

**X-RAY TUBE
DF-161SBR**

Stationary Anode X-ray Tube

- ◆ Especially designed for mobile type surgical X-ray TV apparatus.
- ◆ Provided with an insulation cylinder and lead cylinder.
- ◆ This tube has focus 1.6, and 0.5 foci and is available for maximum tube voltage 125 kV.
- ◆ Installed in the same enclosure with the high voltage transformer.

General Data

Electrical:

Circuit:

High Voltage Generator	Constant Potential High-Voltage Generator
Grounding	Center grounded
Nominal X-ray Tube Voltage	125 kV
Nominal Focal Spot Value:	
Large Focus	1.6
Small Focus	0.5
Nominal Anode Input Power (at 1.0s)	See Rating Chart
Large Focus	4000 W
Small Focus	700 W
Nominal Radiographic Anode Input Power:	
Large Focus	4100 W
Small Focus	720 W
Exposure Duty Cycle:	
Large Focus	1:40
Small Focus	1:20

(Exposure Time : Interval time)

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Mechanical:

Dimensions:

Overall Length See dimensional outline

Maximum Diameter See dimensional outline

Target:

Anode Angle 16 degrees

Material Tungsten

Inherent Filtration At least 0.8 mm Al at 50 kV

X-ray Coverage 430 × 430 mm at SID 909 mm

Weight Approx. 1100 g

Cooling Method Oil immersed (60°C Max.) and convection oil cooling.

Tube Holding: Holding the insulation cylinder or the lead cylinder

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

Maximum X-ray Tube Voltage 125 kV

Between Anode (or Cathode) and Ground 62.5 kV

Minimum X-ray Tube Voltage 40 kV

Maximum X-ray Tube Current:

Large Focus 60 mA

Small Focus 15 mA

Maximum Filament Current:

Large Focus 4.3 A

Small Focus 3.1 A

Filament Voltage: (At Maximum Filament Current)

Large Focus 5.0 ~ 6.4 V

Small Focus 3.5 ~ 4.9 V

Filament Frequency Limits DC or AC (Sine Wave) 0 ~ 20 kHz

Thermal Characteristics: (See Anode Thermal Characteristics)

Anode Heat Content 35.5 kJ

Maximum Anode Heat Dissipation Rate 600 W

Maximum Radiographic Exposure Time 10 s

Maximum Fluoroscopic Duration 600 W - 20 minutes

Environmental Limits

Operating Limits (in dielectric oil):

Oil Temperature 10 ~ 60°C

Oil pressure 70 ~ 140 kPa

Shipping and Storage Limits:

Temperature -40 ~ 70°C

Humidity 10 ~ 90 %

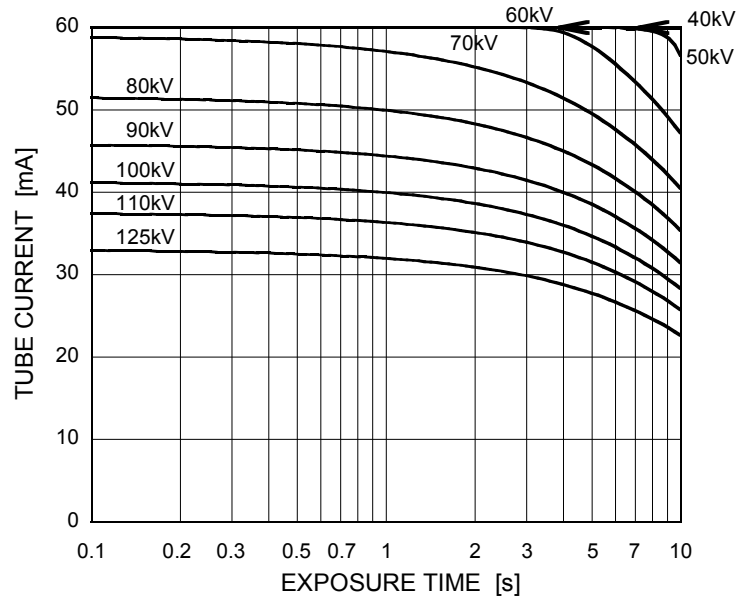
(No condensation)

Atmospheric Pressure 50 ~ 106 kPa

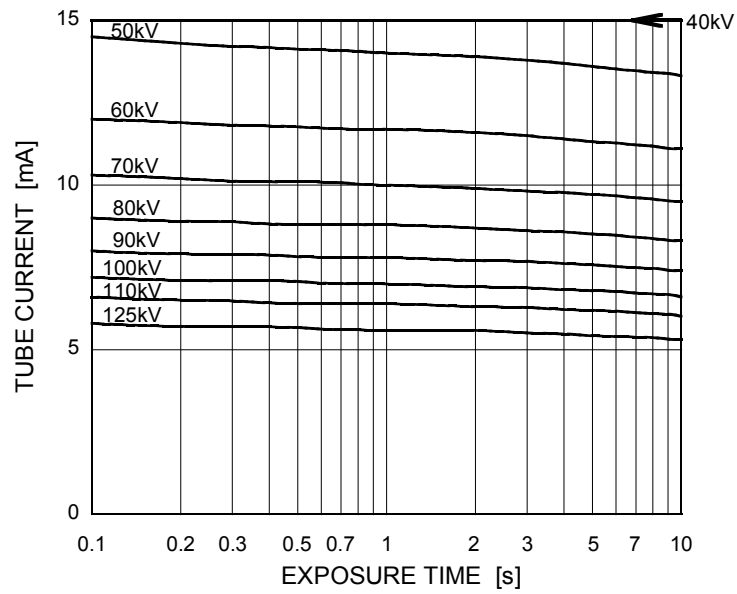
Maximum Rating Charts (Absolute maximum rating charts)

