

X-RAY TUBE

**DF-183
DF-183R
DF-183SBR**

Stationary Anode X-ray Tube

- ◆ Especially designed for mobile type surgical X-ray TV apparatus.
- ◆ This tube has 1.8 and 0.5 focus, 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	1.8
Small Focus	0.5
Nominal Anode Input Power (at 1.0s)	See Rating Chart
Large Focus	4200 W
Small Focus	1000 W
Nominal Radiographic Anode Input Power:	
Large Focus	5300 W
Small Focus	1100 W
Exposure Duty Cycle:	
Large Focus	1:60
Small Focus	1:60

(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 75 kV

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

Weight:

- DF-183 Approx. 435 g
- DF-183R Approx. 560 g
- DF-183SBR..... Approx. 1110 g

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

Tube Holding Holding the glass envelope of the anode end and cathode end, or the screw of the anode shank.

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	100 mA
Small Focus	15 mA
Maximum Filament Current:	
Large Focus	4.6 A
Small Focus	3.2 A
Filament Voltage: (At Maximum Filament Current)	
Large Focus	5.4 ~ 6.8 V
Small Focus	3.8 ~ 5.2 V
Filament Frequency Limits	DC or AC (Sine Wave) 0 ~ 20 kHz
Thermal Characteristics: (See Anode Thermal Characteristics)	
Anode Heat Content:	
DF-183	28 kJ
DF-183R/DF-183SBR	35.5 kJ
Maximum Anode Heat Dissipation Rate:	
DF-183	265 W
DF-183R/DF-183SBR	600 W
Maximum Radiographic Exposure Time:	
Large Focus	
DF-183	10 s
DF-183R/DF-183SBR	10 s
Small Focus:	
DF-183	10 s
DF-183R/DF-183SBR	30 s
Maximum Fluoroscopic Duration:	
DF-183R/DF-183SBR	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)

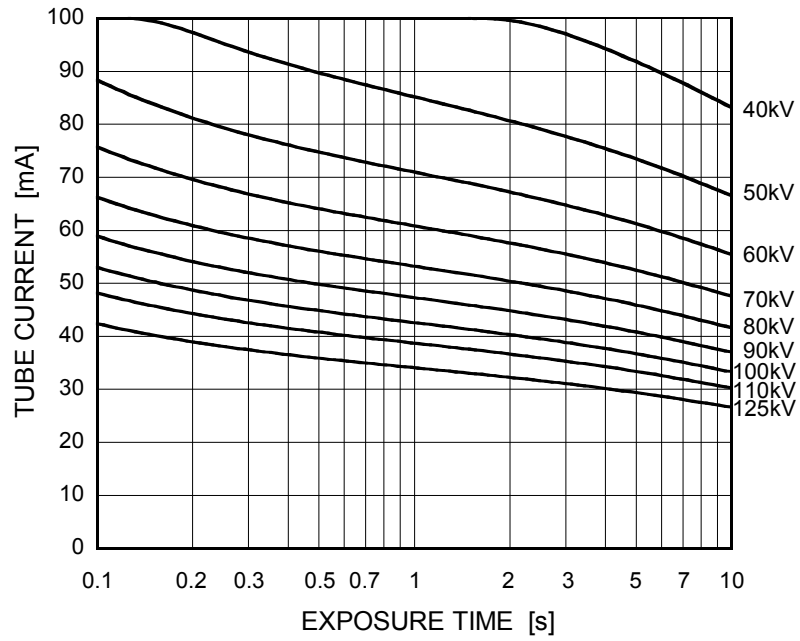
Atmospheric Pressure 50 ~ 106 kPa

Maximum Rating Charts (Absolute maximum rating charts)

