

X-RAY TUBE
D-0510
D-0510S
D-0510SB

Stationary Anode X-ray Tube

- ◆ Especially designed for dental radiography unit.
- ◆ Provided with an insulation cylinder (D-0510S) and lead cylinder. (D-0510SB)
- ◆ These tubes have 0.5 focus, and are available for maximum tube voltage 100 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	100 kV
Nominal Focal Spot Value	0.5
Nominal Anode Input Power (at 1.0s)	1270 W
Nominal Radiographic Anode Input Power	1270 W
Exposure Duty Cycle	1:60 or More

(Exposure Time : Interval Time)

Mechanical:

Dimensions:

Overall Length	See Dimensional Outline
Maximum Diameter	See Dimensional Outline

Target:

Anode Angle	10 degrees
Material	Tungsten
Inherent Filtration	At least 0.8 mm Al at 75 kV
X-ray Coverage	160 × 340 mm at SID 550 mm

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Weight:

D-0510	Approx. 320 g
D-0510S	Approx. 460 g
D-0510SB	Approx. 780 g

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

Tube Holding:

D-0510	Holding the glass envelope of the anode end and cathode end, or the screw of the anode shank.
D-0510S	Holding the insulation cylinder
D-0510SB	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	100 kV
Between Anode (or Cathode) and Ground	50 kV
Minimum X-ray Tube Voltage	50 kV
Maximum X-ray Tube Current	See Rating Charts
Constant Potential High-voltage Generator	22 mA
Maximum Filament Current	3.5 A
Maximum Filament Voltage	4.2 V
Filament Frequency Limits	DC or AC (Sine Wave) 0 ~ 20 kHz
Thermal Characteristics:	
Anode Heat Content	35 kJ
Maximum Anode Heat Dissipation	250 W
Maximum Radiographic Exposure Time	20 s

Environmental Limits

Operating Limits (In Dielectric Oil):

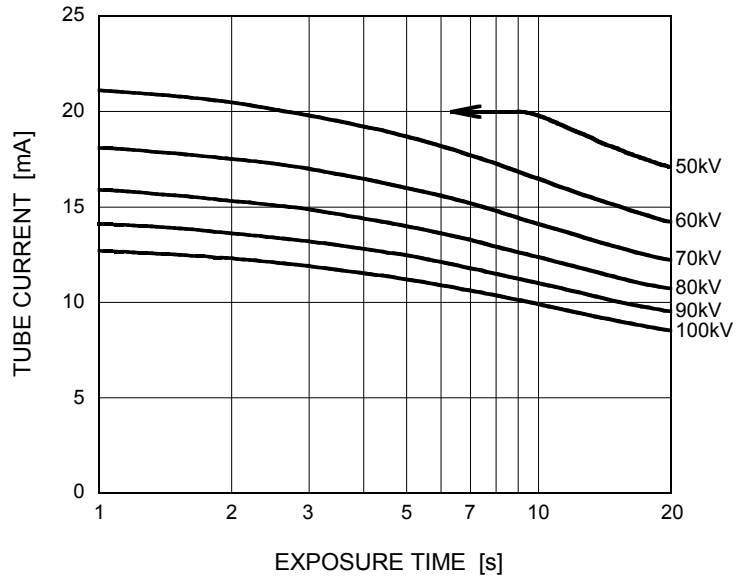
Oil Temperature	10 ~ 60 °C
Oil Pressure	70 ~ 140 kPa

Shipping and Storage Limits:

Temperature	-40 ~ 70 °C
Humidity	10 ~ 90 % (No Condensation)
Atmospheric Pressure	50 ~ 106 kPa

