

RAXON100HPO is an industrial X-ray source for producing a beam of high intensity X-rays with small focal spot and high stability which ensures uniform beam intensities and dose rate throughout its fan/cone-shaped beam. Stable voltage and electrical power applied to X-ray tube guarantees stable dose exposure and high-quality images in digital radiography applications.

Applications

Industrial Radiography
X-ray Imaging
X-ray Irradiation
Non-Destructive Testing
Food Inspection
Security Inspection
Densitometry and Thickness Measurement

Specifications

X-ray Characteristics

Tube Type

Stationary anode, Glass tube, Tungsten target, Be filter

Focal Spot

0.5 mm (IEC 336)

Beam Filter

2 mm thick 6061 Al, ± 0.01

Beam Geometry

Symmetrical fan up to $50^\circ \times 30^\circ$, cone up to 40° (Optional)

Input Voltage

220 ± 10 Vac, 50/60Hz, 3A maximum

X-ray Tube Voltage

Nominal X-ray tube voltage is adjustable between 60kV to 110kV.

X-ray Tube Current

0.1 - 6 mA

X-ray Tube Power

600W, continuous mode (can be increased on customer's demand)

Voltage Regulation

Line: $\pm 0.1\%$ for a $\pm 10\%$ input line change of nominal input line voltage

Load: $\pm 0.1\%$ for a 0.1mA to 6mA load change

Voltage Accuracy

Voltage measured across the X-ray tube is within $\pm 2\%$ of the programmed value

Voltage Risetime

Ramp time shall be < 200 ms from 10% to 90% of rated output

Voltage Overshoot

Within 5% of rated voltage in < 10 ms

Voltage Ripple

1% pp of rated

Current Regulation

Line: $\pm 0.1\%$ for a $\pm 10\%$ input line change of nominal input line voltage

Load: 0.5% @ 60-110kV, 0.1mA to 6mA

Current Accuracy

Current measured through the X-ray tube is within $\pm 2\%$ of the programmed value

Current Risetime

< 200 ms from 10% to 90% of rated output



Arc Intervention

4 arcs in 10 seconds with a 200ms quench = Shutdown

Filament Configuration

Internal high frequency AC filament drive with closed loop filament emission control

Digital Interface

RS-232/USB/Ethernet Interface selectable port

Control Software

A demo GUI for engineering evaluations will be provided for the RS-232/USB/Ethernet digital interface and Encoded Command Port for customized software

Emergency Stop

A physical emergency stop is embedded for prompt shut down in case of emergency independent of software and microcontroller modules

Operating Temperature

0°C to +40°C

Storage Temperature

-40°C to +70°C

Humidity

10% to 95% relative humidity, non-condensing

Tube Cooling

Oil circulation and cooling (Optional)

Motherboard Cooling

Natural convection augmented by customer provided 250cfm cooling fans for continuous operation (Oil cooling circulation, Optional)

Input Power Line Connector

Standard 3pin Line-Null-Earth connector

Dimensions

565mm X 300mm X 267mm

Weight (Approx.)

23 kg

Installation Orientation

Can be mounted in any orientation.

