

**ROTANODE™  
XRR-2251**

**Rotating Anode X-ray Tube**

- ◆ Rotating anode X-ray tube for the purpose of general diagnostic X-ray procedures.
- ◆ Specially processed Rhenium-tungsten faced molybdenum target of 62 mm diameter.
- ◆ This tube has foci 0.6 and 0.3, and is available for a maximum tube voltage 130 kV.



**General Data**

**Application** ..... **General Radiography**

**Electrical:**

Circuit:

High Voltage Generator ..... Constant Potential High-Voltage Generator

Grounding ..... Center-Grounded

Nominal X-ray Tube Voltage:

Radiographic ..... 130 kV

Nominal Focal Spot Value:

Large Focus ..... 0.6

Small Focus ..... 0.3

Nominal Anode Input Power (at 0.1s) ..... See rating charts

60 Hz 50 Hz

Large Focus ..... 18.6 kW 17 kW

Small Focus ..... 5.4 kW 5 kW

Nominal Radiographic Anode Input Power:

60 Hz 50 Hz

Large Focus ..... 16.4 kW 15 kW

Small Focus ..... 3.8 kW 3.5 kW

Anode Speed:

60 Hz ..... Minimum 3200 min<sup>-1</sup>

50 Hz ..... Minimum 2700 min<sup>-1</sup>

Mode of Operation ..... Intermittent

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**Mechanical:**

Dimensions .....	See dimensional outline
Overall Length .....	200 mm
Maximum Diameter .....	81 mm
Target:	
Anode Angle .....	10 degrees
Diameter .....	62 mm
Construction .....	Rhenium-Tungsten faced Molybdenum
Inherent Filtration.....	At least 0.7 mm Al at 75 kV
Weight (Approx.) .....	1.3 kg
Cooling Method .....	Oil immersed (80°C Max.) and convection oil cooling

**Absolute Maximum and Minimum Ratings**  
**(At any time, these values must not be exceeded.)**

Maximum X-ray Tube Voltage:	
Radiographic .....	130 kV
Between Anode (or Cathode) and Ground .....	65 kV
Minimum X-ray Tube Voltage .....	50 kV
Maximum X-ray Tube Current .....	See rating charts
Large Focus .....	360 mA
Small Focus .....	110 mA
Maximum Filament Current:	
Large Focus .....	4.8 A
Small Focus .....	5.3 A
Filament Voltage:	
Large Focus (At maximum filament current 4.8 A) .....	7.81 ~ 10.57 V
Small Focus (At maximum filament current 5.3 A) .....	3.30 ~ 4.46 V
Filament Frequency Limits .....	0 ~ 25 kHz
Continuous Anode Input Power .....	120 W (164 HU/s)
Thermal Characteristics:	
Anode Heat Content .....	150 kJ (210 kHU)
Maximum Anode Heat Dissipation .....	400 W (560 HU/s)

