

**ROTANODE™  
E7833X**

**Rotating Anode X-ray Tube Assembly**

- ◆ The TOSHIBA XH-183 housing is developed for use in surgical C-arm application. It provides ease for use at a nominal patient table height.
- ◆ The heavy anode is constructed with specially processed rhenium-tungsten faced molybdenum target which has an improved coating to increase thermal emissivity.
- ◆ This tube has foci 0.6 and 0.3, and is available for a maximum tube voltage 125 kV.



**General Data**

**IEC Classification (IEC60601-1:2005+A1:2012) ..... Class I ME EQUIPMENT**

**Application ..... Diagnostic Radiography for Mobile C-arm**

**Electrical:**

Circuit:

High Voltage Generator ..... Constant Potential High-Voltage Generator  
 Grounding ..... Center-grounded

Nominal X-ray Tube Voltage:

Radiographic ..... 125 kV  
 Fluoroscopic ..... 125 kV

Nominal Focal Value:

Large Focus ..... 0.6  
 Small Focus ..... 0.3

Nominal Anode Input Power (at 0.1s):

	60 Hz	50 Hz
Large Focus .....	22 kW	20 kW
Small Focus .....	8 kW	7.4 kW

Nominal Radiographic Anode Input Power:

	60 Hz	50 Hz
Large Focus .....	21 kW	19 kW
Small Focus .....	7 kW	6 kW

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## Absolute Maximum and Minimum Ratings

(At any time, these values must not be exceeded.)

### Maximum X-ray tube Voltage:

Radiographic .....	125 kV
Fluoroscopic .....	125 kV

Between Anode (or Cathode) and Ground ..... 62.5 kV

Minimum X-ray Tube Voltage ..... 40 kV

Maximum X-ray Tube Current ..... See rating charts

Large Focus ..... 250 mA

Small Focus ..... 100 mA

### Maximum Filament Current:

Large Focus ..... 5.0 A

Small Focus ..... 4.1 A

### Filament Voltage:

Large Focus (At maximum filament current 5.0 A) ..... 10.1 ~ 12.3 V

Small Focus (At maximum filament current 4.1 A) ..... 6.6 ~ 8.8 V

Filament Frequency Limits ..... 0 ~ 25 kHz

Continuous Anode Input Power ..... 142 W (200 HU/s)

(Fluoroscopic, Radiographic or mixed exposure)

### Thermal Characteristics:

Anode Heat Content ..... 210 kJ (300 kHU)

Maximum Anode Heat Dissipation ..... 870 W (1226 HU/s)

X-ray Tube Assembly Heat Content ..... 1135 kJ (1600 kHU)

### Nominal Continuous Input Power:

Without Air-circulator ..... 177 W (15 kHU/min)

## Environmental Limits

### Operating Limits:

Temperature ..... 5 ~ 40°C

Humidity ..... 30 ~ 90 %

(No condensation)

Atmospheric Pressure ..... 70 ~ 106 kPa

### Shipping and Storage Limits:

Temperature ..... -10 ~ 75 °C

Humidity ..... 10 ~ 90 %

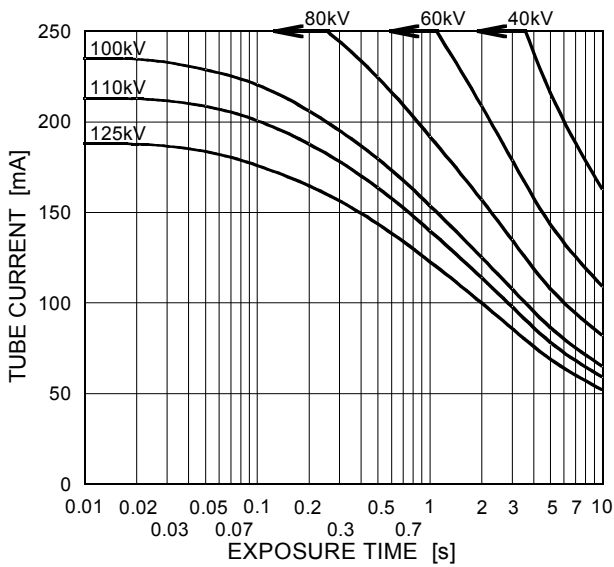
(No condensation)

