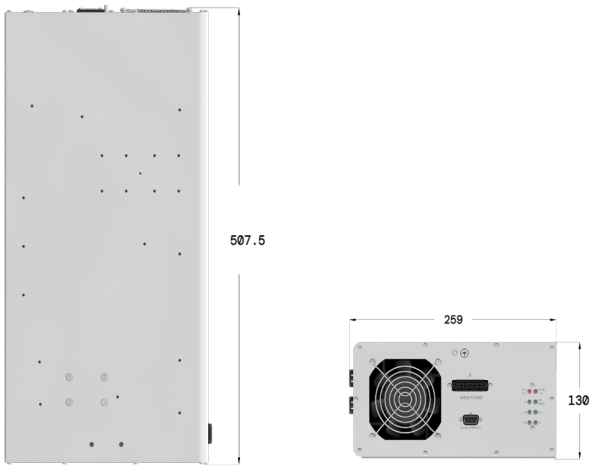
Generator

Unit: mm

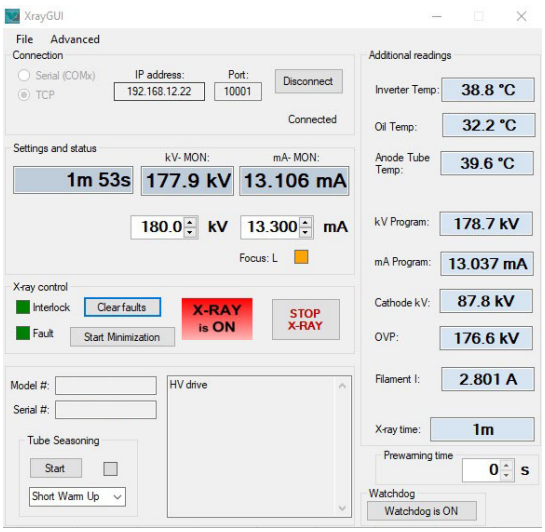


Control Unit

Unit: mm



Graphical User Interface



J1: AC Input

L1	Neutral
GND	Ground
L2	220 VAC ±10% Input

J2: Interlock Connection

Pin Out	Name
1	Interlock out (15VDC)
2	Interlock In (15VDC)
3	Relay Contractor (+24V) IN
4	LED (24VDC) @ 100 mA max
5	LED (24VDC Return)
6	Ground
7	N/A
8	N/A
9	N/A
10	N/A
11	N/A
12	N/A
13	N/A
14	N/A
15	N/A
16	X-ray Pre-warning
17	N/A
18	N/A
19	Cooler Fault
20	N/A
21	N/A
22	X-ray Pre-warning Return
23	N/A
24	N/A
25	N/A

J3: RS232 Interface

Pin Out	Name
1	N/A
2	TX-
3	RX +
4	N/A
5	Signal Ground
6	N/A
7	N/A
8	N/A
9	N/A

J4: 24VDC Input

Pin Out	Name
1	+24 VDC @ 4A (for control circuit & fan)
2	24VDC Return
3	N/A
4	N/A

RJ45 Ethernet Digital Interface (USR-TCP232-T)

Pin Out	Name
1	TX+
2	TX -
3	RX+
4	N/A
5	N/A
6	RX-
7	Ground
8	Ground

IXS2050

200 kV, 500 W

Applications

- Industrial NDT
- Security
- General X-ray Operations

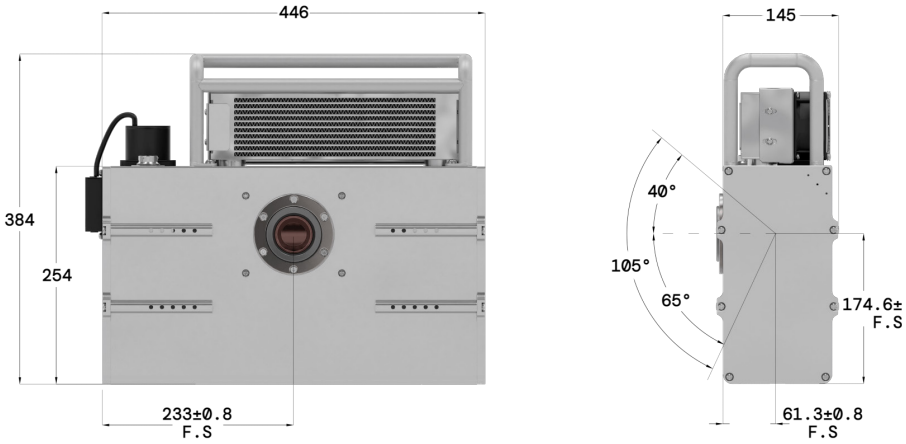
Key Features

- Ideal Alternative to Conventional High Voltage Generator and X-ray Tube Setup
- Integrated High Voltage Generator, X-ray Tube, Control Electronics, and Heat Radiator
- Radiation Shielded
- Large Beam Angle Suitable for Compact System Design
- Cone or Fan beam available for flat panel or line sensor detection
- User Friendly RS232 Digital Interface (Ethernet Optional)

Specifications	
Input Line Range	220VAC±10%, 50/60 Hz
Output kV	80 kV – 200 kV
Output mA	0.2 mA – 6.0 mA
Output Power	500 W continuous maximum
Radiation shield	Less than 0.5 mR/hr at 5 cm from the surface of the chassis as per FDA 21 CFR 1020.40
Safety and Regulatory	Designed to meet CE, EN/UL61010-1 and EN61326-1
Dimensions	Generator: 446 mm x 145 mm x 385mm Control Box : 264mm x 247mmx 70mm
Weight	Generator: 29.5 kg Control Unit: 3 kg
X-Ray Tube	
X-ray Tube Type	Glass
X-ray Focal Spot Size	0.8 nominal as per IEC60336 (0.2FS available at 150W max)
Beam Port	Fan beam: 90° x 10° (Beam port opening: 105° x 10° max) Cone beam : 40°
Operating Environment	
Operating Temperature	5°C to 40°C
Storage Temperature	-20°C to 85°C
Thermal Cut Off	60°C ± 3°C of oil temperature
Humidity	98% non-condensing

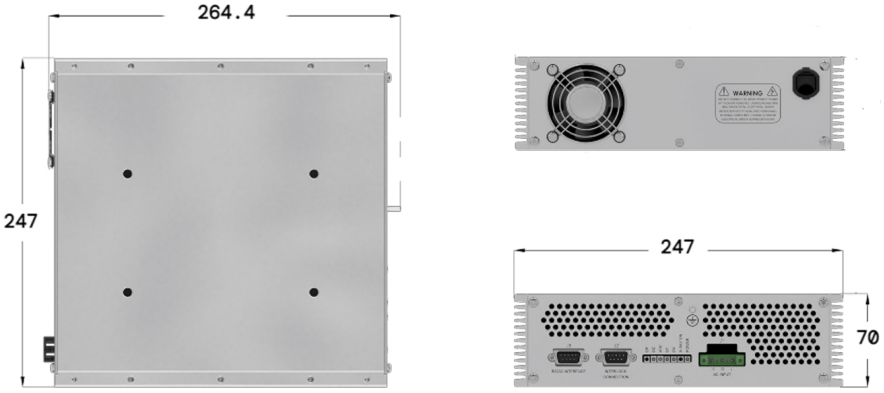
Generator

Unit: mm



Control Unit

Unit: mm



Graphical User Interface

LED Indicators	
POWER	Illuminated when power is present
X-Ray On	Illuminated when interlock is closed and HV is enabled
ARC	ARC-ing fault
OC	Over current fault
OT	Illuminated when oil temperature exceeds 60ºC ± 3ºC
OP	Illuminated when selected power exceeds the rated power
OV	Over voltage fault

