Superior X-Ray Tube Co.

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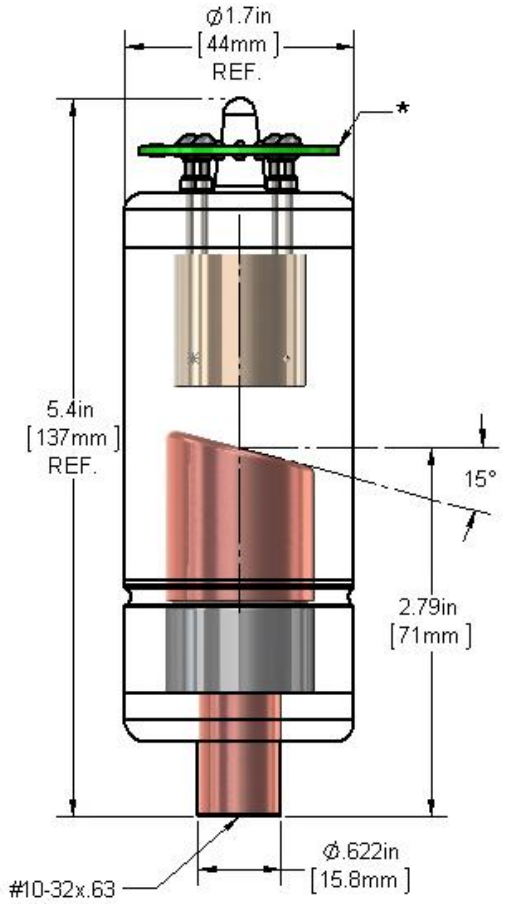
Data Sheet

SXR 100-15-1.0

The SXR 100-15-1.0 insert is a stationary anode, glass envelope x-ray tube. The SXR 100-15-1.0 is an x-ray tube originally designed to be used in dental imaging applications. Currently, other applications include medical, security, food inspection, and industrial applications. The insert should be housed in a unit that allows for insulating media such as high dielectric oil (Diala-AX) or high dielectric pressurized gas such as SF_6 (Sulfur Hexafluoride). An optional radiation shield is available.



SXR 100-15-1.0

Physical Characteristics:

Glass Frame:	Borosilicate 0.050" thick	
Inherent Filtration:	0.38 mm Al equivalent at 80 kV	
Focal Spot:	1.0 mm Nominal	
Target Angle:	15°	
Target Material:	Tungsten	(W)
Filament Material:	Tungsten	(W)
Focus Cup Material:	Nickel	(Ni)
Anode Body:	Copper	(Cu)

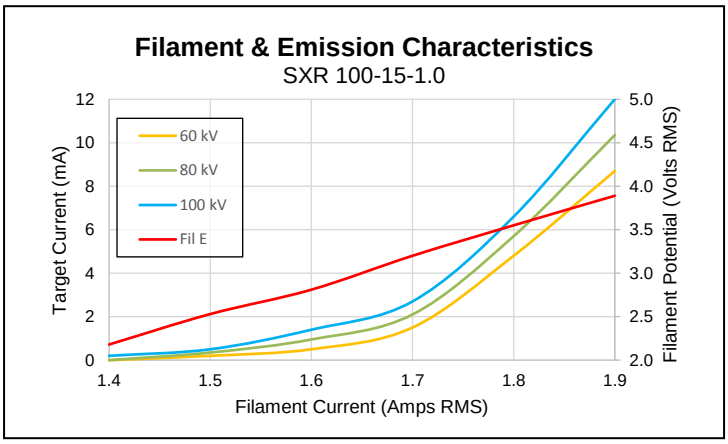
Thermal Characteristics:

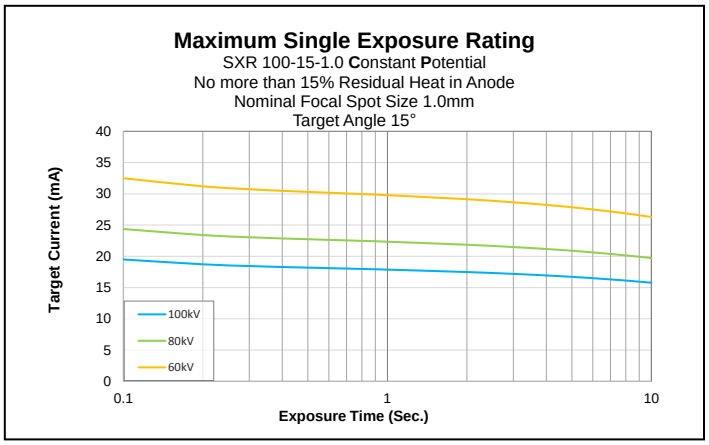
Anode Heat Storage Capacity:	45 KHU's (31.5KJ)
Max. Anode Heat Dissipation Rate:	19.4 KHU's/min.

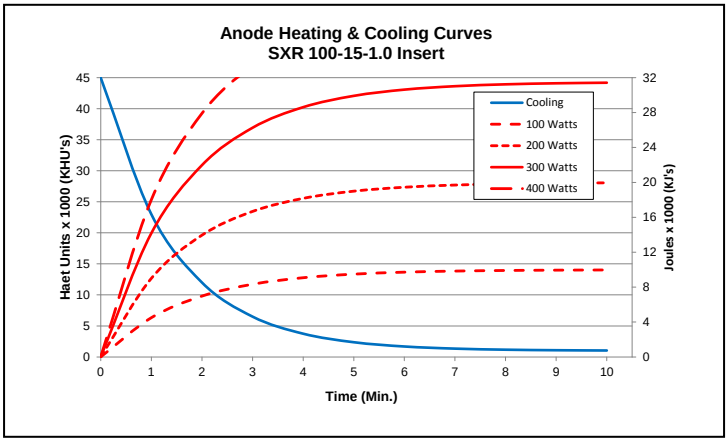
Electrical Characteristics:

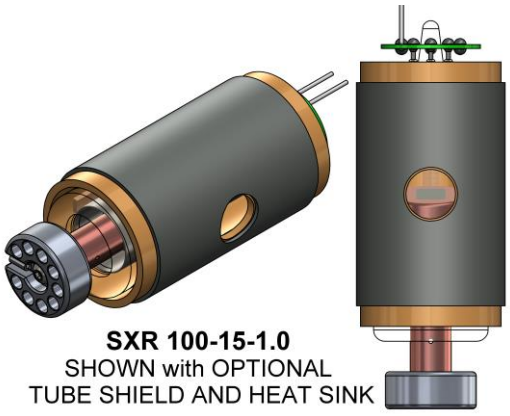
Max. Tube Potential:	100 kV
Filament V-A Curve:	See Chart
Max. Power:	See Chart
Max. Single Exposure	See Chart

NOTE: * Please contact Superior Engineering Department for cathode termination options.









Notes:

1. The ratings, from the factory, are based on the insert being immersed in a large tank (50 Gal.) of high dielectric, high grade insulating oil. Data should be validated in the customers designed, production based, tube housing to determine the factor limiting heating i.e. tube head, insert anode.
2. The dielectric value of the oil should not fall below 40,000 volts peak per 0.1 inch.
3. Oil should be processed via heat and vacuum to drive out any moisture and outgas air.
4. The tube envelope must be thoroughly cleaned prior to putting the tube in operation. Particular attention should be given to remove all fingerprints resulting from handling the tube. A clean dry, lint-free cloth and alcohol are recommended for cleaning.
5. The oil in the housing, surrounding the tube, should never be allowed to exceed 158°F (70°C).
6. It is recommended that a resistor of at least 100,000 ohms be placed in series with the x-ray tube in the high voltage circuit.
7. Great care should be taken to minimize any forces being applied to the cathode pins to prevent failure of the glass seal.
8. **H**eat **U**nits equals (HU=kV*mAs).