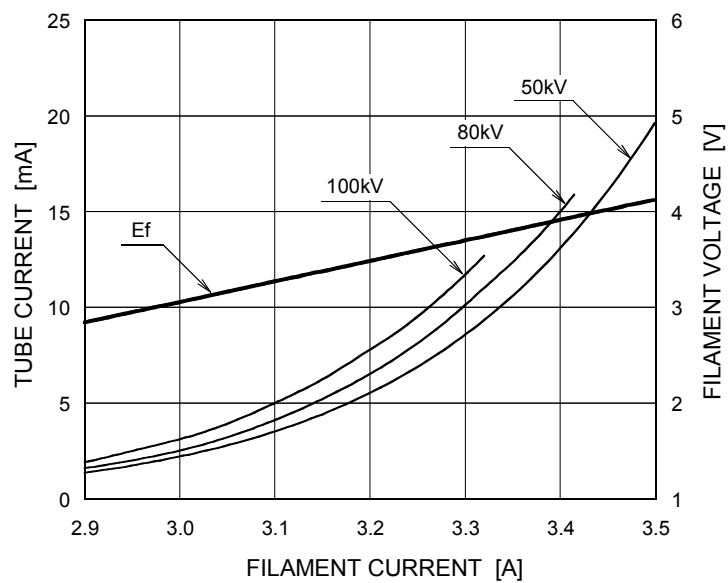
Maximum Rating Charts (Absolute maximum rating charts)