Constant Potential High-Voltage Generator

Nominal Focal Spot Value: 1.8 ■

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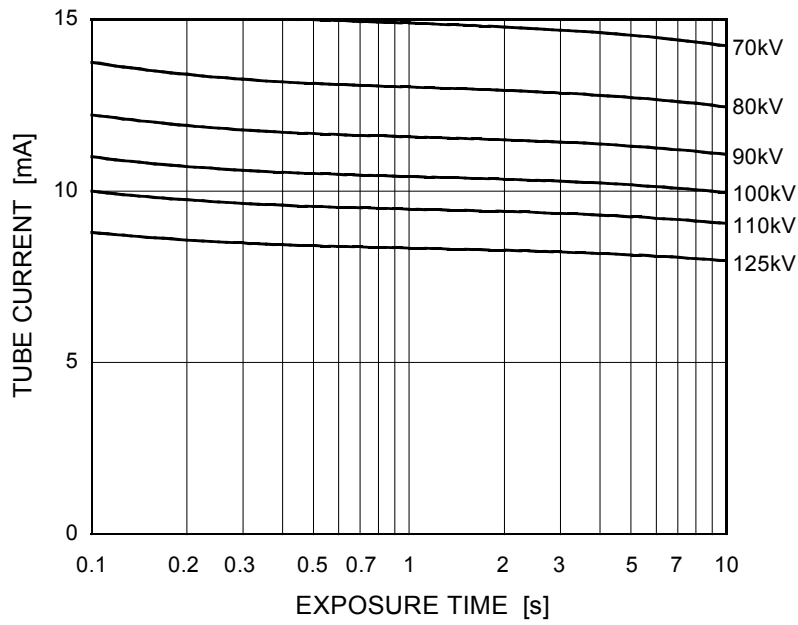


Maximum Rating Charts (Absolute maximum rating charts)