Atmospheric Pressure ..... 50 ~ 106 kPa

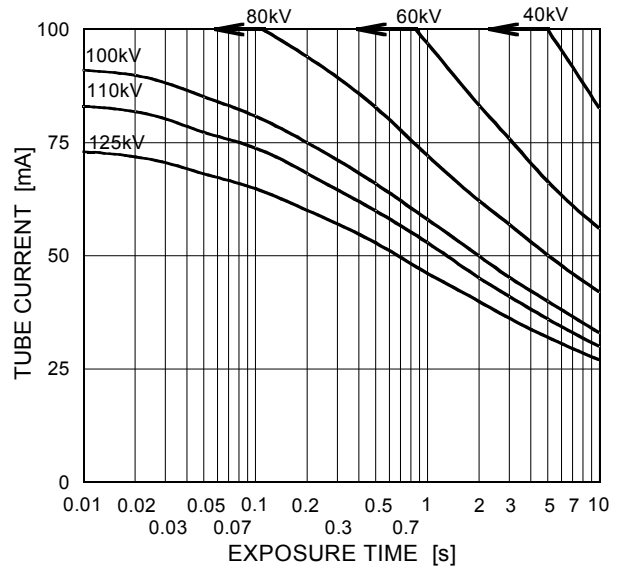
## Maximum Rating Charts (Absolute Maximum Rating Charts)

Conditions: Tube Voltage  
Constant Potential High-Voltage Generator  
Stator Power Frequency 60 Hz

Nominal Focal Spot Value: 0.6 ■

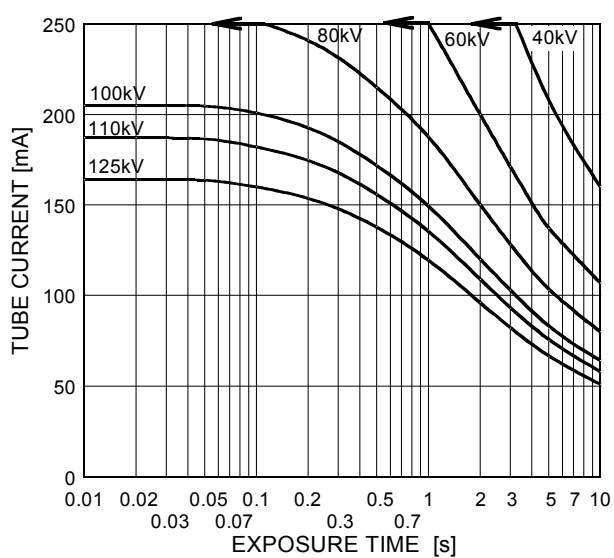


Nominal Focal Spot Value: 0.3 □

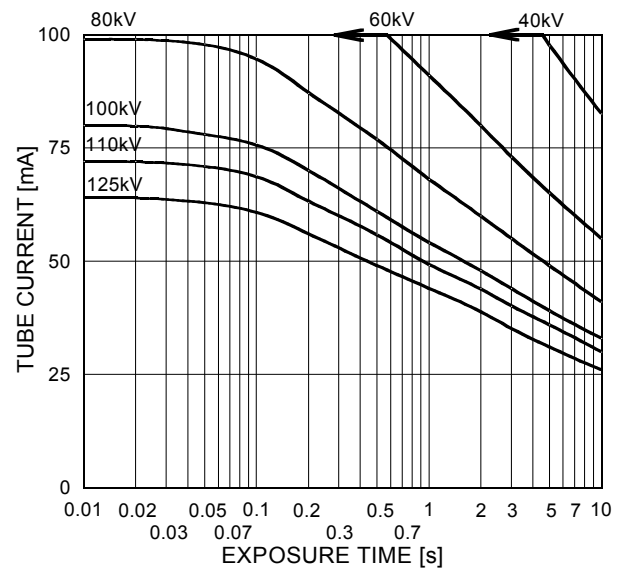


Conditions: Tube Voltage  
Constant Potential High-Voltage Generator  
Stator Power Frequency 50 Hz