J1: AC Input	
N	Neutral
GND	Ground
L	220 VAC ±10% Input

J2: Interlock (9 Pin Male)	
Pin Out	Name
1	Interlock out
2	Interlock in
3	X-ray On Relay contact common
4	X-ray On Relay contact N/C
5	X-ray On Relay contact N/O
6	N/A
7	N/A
8	N/A
9	N/A

J3: RS232 Interface (9 Pin Female)	
Pin Out	Name
1	N/A
2	TX-(Transmit)
3	RX+(Received)
4	N/A
5	Signal Ground
6	N/A
7	N/A
8	N/A
9	N/A

IXS3280

320 kV, 800 W

Applications

- Security Cargo Inspection
- Industrial NDT
- General X-ray Operations

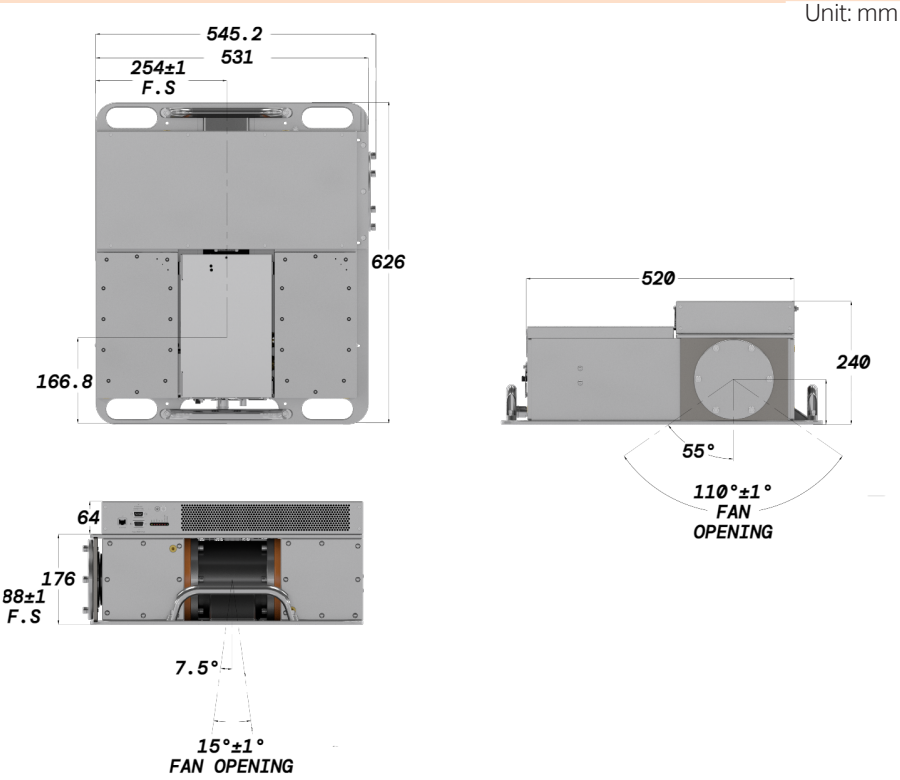
Key Features

- Integrated high voltage generator, metal ceramic X-ray tube, control electronics, and cooling functionality
- Compact high kV package with no HV cable maintenance required
- Radiation shielded
- Liquid-to-liquid heat exchanger and oil cooling for efficient heat control
- Power factor correction for maximizing real power from AC supply
- Cone or fan beam available for flat panel or line sensor detection
- User friendly Ethernet and RS232 digital interface

Specifications	
Input Line Range	230VAC±10%, 50/60 Hz
Output kV	160 kV – 320 kV
Output mA	0.2 mA – 2.5 mA
Output Power	800 W continuous maximum
Radiation shield	Less than 0.5 mR/hr at 5 cm from the surface of the chassis as per FDA 21 CFR 1020.40
Safety and Regulatory Compliances	Designed to meet CE, EN/UL61010-1 and EN61326
Dimensions	Generator: 545 mm x 626 mm x 240mm
Weight	89 kg
X-Ray Tube	
X-ray Tube Type	Metal Ceramic Tube
X-ray Focal Spot Size	0.4mm Reference tube spec HPX-320-11FB, MIR320-HP/11(other compatible tube options available upon request)
Beam Port	Fan beam: 110º x 30º Cone beam : 45º *Note: Actual radiation coverage per tube spec.
Operating Environment	
Operating Temperature	5°C to 40°C
Storage Temperature	-20°C to 85°C
Thermal Cut Off	60ºC ± 3ºC of oil temperature
Humidity	98% non-condensing

Generator

Unit: mm



Graphical User Interface

J1: AC Input	
Pin Out	**Name**
1	230VAC Line
2	GND
3	Neutral

J2: Interlock (9 Pin Male)	
Pin Out	**Name**
1	Interlock Out (+24VDC)
2	Interlock In (Return)
3	X-ray On Relay Contact Common
4	X-ray On Relay Contact N/C (LH1502BACTR)
5	X-ray On Relay Contact N/O (LH1502BACTR)
6	N/A
7	N/A
8	N/A
9	N/A

J3: RS232 (9 Pin Female)	
Pin Out	**Name**
1	N/A
2	TX-(Transmit)
3	RX+(Received)
4	N/A
5	Signal Ground
6	N/A
7	N/A
8	N/A
9	N/A

J4: 24VDC	
Pin Out	**Name**
1	+24VDC@1.0A for Pump
2	N/C
3	N/C
4	24VDC Return for Control

J5: RJ45 Ethernet Digital Interface	
Pin Out	**Name**
1	TX+
2	TX-
3	RX+
4	N/A
5	N/A
6	RX-
7	Ground
8	Ground

HVL100-320

100 –320 kV, 1000 W

Applications

- Industrial NDT
- Security Cargo Inspection
- Medical Irradiation & Sterilization
- General Purpose

Key Features

- Compact and lightweight
- Oil based insulation for efficient thermal dissipation
- Single Filament Supply
- Modular design provides flexible mounting configurations
- Standard R24 HV Connector
- RS232 and Ethernet Interface