Constant Potential High-Voltage Generator

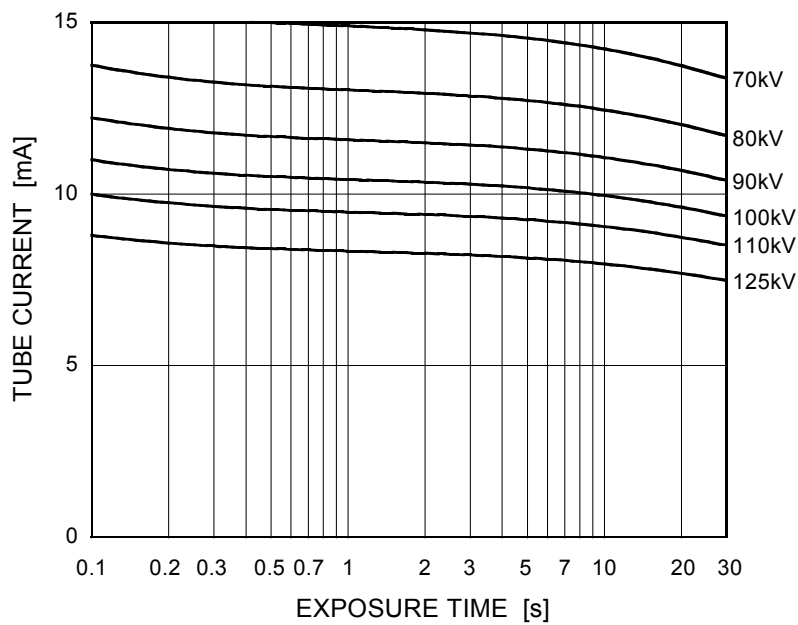
Nominal Focal Spot Value: 0.5 

DF-183



Nominal Focal Spot Value: 0.5 

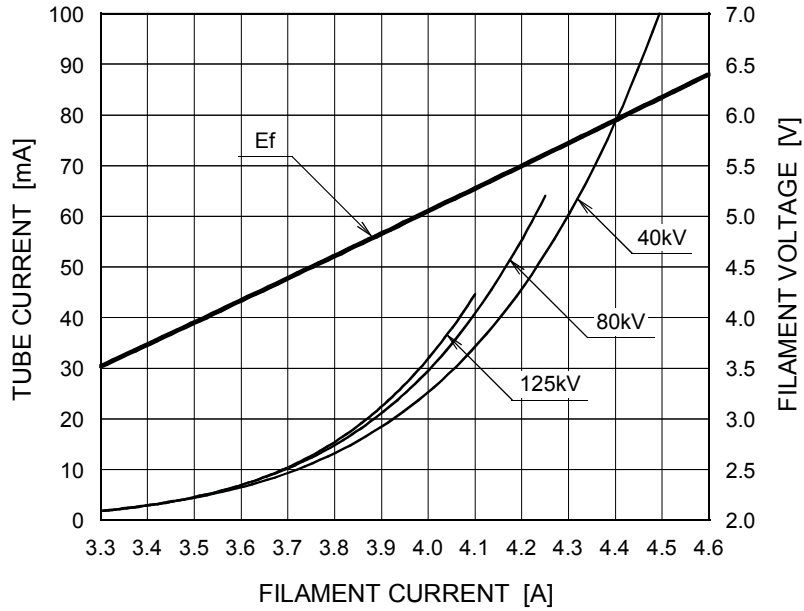
DF-183R / DF-183SBR



Emission & Filament Characteristics

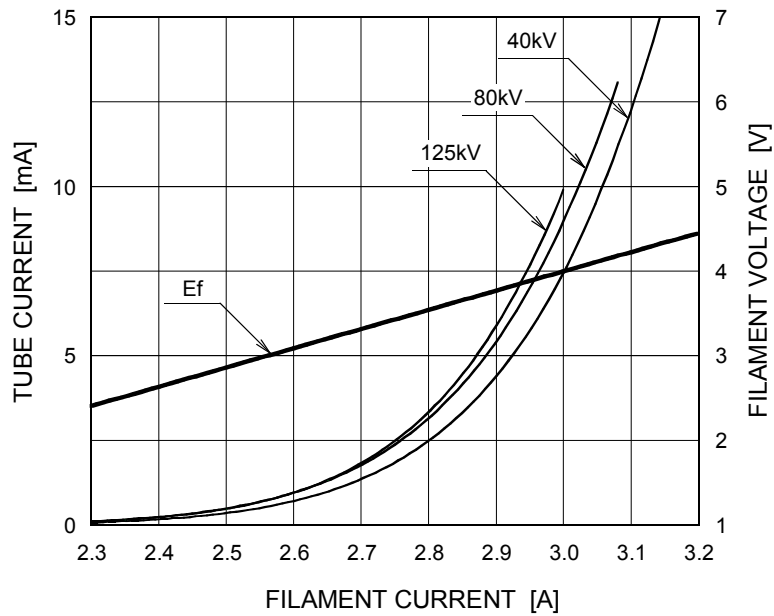
Constant Potential High-Voltage Generator

Nominal Focus Spot Value: 1.8 ■



This graph indicates typical characteristics.