Nominal Focal Spot Value: 0.6 ■



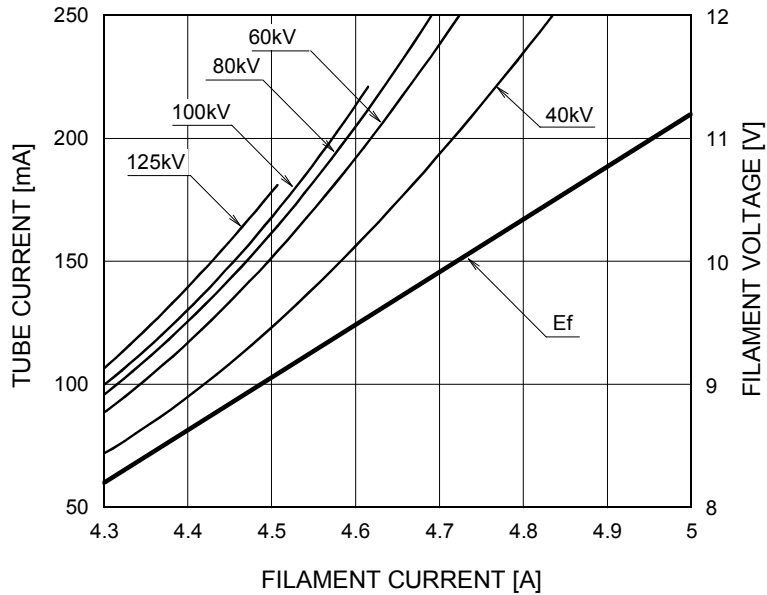
Nominal Focal Spot Value: 0.3 □



## Emission & Filament Characteristics

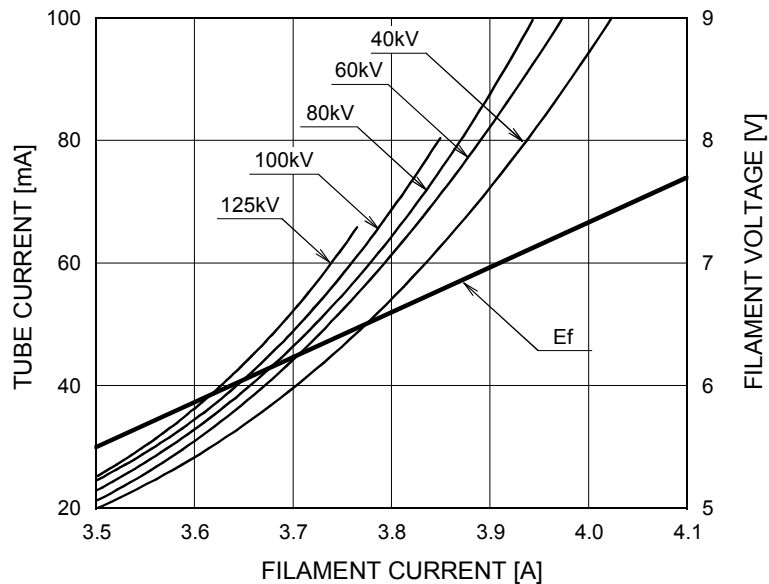
Constant Potential High-Voltage Generator