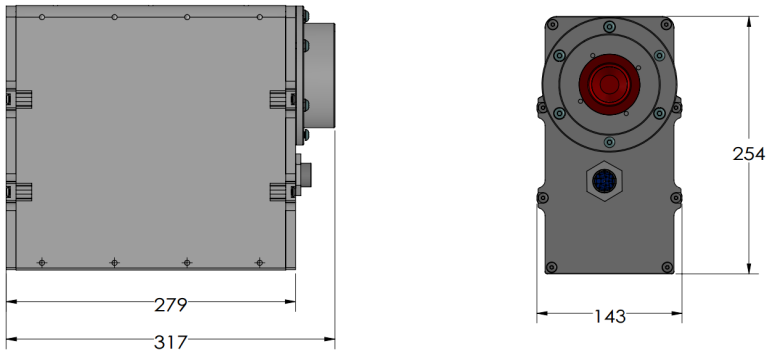
Model	HVL100	HVL160	HVL200	HVL320
Max. Output Power (Note1)	1.0kW	1.0kW	1.0kW	1.0kW
Output KV (Note 2)	50-100	80–160	100–200	160–320
Output mA (Note2)	0.5-15	0.5-6.25	0.5-10	0.5-6.25
Output Polarity	Negative	Negative	Bipolar	Bipolar
Output HV Connector	R24	R24	R24	R24
Dimension (mm)	317x247x143	524x225x160	(2) 317x247x143	(2) 524x225x160
Weight (Tank/Control box)	19kg/3kg	19kg/3kg	38kg/6kg	38kg/6kg
Input Power	220VAC ±10%,50/60Hz			
Input Current	7A	7A	7A	7A
Operating Temperature	5˚C – 40˚C			
Storage Temperature	-20˚C – 80˚C			
Humidity	98% non-condensing			
Cooling	Forced Air Cool			
Duty Cycle	100%			

NOTES

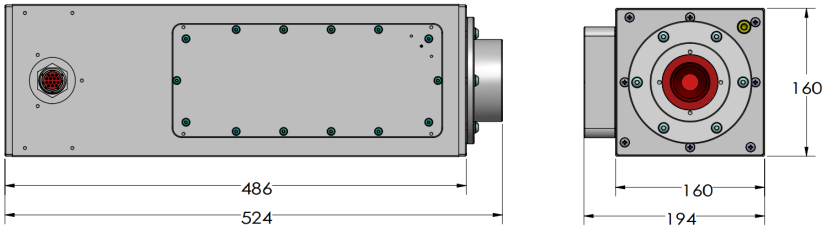
1. Discuss with VJX Sales if greater than 1kW is required.
2. Specify kV and mA range setting to be defined for optimal peformance.
3. Specify focal spot size configuration if tube comes with dual filament (large or small).

Generator Dimension

HVL100 Tank

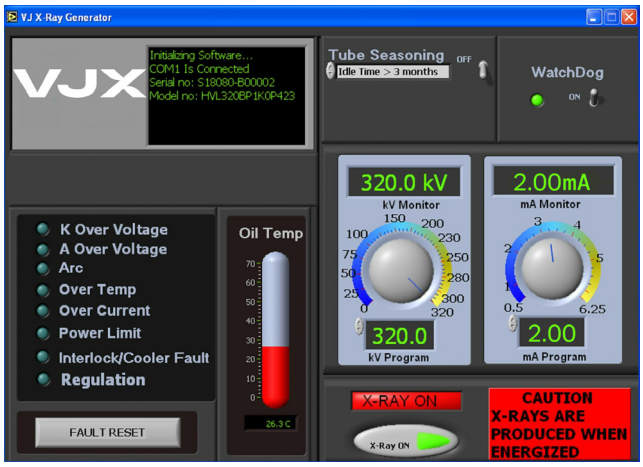


HVL160 Tank



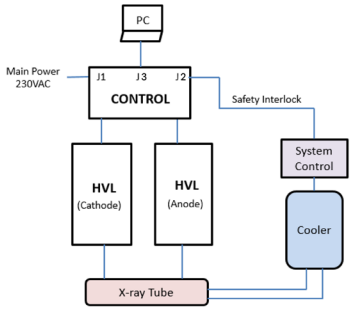
Unit: mm

Graphical User Interface

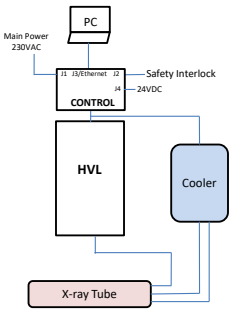


System Connection Diagram (Reference Only)

Bipolar Interconnection



Unipolar Interconnection



LED Indicators	
POWER	Illuminated When Power Is Present
X-Ray On	Illuminated when interlock Is closed and HV is enabled
Arc	Arcing Fault
OC	Over Current Fault
OT	Illuminated when oil temperature exceeds 60±3°C
OV	Over Voltage Fault

J1: AC Input Connector	
Pin In	Name
1	230VAC Line
2	GND
3	Neutral

J2 Connector : (Interlock 9 Pin Male)	
Pin Out	Name
1	Interlock Out (+12VDC)
2	Interlock In (Return)
3	X-Ray On relay Contact Common
4	X-Ray on Relay N/C (LH1502BACTR)
5	X-Ray Relay Contact N/O (LH1502BACTR)
6	N/A
7	N/A
8	N/A
9	N/A

J3: RS232 Digital Interface Bipolar Configuration	
Pin Out	Name
1	N/A
2	TX-(Transmit)
3	RX+(Received)
4	N/A
5	Signal Ground
6	N/A
7	N/A
8	N/A
9	N/A

J4 Connector	
Pin In	Name
1	+24VDC@1.0A for Pump
2	24VDC Return for Pump
3	+24VDC@1.5A for Control Circuit & Control Fan
4	24VDC Return for Control

HVG060 THE HVG MINI

60 kV, 150 W

Applications

- X-Ray Fluorescence
- X-Ray Diffraction
- Sorting
- Material Analysis

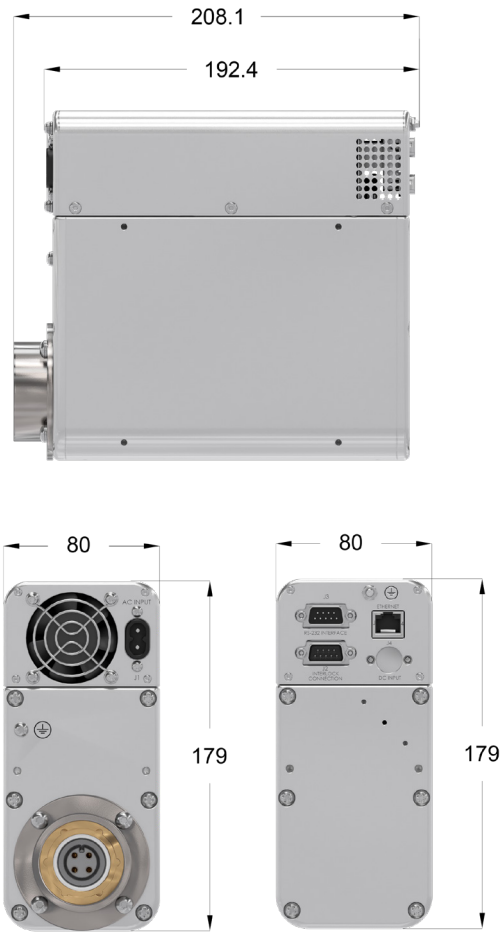
Key Features

- Sub-compact HV package
- Flexible configuration with anode or cathode grounded tubes
- Plug and play functionality with CA11 or Mammoflex HV cables
- Standard Digital Interface: Ethernet, RS232
- Universal AC or DC input