Constant Potential High-voltage Generator
Nominal Focal Spot Value: 0.5



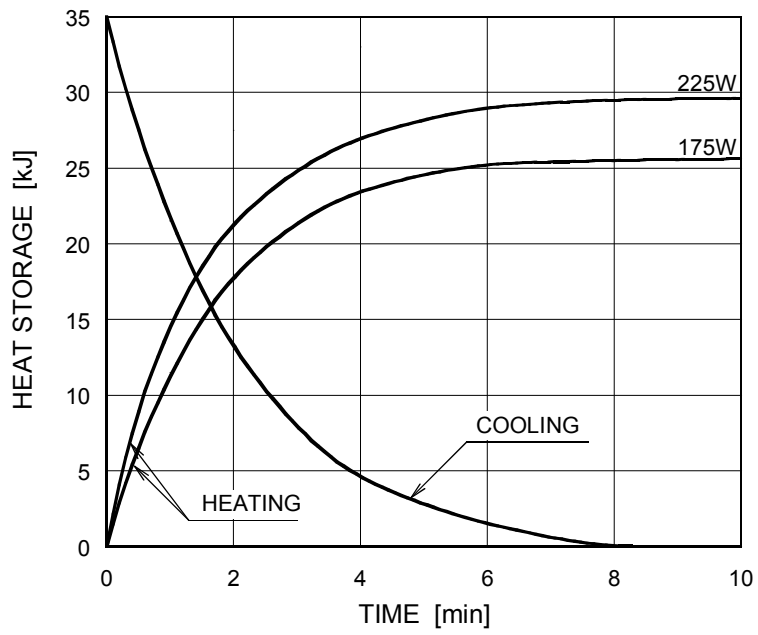
Emission & Filament Characteristics

Constant Potential High-voltage Generator
Nominal Focal Spot Value: 0.5



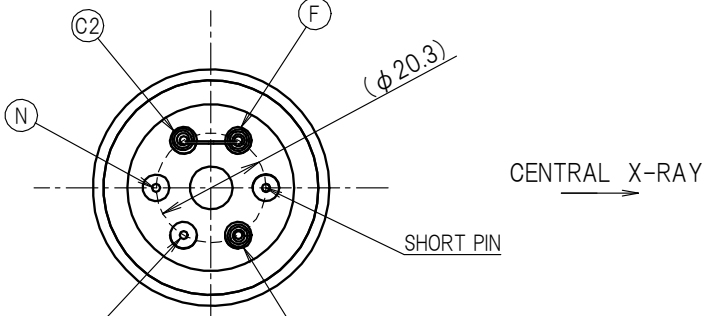
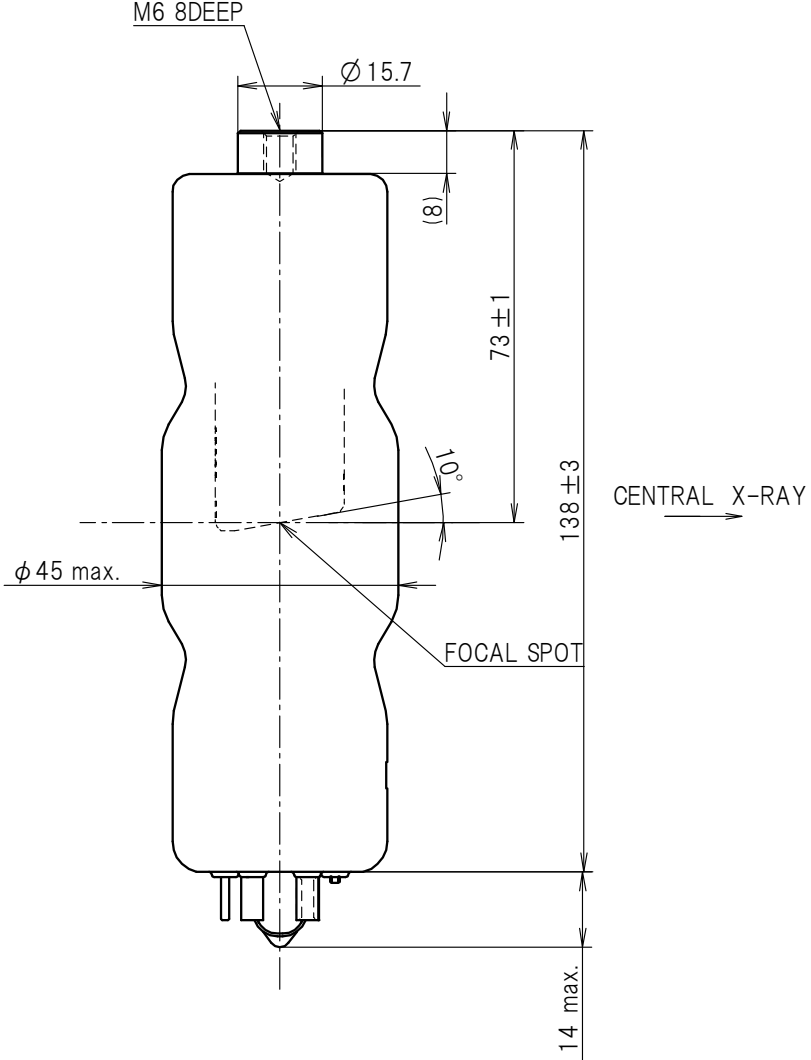
This graph indicates typical characteristics.