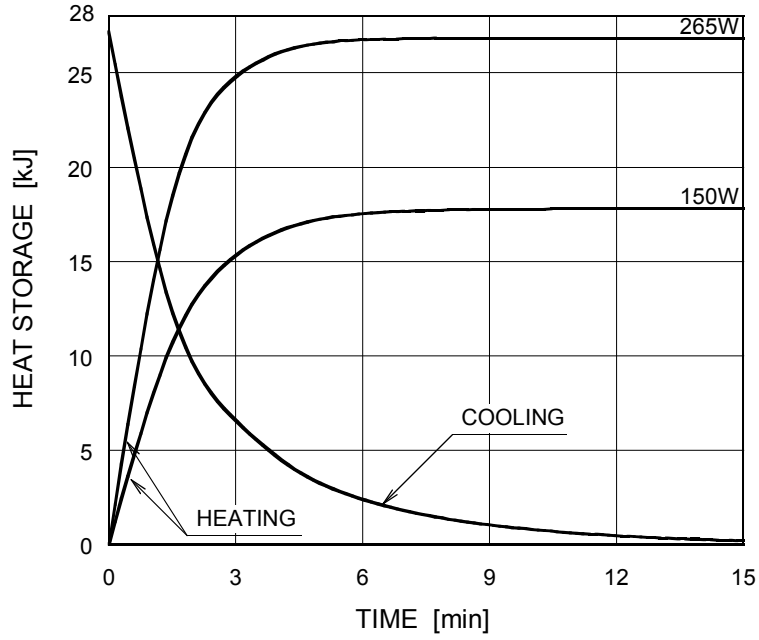
Nominal Focus Spot Value: 0.5 □



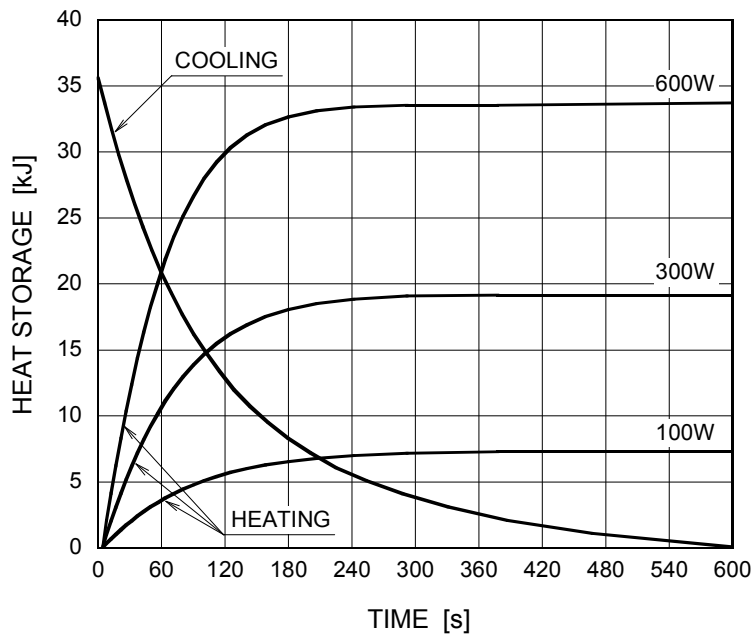
This graph indicates typical characteristics.