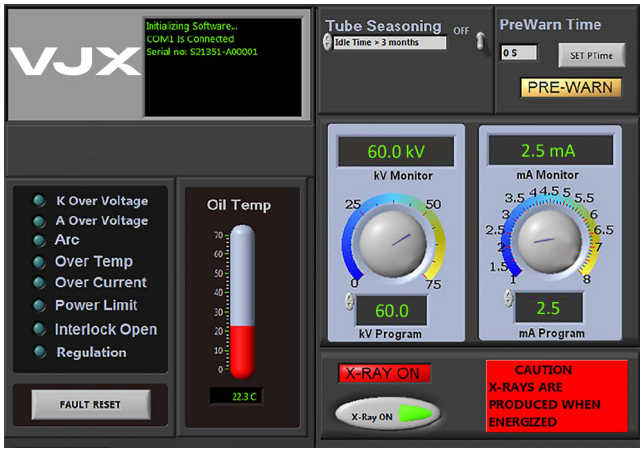
Specifications	
Input Line Range	90-264 VAC, 50/60Hz Option: 24 or 48 VDC
Output KV	10 kV – 60kV, negative polarity with floating filament supply (Optional positive output polarity)
Output Current	0.2 mA - 3.0 mA (Per X-ray tube rating)
Output Power	150 W maximum continuous (limited by tube spec)
Safety and Regulatory Compliances	Designed to meet CE, IEC/EN 61010-1, and EN61326-1
Output Connectors	Claymount CA11 (Optional: Receptacle for Mammoflex HV Cable)
Insulation	Oil
Cooling	Self cooled, forced air
Dimensions	80mm x 179mm x 205.8mm
Weight	3.6 kg
Operating Environment	
Operating Temperature	0°C to 40°C
Storage Temperature	–40°C to 80°C
Humidity	98% non-condensing

Generator

Unit: mm



Graphical User Interface



J1: AC Input	
N	Neutral
L	90 - 264 VAC Input

J2: Interlock	
Pin Out	Name
1	Interlock out
2	Interlock In
3	X-ray on relay contact common
4	X-ray on relay contact N/C
5	X-ray on Relay contact N/O
6	X-ray Prewarning
7	X-ray Prewarning Return
8	N/A
9	N/A

J3: RS232 Interface	
Pin Out	Name
1	N/A
2	TX-(Transmit)
3	RX+(Received)
4	N/A
5	Signal Ground
6	N/A
7	N/A
8	N/A
9	N/A

J4 Connector	
Pin In	Name
1	+48 VDC @ 5A for HV
2	48 VDC HV Return
3	+48 VDC @ 1A for Control Circuitry & Filament Supply
4	48 VDC Return for Control

RJ45: Ethernet	
Pin Out	Name
1	TX+
2	TX-
3	RX+
4	N/A
5	N/A
6	RX-
7	Ground
8	Ground

High Voltage Output (CA11)	
C	HV Output
L	Filament Output
G	N/A
S	N/A

HVG075 THE HVG MINI

75 kV, 350 W & 600 W

Applications

- Food Inspection
- Sorting
- Material Analysis
- X-Ray Fluorescence
- X-Ray Diffraction
- X-Ray Tube Testing

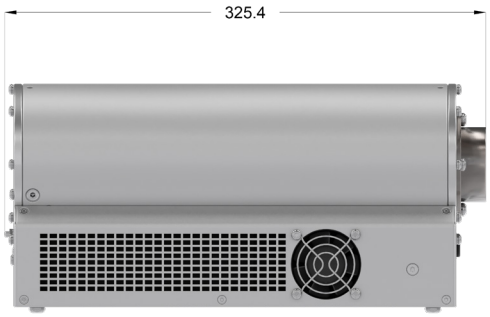
Key Features

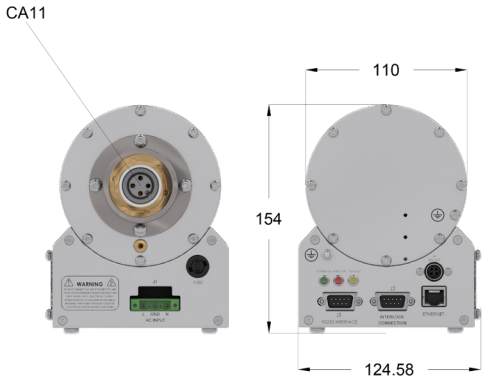
- Sub-compact HV package
- Designed for anode grounded tube for efficient heat dissipation
- Standard Digital Interface: Ethernet, RS232

Specifications			
Input Line Range	180-264 VAC, 50/60Hz		
Output	Four models are available		
	Output Power	**kV Range**	**mA Range**
	350W	20-40kV	0.2-15mA
	350W	40-75kV	0.2-7.5mA
	600W	20-40kV	0.2-30mA
	600W	40-75kV	0.2-15mA
Safety and Regulatory Compliances	Designed to meet CE, IEC/EN 61010-1, and EN61326-1		
Output Connectors	Claymount CA11		
Insulation	Oil		
Cooling	Self cooled, forced air		
Dimensions	124.5mm x 154mm x 325.4mm		
Weight	5.0 kg		
Operating Environment			
Operating Temperature	0°C to 40°C		
Storage Temperature	–40°C to 80°C		
Humidity	98% non-condensing		

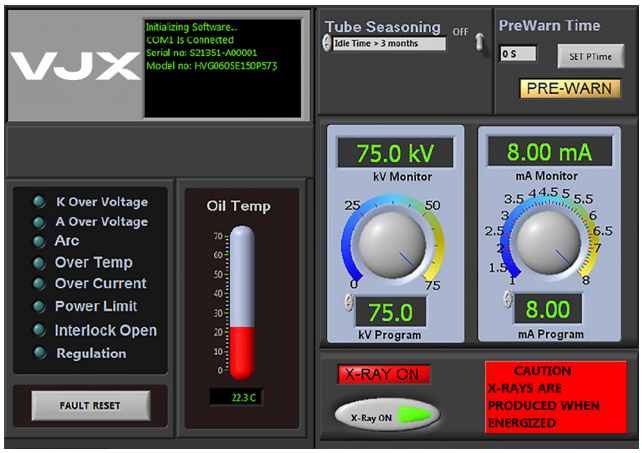
Generator

Unit: mm





Graphical User Interface



J1: AC Input	
N	Neutral
G	Ground
L	180 - 264 VAC Input

J2: Interlock	
Pin Out	Name
1	Interlock out
2	Interlock In
3	X-ray on relay contact common
4	X-ray on relay contact N/C
5	X-ray on Relay contact N/O
6	X-ray Prewarning
7	X-ray Prewarning Return
8	N/A
9	N/A

J3: RS232 Interface	
Pin Out	Name
1	N/A
2	TX-(Transmit)
3	RX+(Rececived)
4	N/A
5	Signal Ground
6	N/A
7	N/A
8	N/A
9	N/A

J4 Connector	
Pin In	Name
1	+24VDC @ 1.25A for Control Circuitry & Fil. Supply
2	24 VDC Return for Control
3	N/A
4	N/A

RJ45: Ethernet	
Pin Out	Name
1	TX+
2	TX-
3	RX+
4	N/A
5	N/A
6	RX-
7	Ground
8	Ground