Nominal Focal Spot Value: 0.6 ■



For Reference Only

Nominal Focal Spot Value: 0.3 □

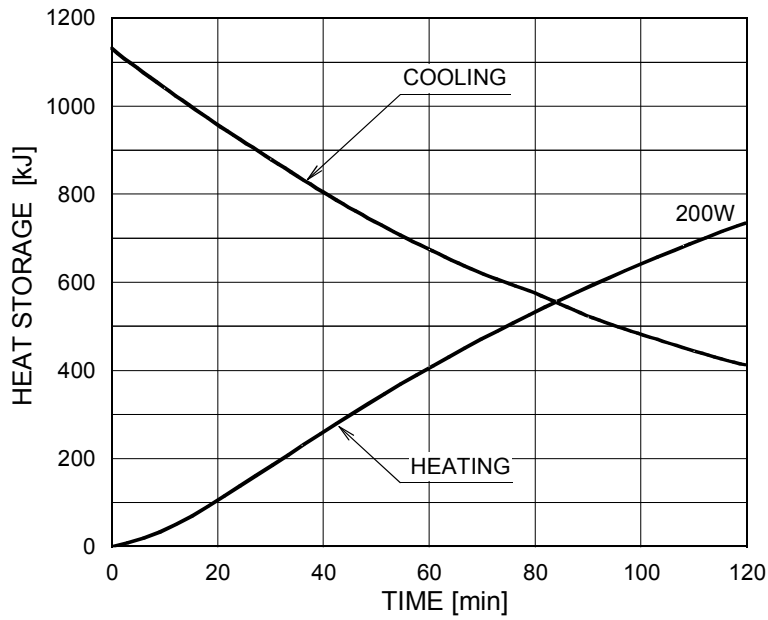


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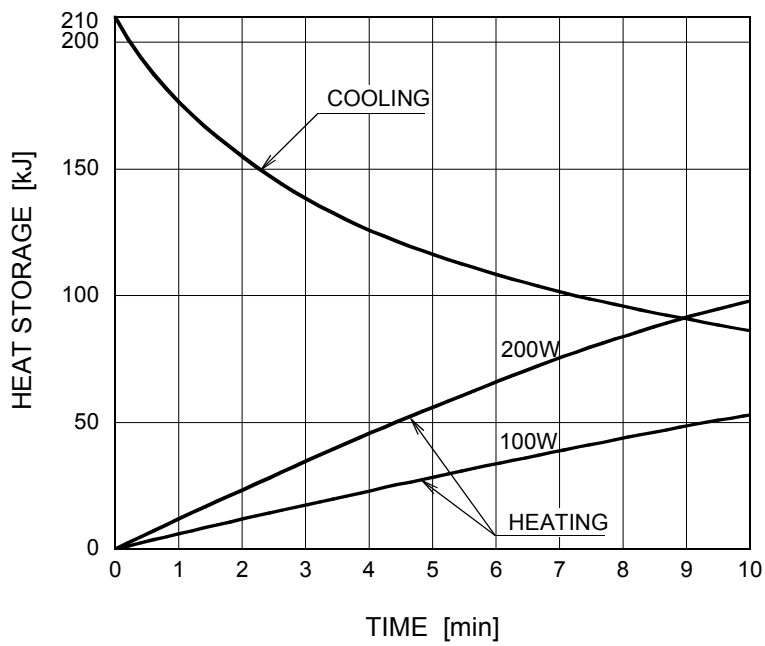
When using these emission curves for trial exposure, refer to the power rating curves shown for maximum KV, tube emission, filament current, exposure time, and target speed.

