

**RAXON160HPB** is a high-power 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 systems.

## Applications

Industrial Radiography  
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

0.8mm (IEC 336)

#### Beam Filter

3mm thick 6061 Al,  $\pm 0.01$

#### Beam Geometry

Symmetrical fan up to  $80^\circ \times 30^\circ$ , cone up to  $40^\circ$  (Optional)

### Input Voltage

$220 \pm 10\%$  Vac, 50/60Hz, 5A maximum

### X-ray Tube Voltage

Nominal X-ray tube voltage is adjustable between 80kV to 160kV with 10kV step.

### X-ray Tube Current

0.2mA to 4mA over specified tube voltage range

### 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 0.2mA to 4mA 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  $< 200\text{ms}$  from 10% to 90% of rated output

### Voltage Overshoot

Within 5% of rated voltage in  $< 10\text{ms}$

### Voltage Ripple

1% pp of rated voltage @  $\leq 1\text{kHz}$

### Current Regulation

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

**Load:** 0.5% @ 80-160kV, 0.2mA to 4mA

### Current Accuracy

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

### Current Risetime

$< 200\text{ms}$  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

## Motherboard Cooling

Natural convection augmented by customer provided 250cfm cooling fans for continuous operation

## Input Power Line Connector

Standard 3pin Line-Null-Earth connector

## Dimensions

600mm X 375mm X 265mm

## Weight (Approx.)

40 kg

## Installation Orientation

Can be mounted in any orientation.

## Beam Orientation

Beam divergence angle: 80degree while 20 Degree rotated centrally toward central part of the tube body.

## X-ray Leakage

Not to be greater than 1mR/hr at 50cm 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

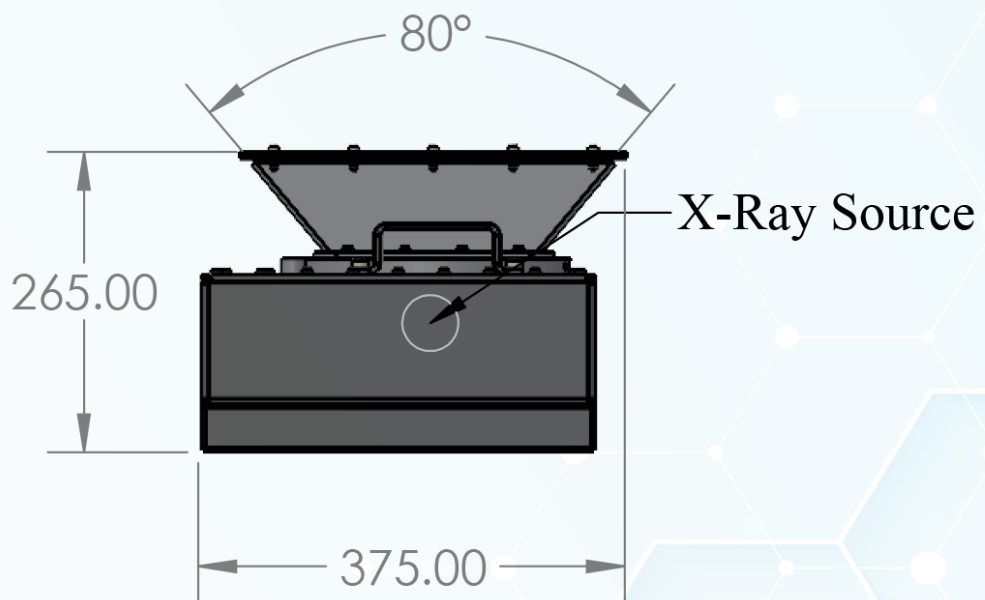
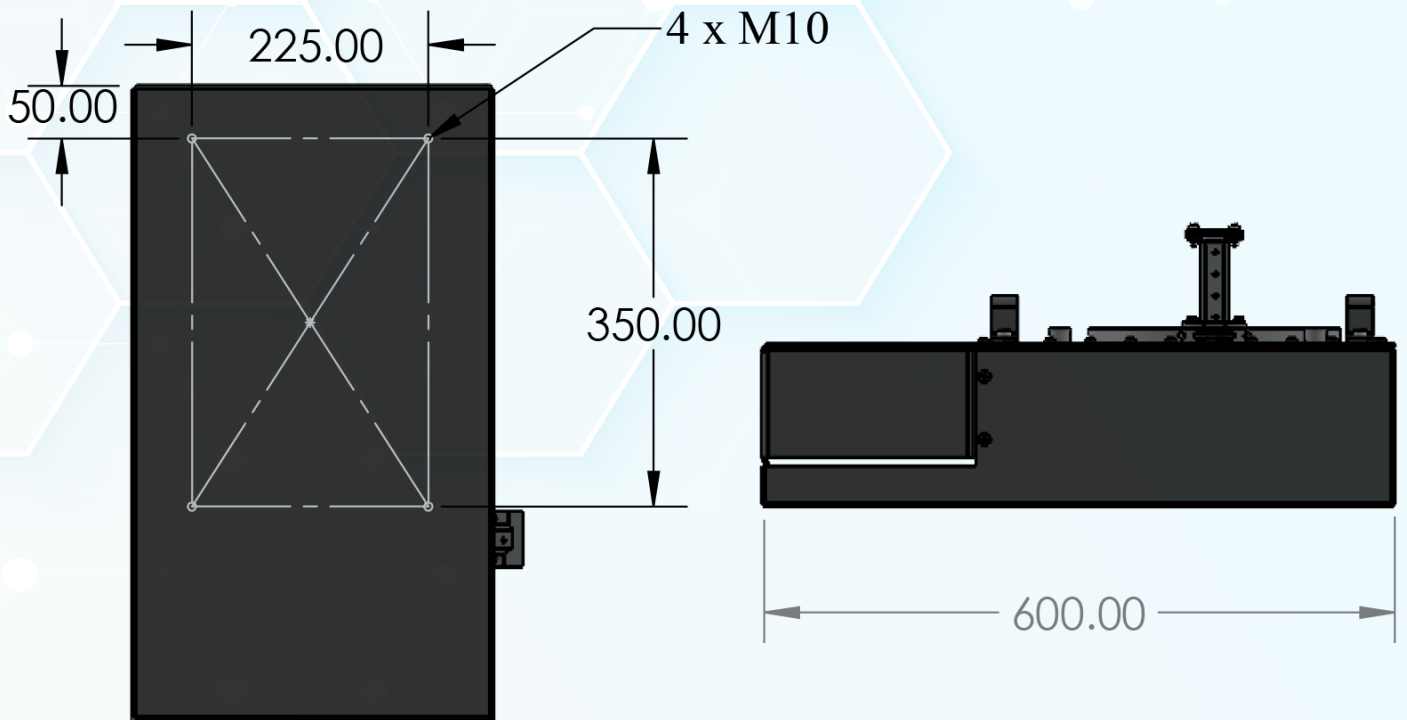
RS-232/USB connection cable

Ethernet connection cable

User Manual

Software

# RAXON160HPB



Dimensions are in millimeters