High Voltage Output (CA11)	
C	HV Output
L	Filament Output
G	N/A
S	N/A

HVG100

100 kV, 1000 W

Applications

- Thickness Gauging
- Tire Inspection
- Industrial NDT
- Food & Packaging Inspections
- X-Ray Tube Testing

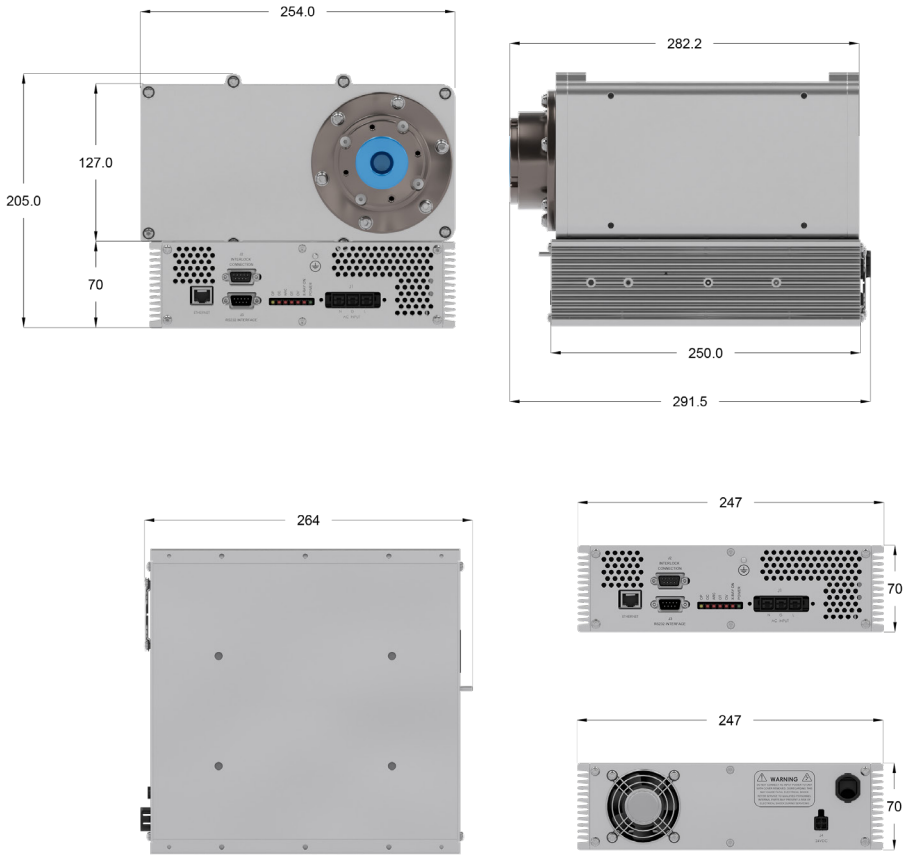
Key Features

- High Frequency
- Compact and Robust
- Power Factor Corrected
- User Friendly RS232 Digital Interface
- Field Serviceable

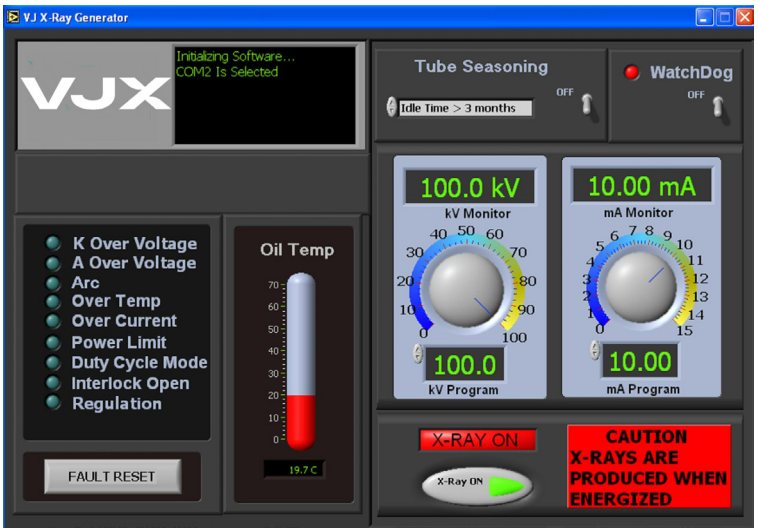
Specifications	
Input Line Range	220VAC ±10%, 50/60Hz, 10 Amps RMS
Output KV	30 kV – 100kV, negative or positive polarity
Output Current	0 mA - 25 mA (Per X-ray tube ratings)
Output Power	1000 W maximum continuous output 1500 W also available upon request
mA Rise Time	Available on special request
Safety and Regulatory Compliances	Designed to meet IEC/EN 61010-1
Output Connectors	Claymount CA1 (XR-7) HV connector Option: CA10 (R10), CA11
Insulation	Oil
Cooling	Self cooled, forced air
Dimensions	Generator: 254mm x 277mm x 127mm
Weight	Generator: 13kg
Operating Environment	
Operating Temperature	5°C to 40°C
Storage Temperature	–20°C to 80°C
Humidity	98% non-condensing

Generator

Unit: mm



Graphical User Interface



LED Indicators

OP	Over Power fault
OC	Over current fault
ARC	ARC-ing fault
OT	Illuminated when oil temperature exceeds 60±3°C.
OV	Over voltage fault
X-Ray On	Illuminated when interlock is closed and HV is enabled
POWER	Illuminated when power is present

J1: AC Input

N	Neutral
GND	Ground
L	220VAC ±10%Input

J2: Interlock

Pin Out	Name
1	Interlock out
2	Interlock In
3	X-ray on relay contact common
4	X-ray on relay contact N/C
5	X-ray on Relay contact N/O
6	N/A
7	N/A
8	N/A
9	N/A

J3: RS232 Interface

Pin Out	Name
1	N/A
2	TX-(Transmit)
3	RX+(Received)
4	N/A
5	Signal Ground
6	N/A
7	N/A
8	N/A
9	N/A

HVG160–450

160 – 450 kV, 2 – 4.5 kW

Applications

- Industrial NDT
- Security Cargo Inspection
- Medical Irradiation & Sterilization
- General Purpose