Anode Heating / Cooling Curve



Dimensional Outline of D-0510

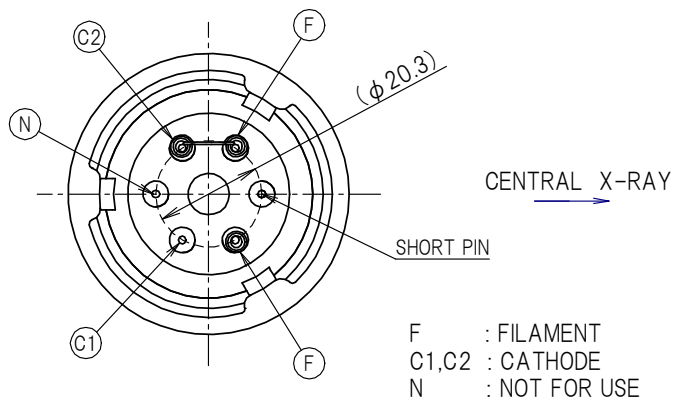
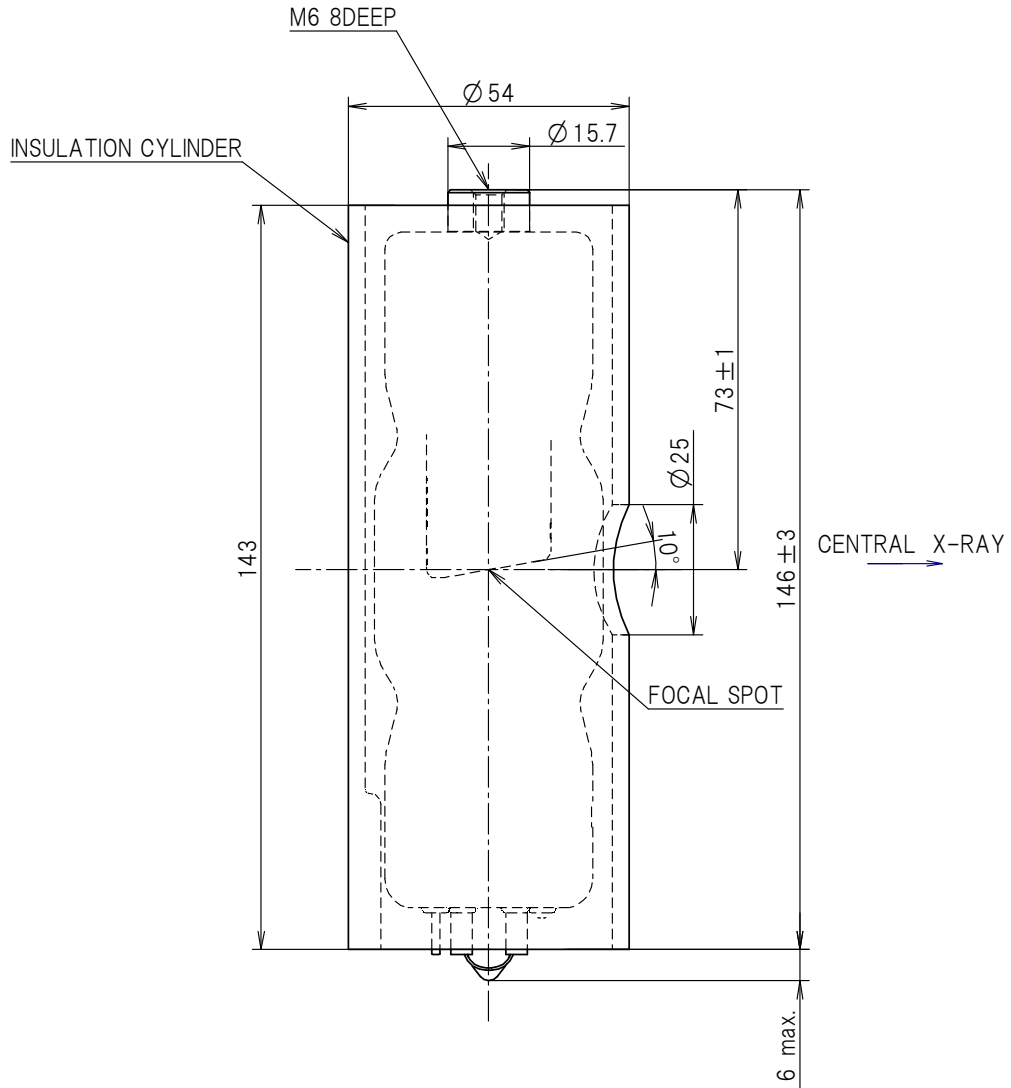
Unit: mm