Anode Heating / Cooling Curve

DF-183

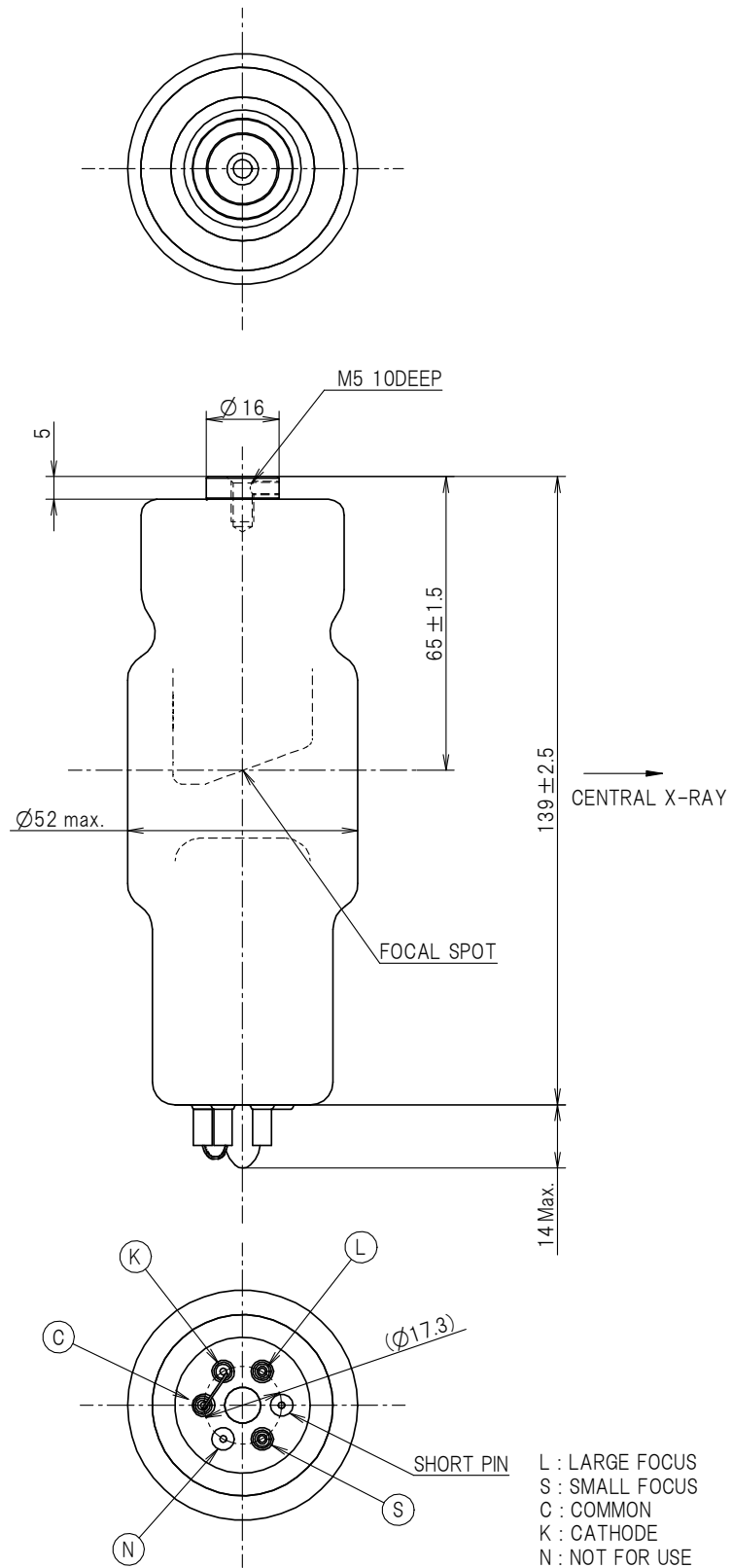


DF-183R / DF-183SBR



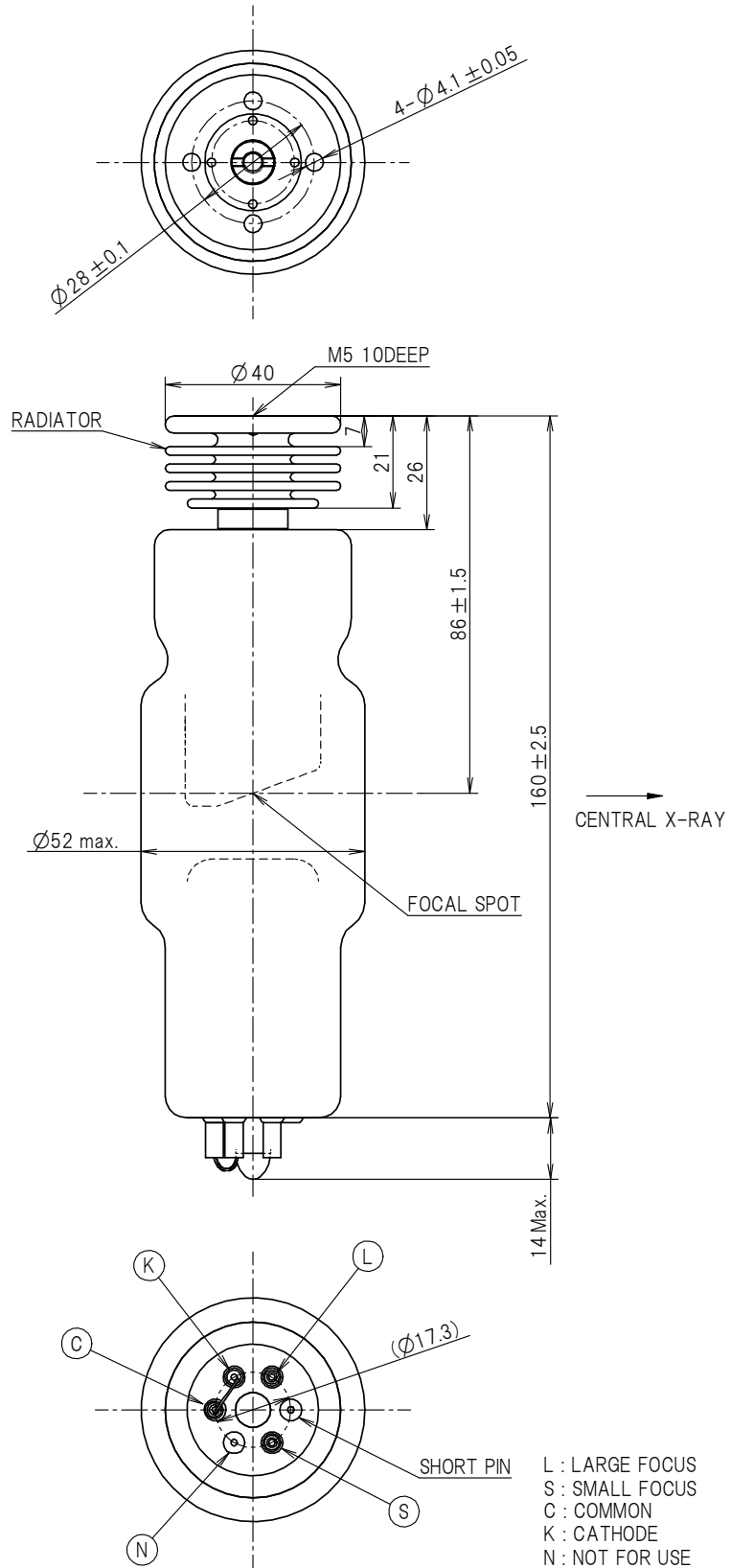
Dimensional Outline of DF-183

Unit: mm



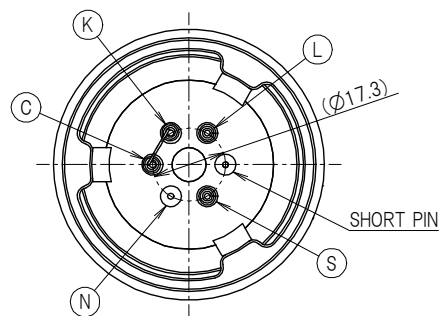