Key Features

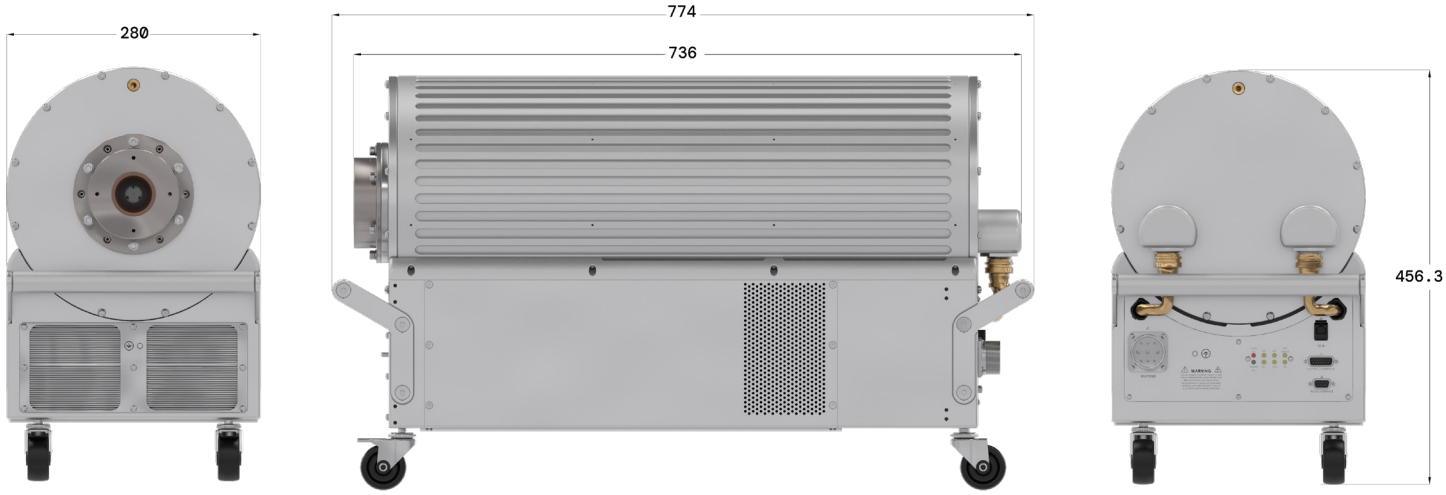
- Compact form factor
- Oil based insulation for efficient thermal dissipation
- Fully enclosed, fan-less design for use in rugged environments
- Advanced HV design optimized for performance & reliability
- Plug and play compatibility with major tube brands
- Dual filament supplies controlled by closed-loop emission current control

Model	HVG160		HVG225		HVG320			HVG450		
Max. Output Power	2.0kW	3.0kW	2.0kW	3.0kW	2.0kW	3.0kW	4.5kW	2.0kW	3.0kW	4.5kW
Output KV (see note)	30–160	30–160	30–225	30–225	30–320	30–320	30–320	30–450	30–450	30–450
Output mA (see note)	0–30	0–30	0–30	0–30	0–30	0–30	0–30	0–30	0–30	0–30
Output Polarity	- / +	- / +	- / +	- / +	Bipolar	Bipolar	Bipolar	Bipolar	Bipolar	Bipolar
Ripple	kV: 0.05% peak-peak; mA: 0.1%									
Stability	Less than 0.1% per 8hr after 1 hr warm-up									
Repeatability	kV: ±40V; mA: 0.1%									
Accuracy	kV: ±1.0%; mA: ±0.5%									
Output Rise Time	Preset 3 sec (1–10 sec adjustable)				Preset 6 sec (1–10 sec adjustable)					
Output HV Connector	R24	R24	R28	R28	R24	R24	R24	R28	R28	R28
Operating Temperature	5˚C to 40˚C									
Storage Temperature	-20˚C to 80˚C									
Humidity	98% non-condensing									
Cooling	Forced Air Cool									
Duty Cycle	100%									
Dimension (mm)	280W x 774L x 452H				(2) 280W x 774L x 452H					
Weight	66kg				132kg					
Input Voltage	220VAC ±10%, 50/60Hz, Single Phase									
Input Current	13A	20A	13A	20A	13A	20A	30A	13A	20A	30A
Communication	RS232 / Ethernet									

NOTES
Specific kV and mA range setting to be discussed for optimal performance.

Generator Dimensions

Unit: mm

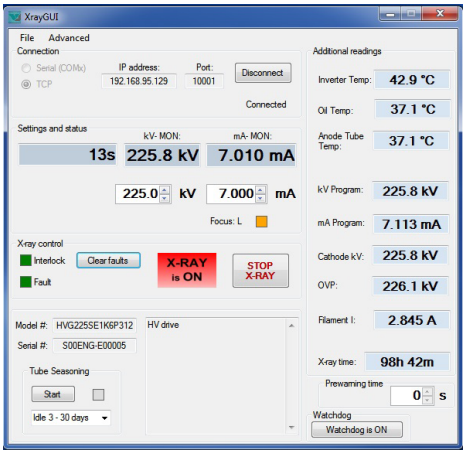


Control Interface Connections

Cathode

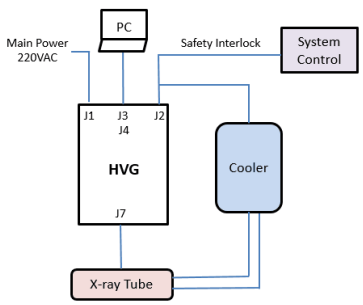
Anode

Graphical User Interface

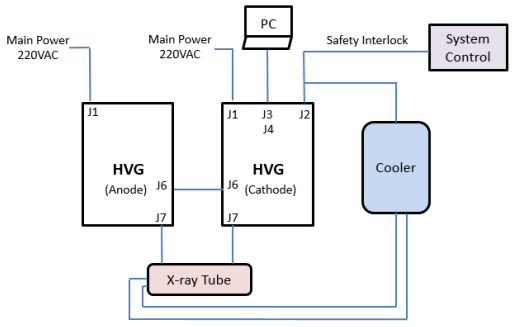


System Connection Diagram (Reference Only)

Unipolar Interconnection



Bipolar Interconnection



LED Indicators	
X-RAY ON	Illuminated when interlock Is closed and HV is enabled
OV	Over Voltage Fault
OC	Over Current Fault
OP	Over Power Fault When Exceeds Rated Power
Power	Illuminated When Power Is Present
REG-ERROR	Regulation Error
ARC	Arcing Fault
OT	Illuminated When Oil Temperature Exceeds 60±3ºC.

Connectors	
Connector	Description
J1	Main & Auxiliary Input Power
J2	Analog Interface
J3	RS232 Digital Interface
J4	RJ45 Ethernet Digital Interface
J6	Bipolar Only: Anode Feedback/ Control
	HV Connector

J1 Connector: Main & Auxiliary AC Input (MS3102A24-11P, 9 Pin)	
Pin Out	Name
A	AUX – 180-264VAC
B	AUX – Ground
C	AUX – Neutral
D	Main – 220VAC±10%
E	Main – Ground
F	Main – Neutral
G	N/A
H	N/A
I	N/A

J2 Connector: Analog Interface (15 Pin Male)	
Pin Out	Name
1	Interlock Out (+24VDC)
2	Interlock In (+24VDC)
3	External +24V (for driving X-Ray On LED)
4	Failsafe Return (LED/Alarm) 100mA- 200mA return current
5	X-ray On +24VDC Output (LED/ Alarm)
6	Ground
7	X-ray Pre-Warning
8	X-ray Pre-Warning Return
9	Cooler Fault
10	Not Used
11	Ground
12	Not Used
13	Not Used
14	Not Used
15	Not Used

J3 Connector: RS232 Digital Interface (9 Pin Female)	
Pin Out	Name
1	Not Used
2	TX- (Transmit)
3	RX+ (Received)
4	N/A
5	Signal Ground
6	N/A
7	N/A
8	N/A
9	N/A

J4 Connector: RJ45 Ethernet Digital Interface (USR-TCP232-T,	
Pin Out	Name
1	TX+
2	TX-
3	RX+
4	N/A
5	N/A
6	RX-
7	Ground
8	Ground

J5: Anode VAC Input (For Bipolar Configuration)	
Pin Out	Name
1	GND
2	NEUTRAL
3	LINE