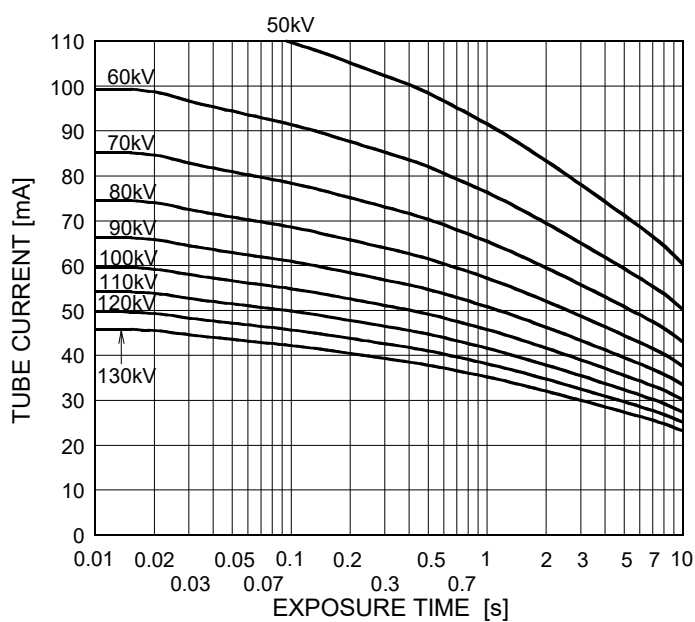
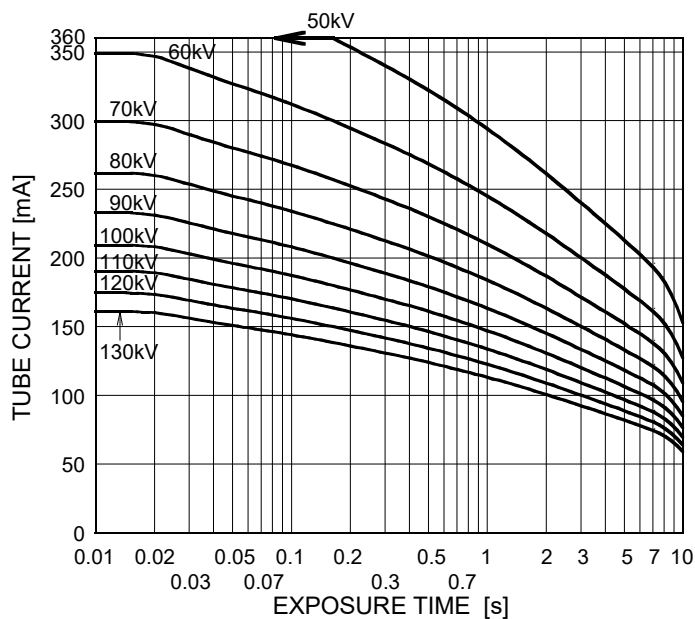
**Environmental Limits**

Operating Limits (in dielectric oil):	
Oil Temperature .....	10 ~ 80 °C
Oil Pressure .....	70 ~ 140 kPa
Shipping and Storages Limits:	
Temperature .....	-20 ~ 70 °C
Humidity .....	20 ~ 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

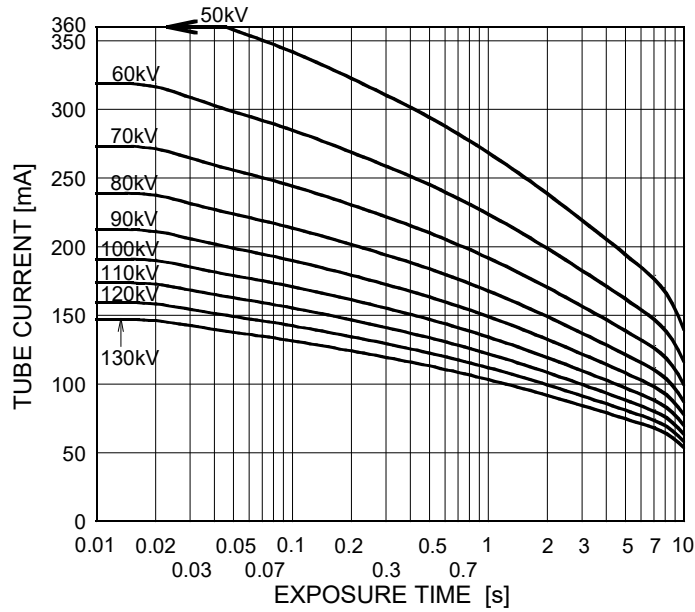
Nominal Focal Spot Value: 0.6 ■



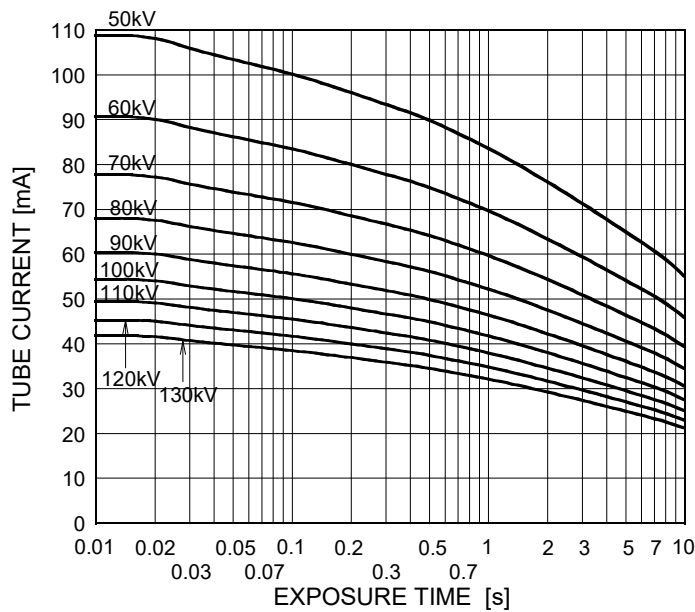
## Maximum Rating Charts (Absolute Maximum Rating Charts)