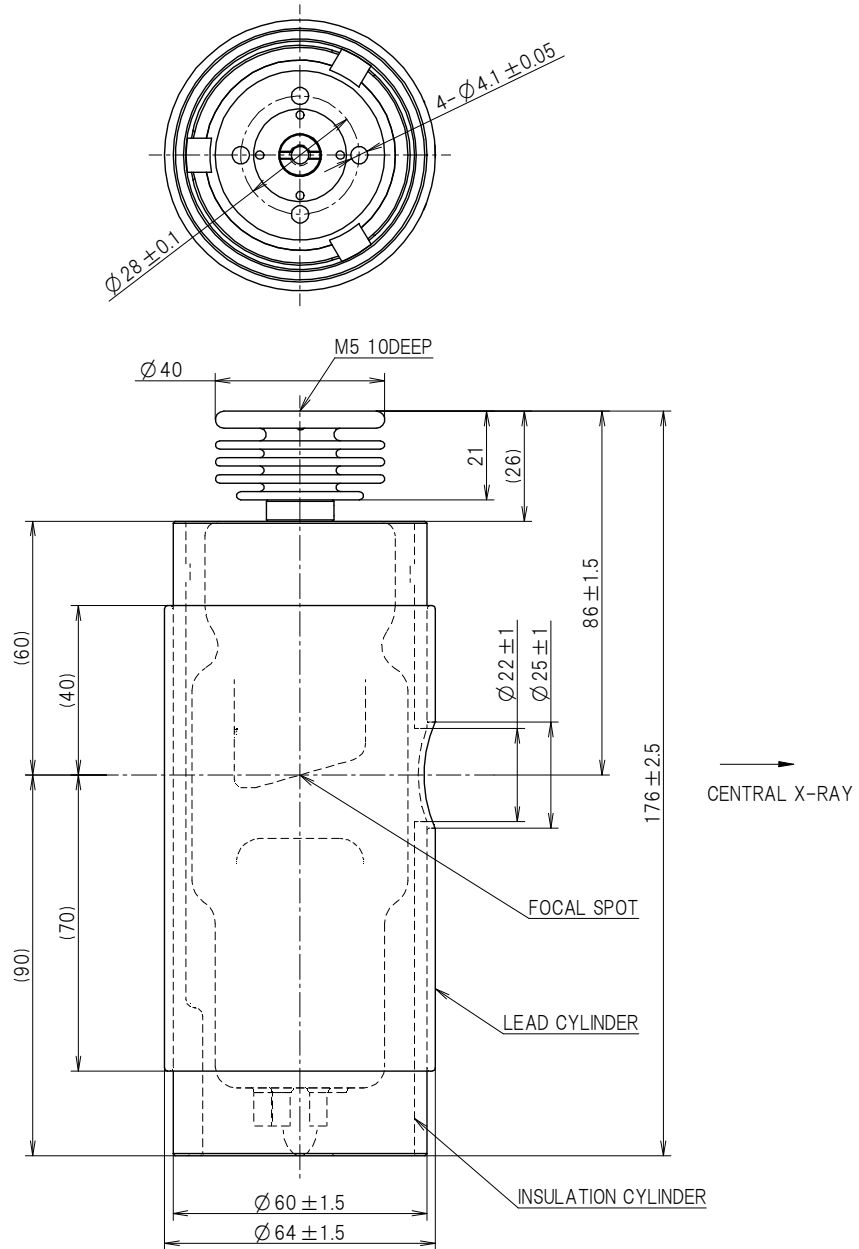
Dimensional Outline of DF-183R

Unit: mm



Dimensional Outline of DF-183SBR

Unit: mm



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



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