J6: Anode Feedback & Control (For Bipolar Configuration)	
Pin Out	Name
1	ANODE-kV-FDBK
2	N/A
3	N/A
4	ANODE-mA-FDBK
5	N/A
6	GND
7	ANODE-ARC-DETECT
8	N/A
9	ANODE-INV-DRIVE A
10	ANODE-INV-DRIVE B
11	ANODE INV-SENSE
12	ANODE-INV-TEMP-SENSE
13	ANODE OIL TEMP
14	+15V OUT
15	-15V OUT

J7: High Voltage Connector (R28 or R24)	
Pin Out	Name
C	HV Output
S	Small Filament Output
L	Large Filament Output

COOLERS
CHILLERS
ACCESSORIES

Key Features

- Designed in conjuction with the IXS HVG and HVL Generators
- Compact, lightweight
- Capable of meeting cooling performance up tp 2kW
- Ability to operate IXS sources in high temperature environment
- Enhanced Stability
- Allows sources to run continuous duty cycles
- Close-loop, mainteneance free

Coolers

Cooling Capacity	500 W	800 W		1.2 kW		2.0 kW	
Applications	Stationary	Stationary	CT	Stationary	CT	Stationary	CT
Cooler Model	K03	K07 (Water) / K08 (Oil)	K14 (Water)	K21 (Water) / K22 (Oil)	K19 (Water) / K18 (Oil)	K26 (Water) / K29 (Oil)	K23 (Water) / K25 (Oil)
Input Power	24V, 0.3A(FAN) 24V, 0.9A(PUMP)	24V, 2.2A(FAN) 24V, 0.9A(PUMP)	24V, 2.2A(FAN) 24V, 0.9A(PUMP)	24V, 2.2A(FAN) 24V,1.2A(PUMP)	24V, 2.2A(FAN) 24V,1.2A(PUMP)	24V, 2.6A(FAN) 24,1.8A(PUMP)	24V, 2.6A(FAN) 24V, 1.8A(PUMP)
Min Flow Rate	4 L/min	4 L/min	4 L/min	4 L/min	4 L/min	4 L/min	4 L/min
Cooling Hose ID Size	3/8 inches	3/8 inches	3/8 inches	3/8 inches	3/8 inches	3/8 inches	3/8 inches
Ambient Temp	≤40° C	≤40° C	≤40° C	≤40° C	≤40° C	≤40° C	≤40° C
Flow Switch & Temp Sensor	NO	YES	NO	YES	NO	YES	NO
Dimensions	156x267x239mm	163x387x238mm	372x460x187mm	269x415x198mm	266x415x198mm	303x530x252mm	269x415x227mm
Weight	6.3 kg	8.5 kg	11.2 kg	14.1 kg	13.8 kg	26.5 kg	26.3 kg

Notes

1. Coolant Mix: 75% distill water. 25% ethylene glycol
2. Recommended Coolant: Dow Therm SR-1
3. Standard Hose Length: 1 Meter

Chillers

Key Features

- Closed-Loop refrigeration based system
- Efficient and reliable design to address critical cooling needs for x-ray tube operations
- Water and oil based coolants suitable for a wide range of applications

Cooling Capacity	1.2 kW		3.0 kW		5.0 kW	
Cooler Model	K51 (Water)	K52 (Oil)	K53 (Water)	K54 (Oil)	K55 (Water)	K56 (Oil)
Input Power	230VAC 50/60HZ	230VAC 50/60HZ	230VAC 50/60HZ	230VAC 50/60HZ	230VAC 50/60HZ	230VAC 50/60HZ
Coolant Supply Temp	22~26°C	25~28°C	22~26°C	25~28°C	22~26°C	25~28°C
Coolant Fault Temp	35°C	45°C	35°C	45°C	35°C	45°C
Ambient Temp	+5~40°C	+5~40°C	+5~40°C	+5~40°C	+5~40°C	+5~40°C
Pump Max Head	20M	20M	20M	25M	20M	25M
Noise 1m Distance	≤70dB	≤70dB	≤70dB	≤70dB	≤70dB	≤70dB
Dimensions	680x420x730mm	680x420x730mm	820x510x1120mm	820x510x1120mm	990x570x1090mm	990x570x1090mm
Weight	110 kg	110 kg	160 kg	160 kg	190 kg	190 kg