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

Nominal Focal Spot Value: 0.6 ■



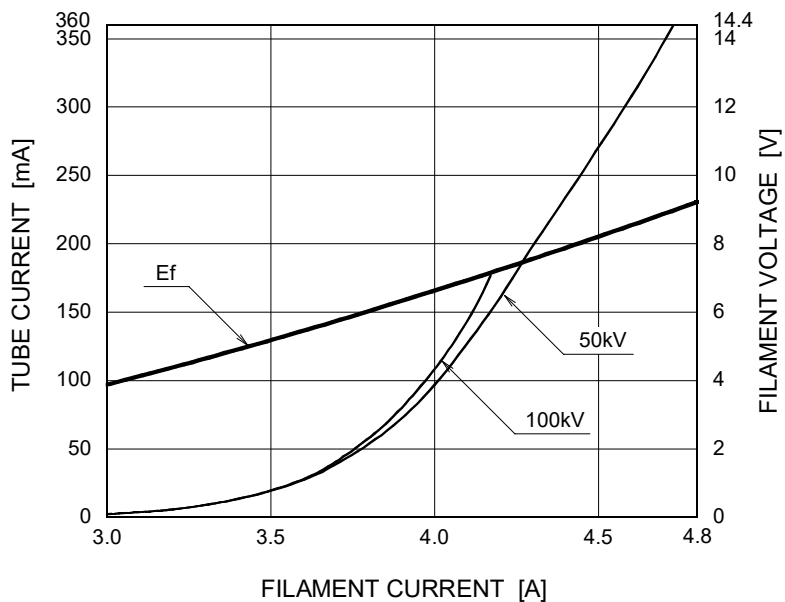
Nominal Focal Spot Value: 0.3 □



## Emission & Filament Characteristics

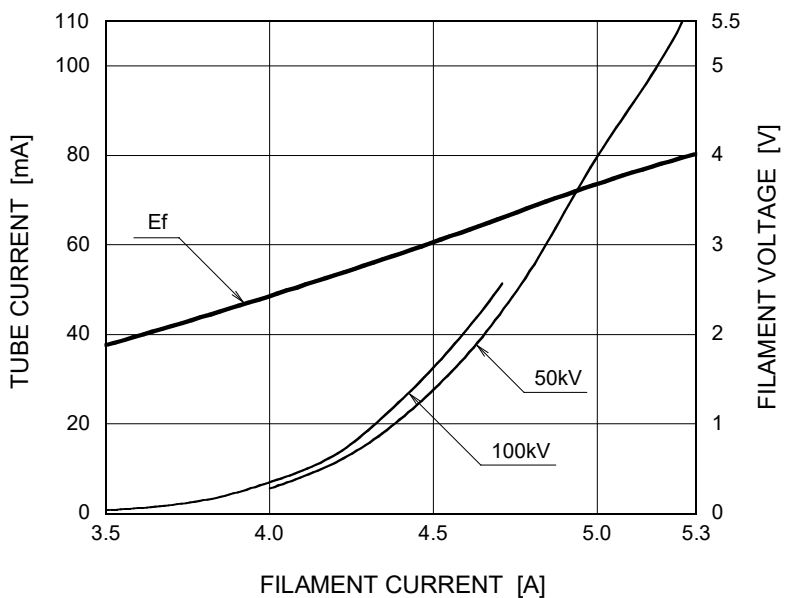
Constant Potential High-Voltage Generator