Constant Potential High-Voltage Generator

Nominal Focal Spot Value: 1.6 ■



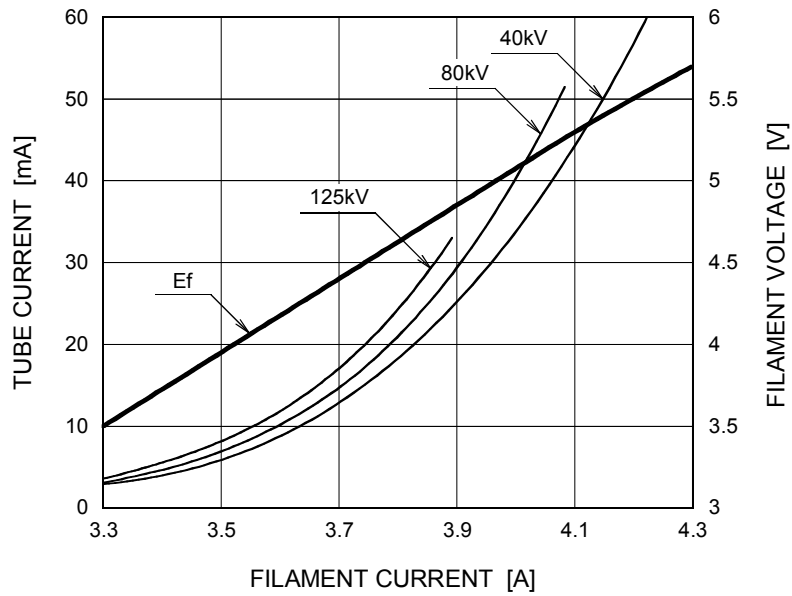
Nominal Focal Spot Value: 0.5 □



Emission & Filament Characteristics

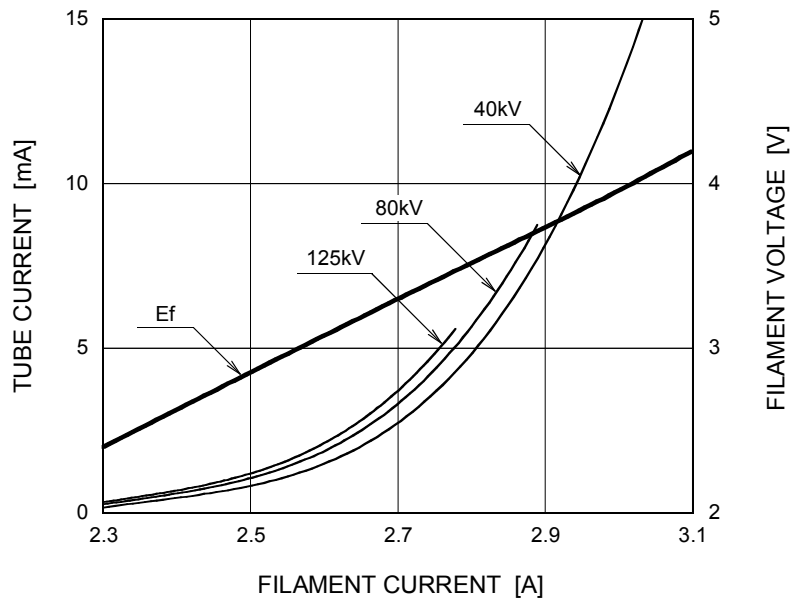
Constant Potential High-Voltage Generator

Nominal Focus Spot Value: 1.6 ■



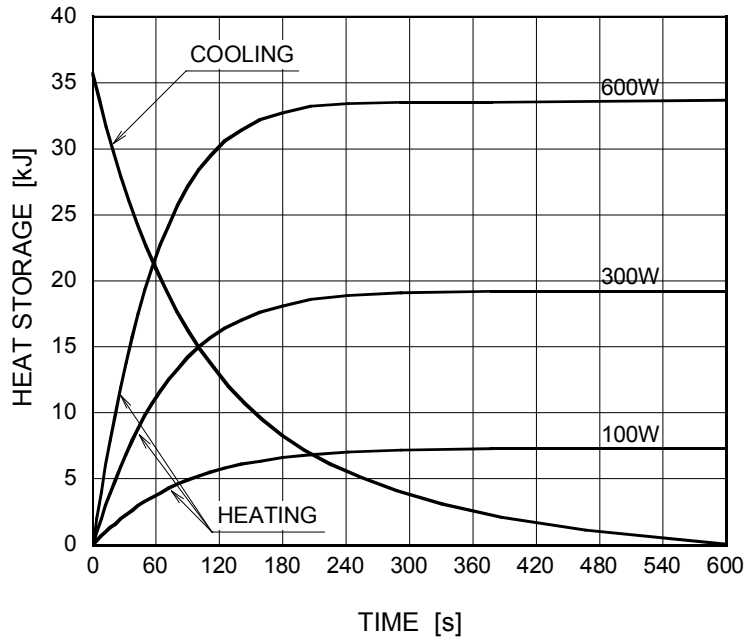
This graph indicates typical characteristics.