Subsystems

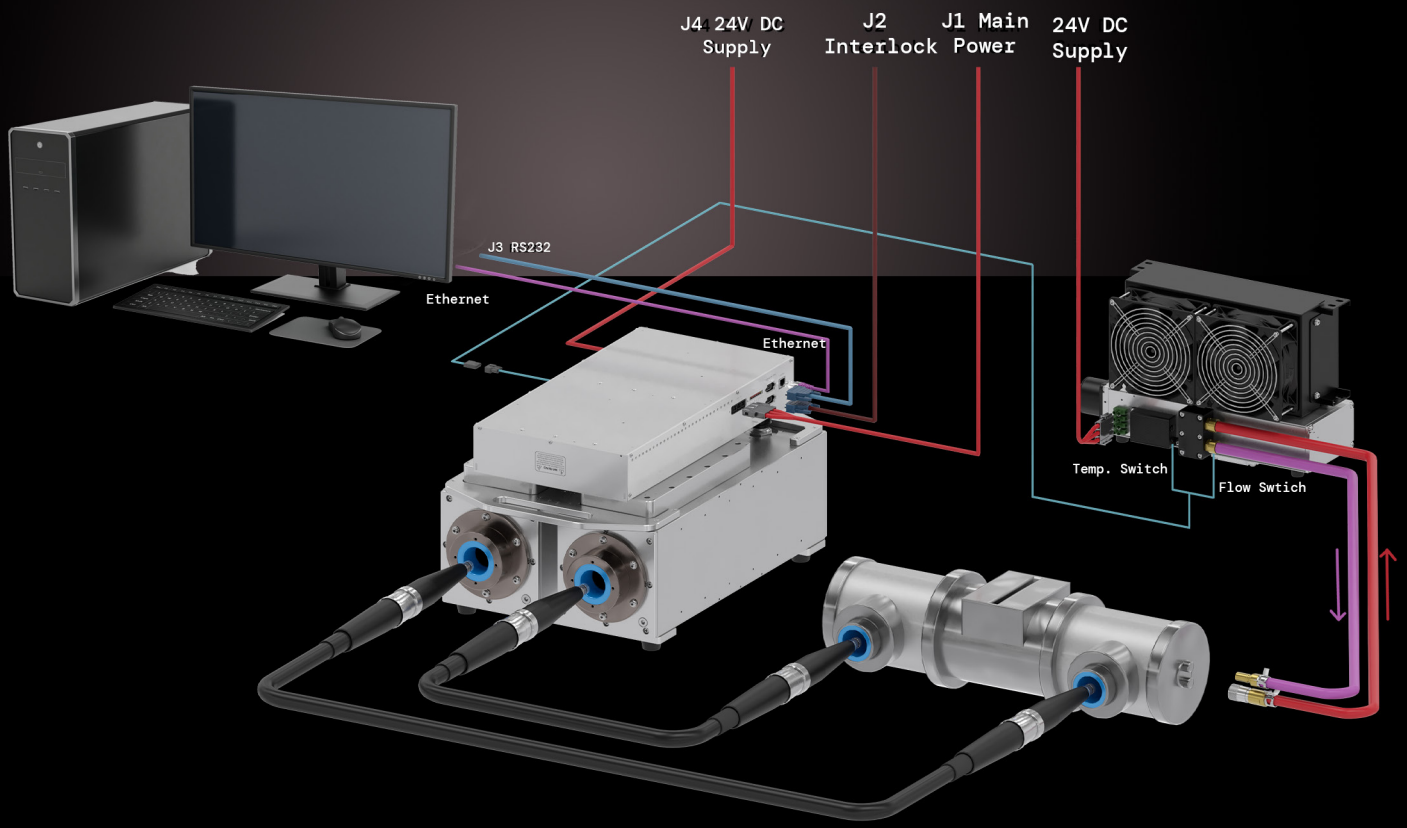
160 - 450kV, 4.5 kW Max

Applications

- Non-Destructive Testing
- Security Cargo Inspection
- Vehicle Inspection

Subsystem Contains

- Metal Ceramic X-Ray Tube
- High Voltage Generator
- High Voltage Cable
- Cooler or Chiller



Note: Please consult with VJX sales department for Various output power (160-450kV), configuration, tube manf. and model, cooler or chiller.

Standard Subsystem Configurations:

Power Rating	VJX Generator	X-Ray Tube		HV Cable
		Vendor P/N	VJX P/N	(5 Meter, Spring Loaded)
160kV, 800W	HVL160SE800	HPX 160/11	OT3000-167	EW3000-281
160kV, 1.8kW	HVG160SE1K8	MXR-160HP/11	OT3000-174	EW3000-281
		HPX 160/11	OT3000-167	EW3000-281
160kV, 3kW	HVG160SE3K0	NDI 160/22	OT3000-152	EW3000-281
225kV, 1.8kW	HVG225SE1K8	MXR-225HP/11	OT3000-177	EW3000-287
		HPX 225/11	OT3000-169	EW3000-287
225kV, 3kW	HVG225SE3K0	MXR-225/22	OT3000-194	EW3000-287
		NDI 226	OT3000-159	EW3000-287
320kV, 640W	HVL320BP640	NDI 320/26FB	OT3000-145	EW3000-281
320kV, 1.8kW	HVG320BP1K8	MXR-320HP/11	OT3000-180	EW3000-281
		HPX 320/11	OT3000-170	EW3000-281
320kV, 4.2kW	HVG320BP4K2	MXR-320/26	OT3000-179	EW3000-281
		NDI 320/26	OT3000-162	EW3000-281
450kV, 1.5kW	HVG450BP1K5	MXR-451HP/11	OT3000-182	EW3000-295
		HPX 450/11	OT3000-171	EW3000-295
450kV, 4.5kW	HVG450BP4K5	MXR-451/26	OT3000-181	EW3000-295
		NDI 451	OT3000-164	EW3000-295

In addition to VJ X-Ray coolers, we offer the following external products to address wide ranges of applications:

Cooling Capacity	Cooling Method	Vendor P/N	VJX P/N
1100W	Water to Air-cooled Refrigeration	SMC HRS012-AN-20-T	HXWS0-1k1K40
1700W	Water to Air-cooled Refrigeration	SMC HRS018-AN-20-T	HXWS0-1k7K36
2100W	Water to Air-cooled Refrigeration	SMC HRS024-AN-20-T	HXWS0-2k1K41
3000W	Water to Air Heat Exchanger	Laird WL3004	HXWS0-3k0K37
3000W	Water to Water Heat Exchanger	Laird WW3001	HXWS0-3k0k39
4500W	Oil to Air Heat Exchanger	Laird OL4503	HXWS0-4k5k38

Accessories and Options

Portable Source Accesories

- Compact form factor
- Oil based insulation for efficient thermal dissipation
- Advanced HV design optimized for performance reliability
- Plug and play compatibility with major probe brands
- Filament supply contolled by closed-loop emission current control

Battery pack

Charging Station

Adapter

Generator shown with protective cover and handle

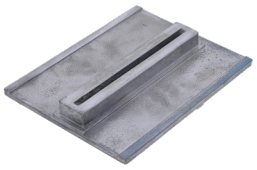
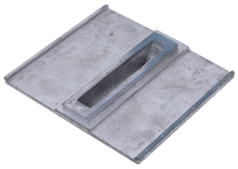
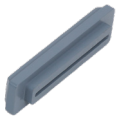
Laser Alignment Guide

Transport Case

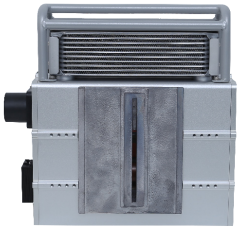
Item	Description
AS3001-319M	Battery pack (inc. 24V LiFeO4 battery)
AS3001-320M	Charging Station
EP3000 - 008P	Adapter
DS3000-041M	Protective Cover and Handle
DB3000-122M	Tripod Mount
DS3000-106M	Laser Alignment Guide
EJ3000-100P	Antenna
JP3000-019P	Transport Case

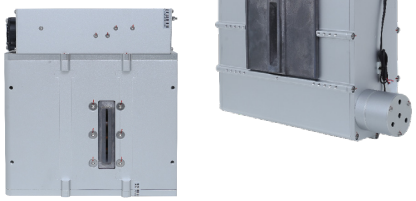
Generator shown mounted on tripod

Collimators

Item	Description	Image
DF3000-009	Asymmetrical Fan Beam 80˚, 160kV with Flange	
DF3000-096	Symmetrical Fan Beam 75˚, 160kV	
DF3000-111	Symmetrical Fan Beam 62˚, 100kV	

Collimator on Generator





Accessories and Options

Recommended Kit for Electronic Protection

EMI Filter

Isolation Transformer

- Protects electronics from external factors, such as input power instability, transient surge, or electromagnetic disruption
- Recommend every system to equip with adequate isolation transformer and EMI filter, Consult with VJX sales for recommended kit.

EC3000-158	Filter, EMI
ET3000-122	Isolation Transformer, for 100W
ET3000-123	Isolation Transformer, for 150W
ET3000-124	Isolation Transformer, for 200W
ET3000-125	Isolation Transformer, for 500W
ET3000-135	Isolation Transformer, for 200kV/500W
ET3000-142	Isolation Transformer, for 160kV/800W

Transport Cases

- Rugged and reusable
- Ideal for field use and repair center for product transport

JP3000-005	Case for IXS 160kV	543x543x393mm
JP3000-018	Case for IXS 100kV	390x390x330mm
JP3000-019	Case for IXS 120kV Portable	400x370x195mm

Contact Us

Our
Offices

New York,USA

95 Carlough Rd
Bohemia, NY 11716
Tel: +1 631 589 8800
Fax: +1 631 589 8992

Suzhou,China

428 Xinglong St.
SIP, Suzhou, Jiangsu,215126
Tel: +86 512 6283 1283

Want to learn more about how we can help?

Reach out to us directly!

www.vjxray.com | info@vjxray.com

Sales Support:
sales@vjxray.com

Purchase Order Mailbox:
send POs to
orders@vjxray.com

Customer Service:

USA | service@vjxray.com
China | vjxservice@vjxray.cn

REVISION 7