## Thermal Characteristics

X-ray Tube Assembly Heating / Cooling Curve

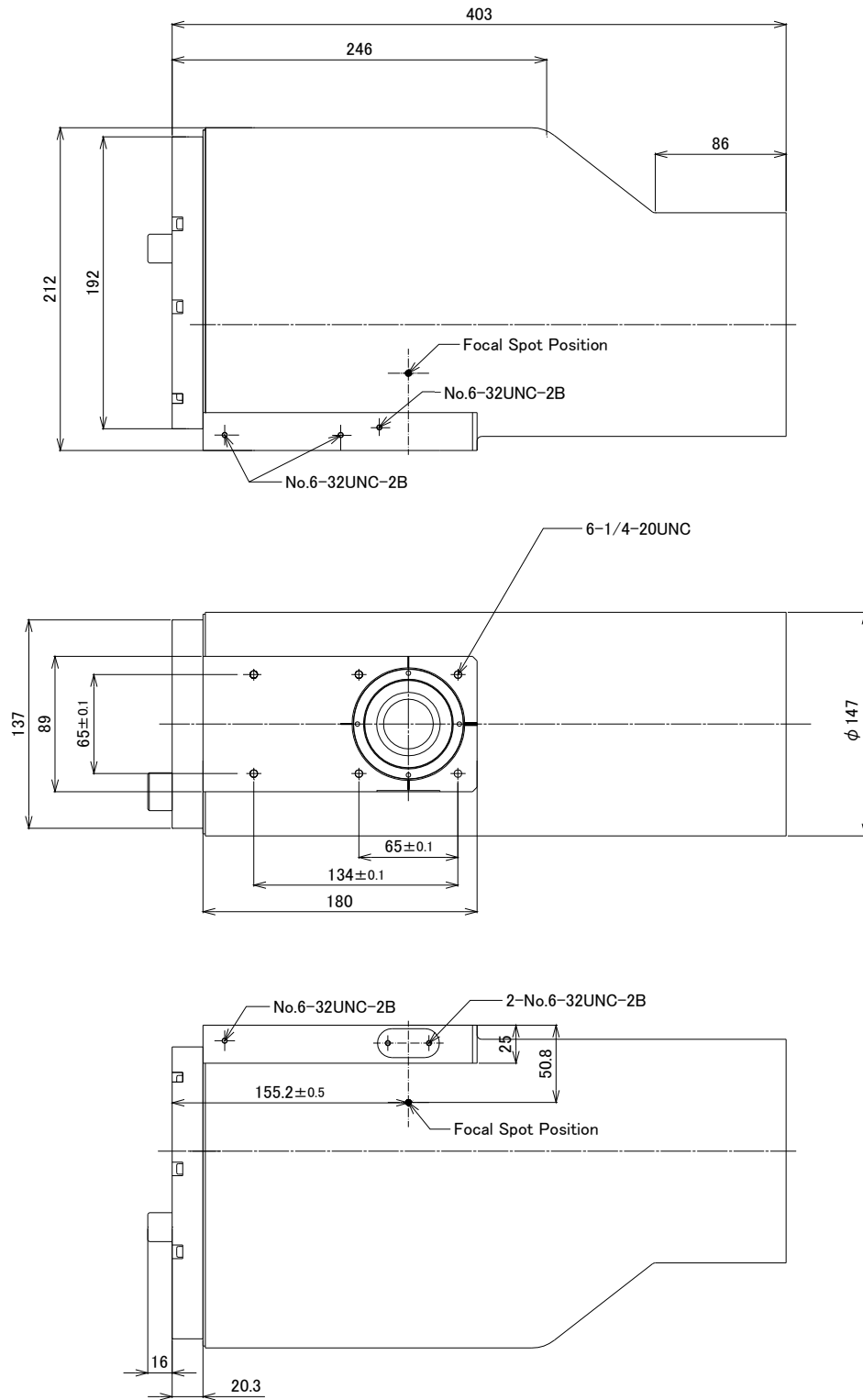


Anode Heating / Cooling Curve



### Dimensional Outline

Unit mm





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·The head office of Canon Electron Tubes & Devices Co., Ltd. has been certified to meet all the requirements of Environmental Management System ISO14001.  
·Canon Electron Tubes & Devices Co., Ltd. has been certified to meet all the requirements of Quality Management Systems ISO9001 and ISO13485.  
Product scope is referred to the following URL. <https://etd.canon/eng/company/quality.htm>.