Nominal Focus Spot Value: 0.5 □



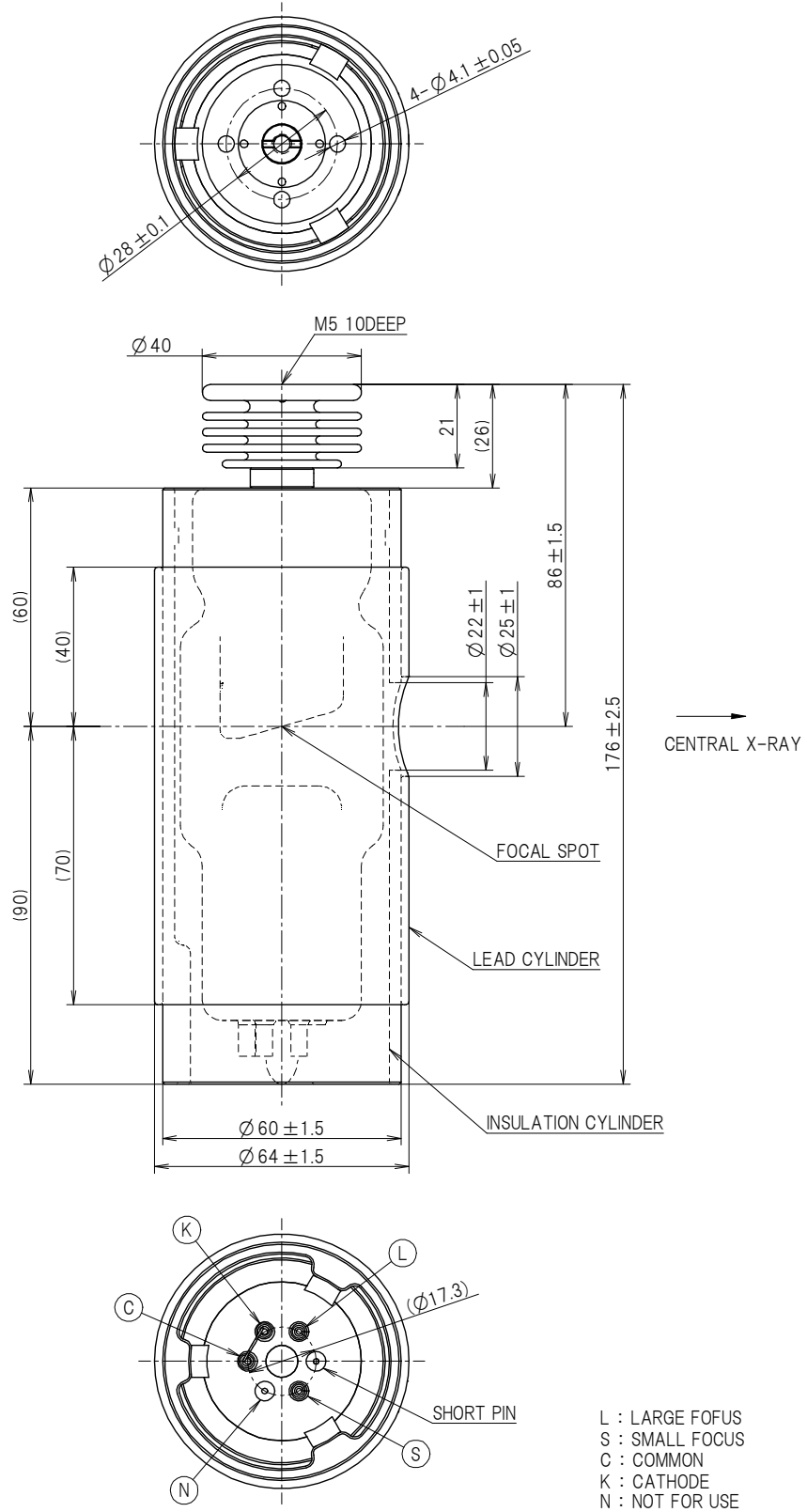
This graph indicates typical characteristics.

Anode Heating / Cooling Curve



Dimensional Outline

Unit: mm



- L : LARGE FOCUS
- S : SMALL FOCUS
- C : COMMON
- K : CATHODE
- N : NOT FOR USE



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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.
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Product scope is referred to the following URL. <https://etd.canon/eng/company/quality.htm>.