Beam Orientation

Beam divergence angle:
50 degrees Symmetrical

X-ray Leakage

Not to be greater than 1mR/hr at 100cm outside the external surface

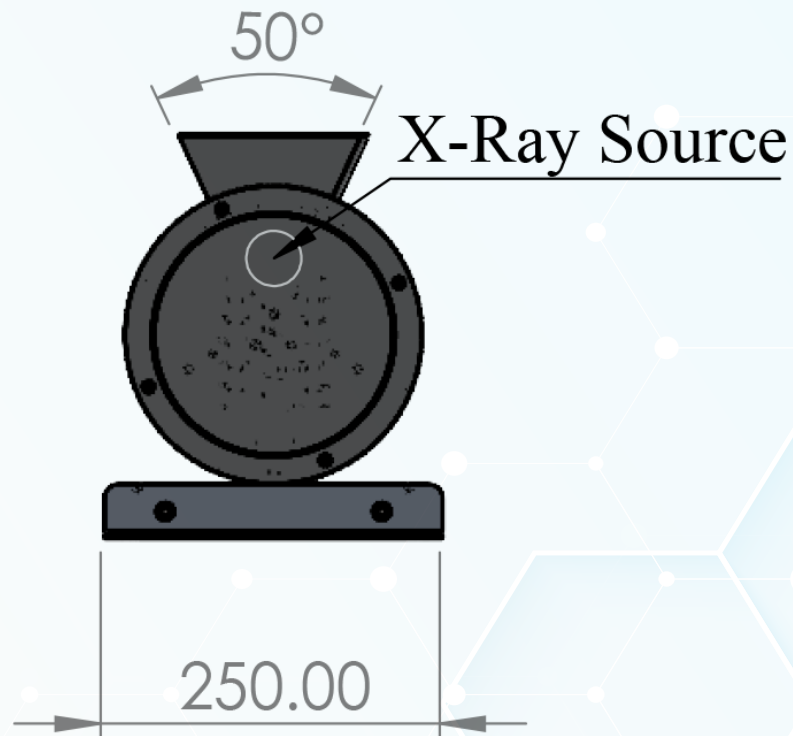
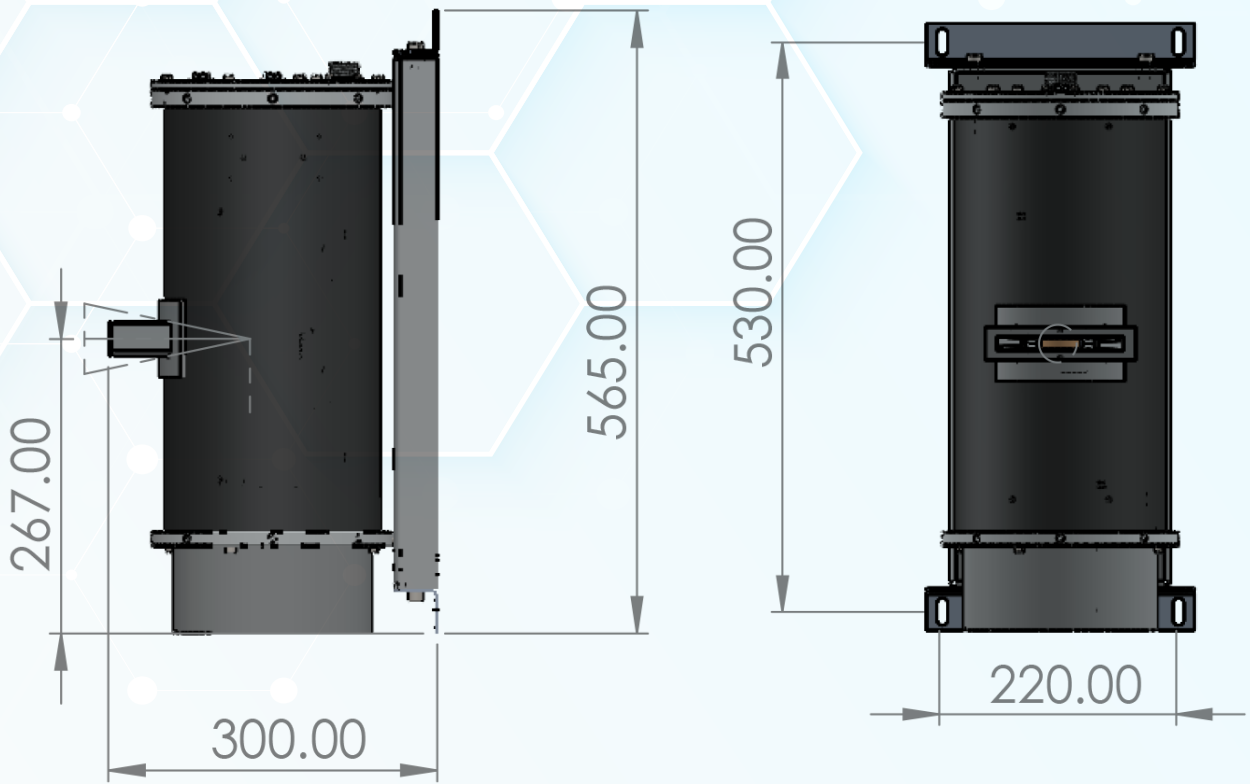
Ultra-Low Leakage Dose Option

ULLD option is available on request. For this option, radiation leakage will be less than 0.5mR/hr at 5cm outside the external surface

Accessories

RS-232/USB connection cable
Ethernet connection cable
User Manual
Software
Fan Beam External Collimator (Cone Beam optional)

RAXON100HPO



Dimensions are in millimeters