Nominal Focal Spot Value: 0.6 ■



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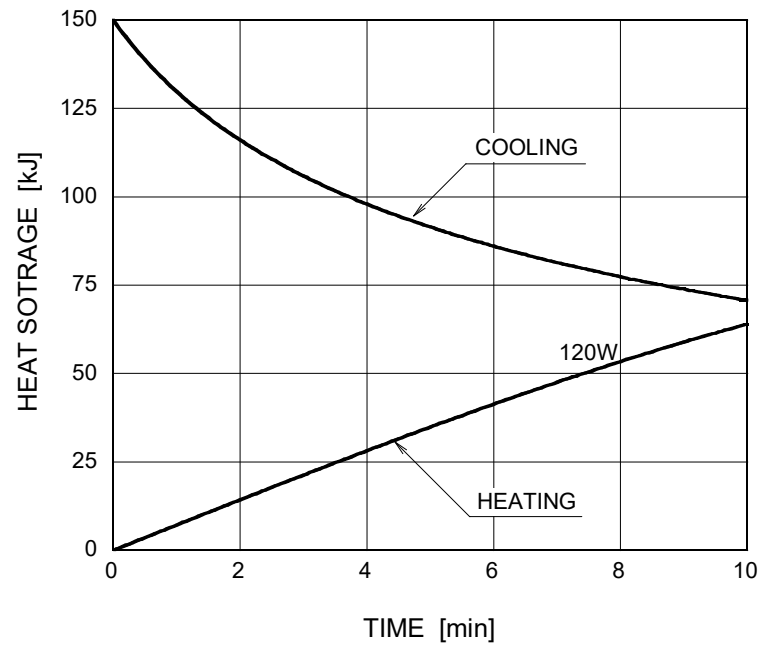
Nominal Focal Spot Value: 0.3 □



For Reference Only

## Thermal Characteristics

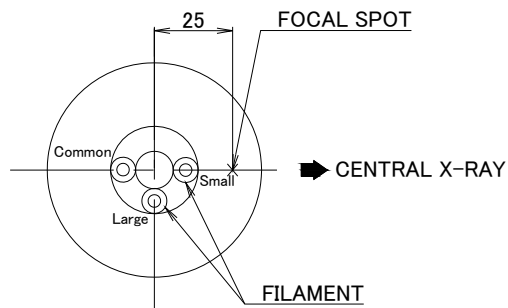
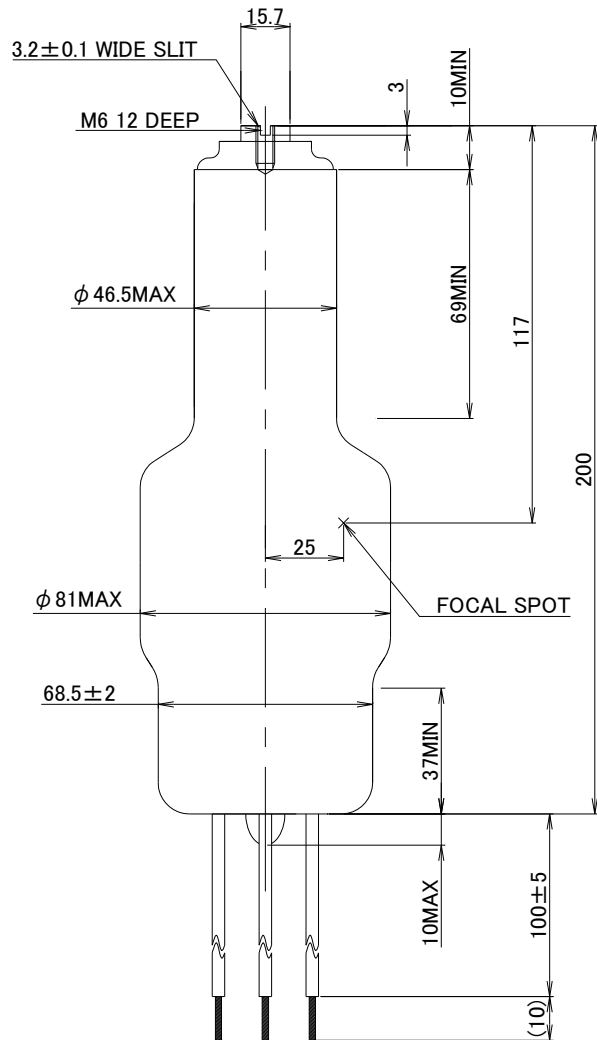
Anode Heating / Cooling Curve



The heating curves are showing examples of average input power to anode in operation.

### Dimensional Outline

Unit mm



Common : Yellow  
 Large Focal Spot : Blue  
 Small Focal Spot : Red

Note: Each Cathode lead wire is insulated with colored vinyl pipe.