- F : FILAMENT
- C1,C2 : CATHODE
- N : NOT FOR USE

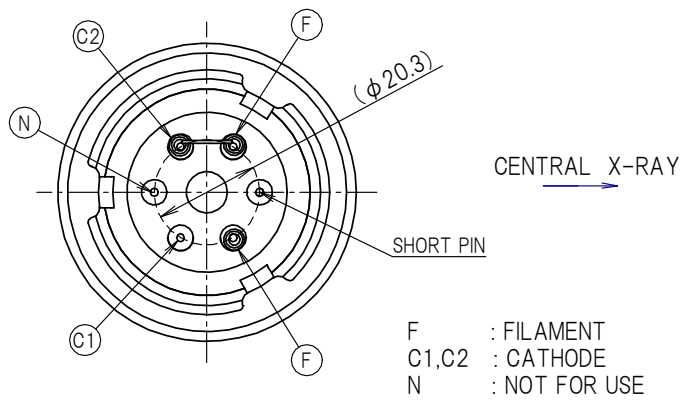
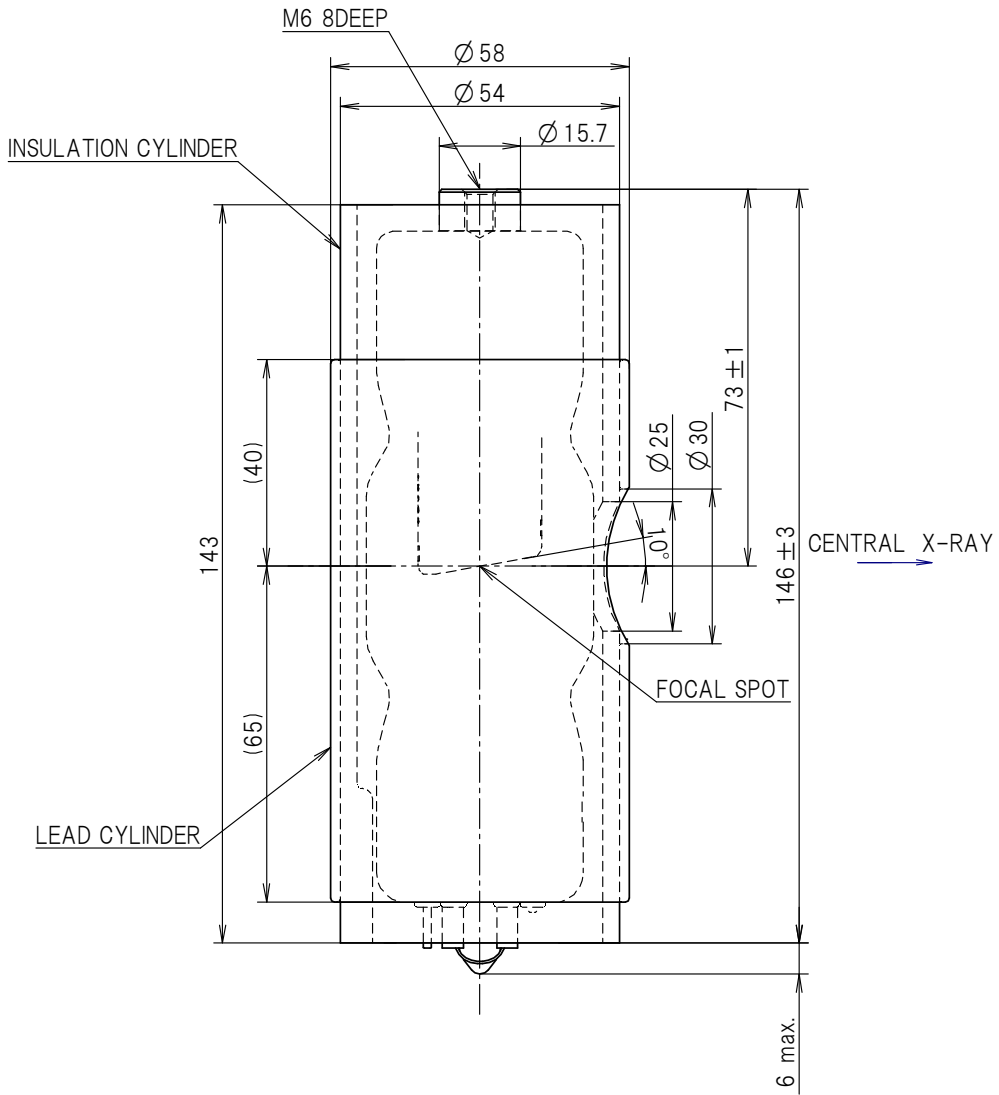
Dimensional Outline of D-0510S

Unit: mm



Dimensional Outline of D-0510SB

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>.