

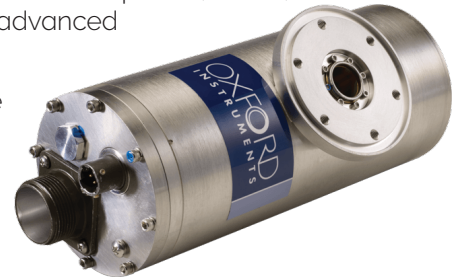
Radiation Shielded X-ray Tube

Apogee 5500 Series | Technical Datasheet

50kV, 50W packaged and gridded X-ray tube designed for applications where small spot size, tight flux distribution, and continuous operation are important.

The Apogee 5500 Series X-ray source utilizes grid-controlled variable focus to achieve high stability and deliver exceptionally small focal spots. This makes it an excellent choice for high-resolution industrial inspection and non-destructive testing, including PCB assembly, battery analysis, and the inspection of plastic, metal, and mechanical components. It is also well-suited for use with X-ray optics in advanced imaging applications.

The Apogee 5500 Series is housed in a compact, radiation-shielded package filled with dielectric oil, providing allowing efficient heat dissipation. Integrated high-voltage and filament connectors simplify installation, making this a true plug-and-play solution.



Benefits

- Continuous operation
- High sensitivity and high-precision measurements
- Fully shielded compact package eliminates X-ray leakage and simplifies integration
- Paired power supply for plug-and-play operation
- Optional artifact-free window
- High-resolution imaging
- Made in USA

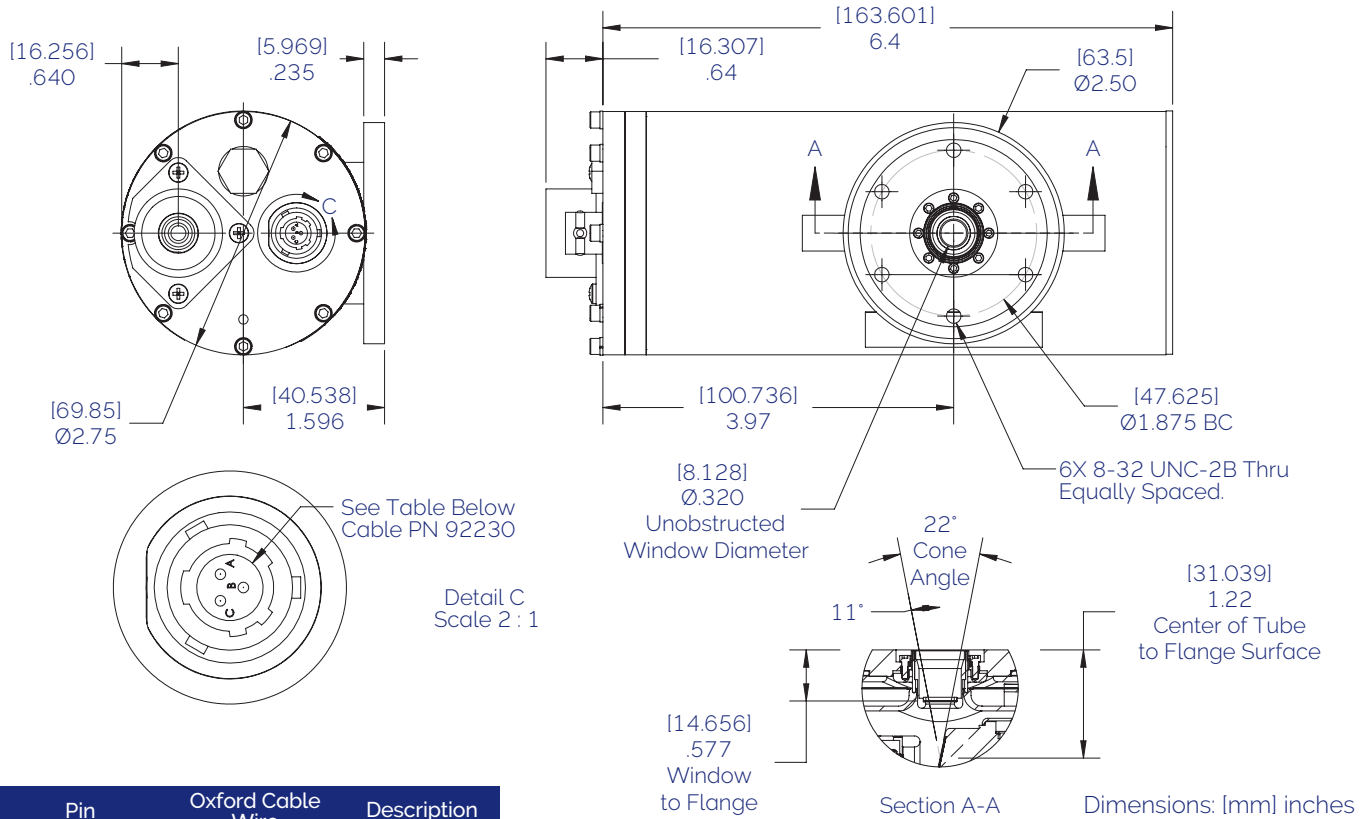
Applications

- Analytical XRF
- Coating thickness gauging
- Electronics inspection
- Phase-contrast imaging
- Solder joint inspection

Specifications:

Operating Voltage Range:	10-50kV (except 9300005)
Maximum Power:	50W (except 93504)
Maximum Beam Current:	1.0mA
Grid Voltage:	0-100V (Oxford Shasta Power Supply recommended)
Maximum Filament Current:	1.7A
Filament Voltage:	2.0V (Nominal)
Target Material:	See product ordering table on next page.
Focal Spot Size:	35 μ m *nominal per IEC60336, NEMA XR5-1992 (R1999)
Cone of Illumination:	22°
Spot to Window Spacing (FOD):	31.05mm \pm 1mm
Target Angle:	12°
Window Material and Thickness:	Be @ 127 μ m
Flux and Current Stability:	0.2% over 4-hour period
Ambient Temperature Conditions:	Operating: 0 to 40°C / Storage: -10°C to 50°C
Humidity:	0-95% RH up to 5,000 feet
Cooling:	150 CFM forced air recommended. Longest lifetimes are achieved by keeping case temperature as low as possible in operation. Maximum temperature: 55°C. Contact sales@oxinst.com to discuss your specific cooling applications.
Shielding:	0.25mR/hr @ 2' (except HV connection through HV cable)
Dimensions:	180mm L X \varnothing 70mm (7.09" L X \varnothing 2.76")
Weight:	2.26kg (5.0 lbs)

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Pin	Oxford Cable Wire	Description
A	Red	Filament
B	Black	Filament Return
C	Clear	Grid Bias
Backshell	Eyelet	Ground

Product Ordering Table		See also matched Shasta power supply and/or matching cables part numbers on page 34.					
Part Number	Outline Drawing	Target	Operating Range (kV)	Max Anode Current (mA)	Max Anode Power (W)	Max Filament Current (A)	Spot Size (µm)**
93500*	8243	Cu	10 - 50	1.0	50	1.7	35 Nom.
93501*	8243	W	10 - 50	1.0	50	1.7	35 Nom.
93502*	8243	Mo	10 - 50	1.0	50	1.7	35 Nom.
93504*	8243	Rh	10 - 50	1.0	20	1.7	35 Nom.
93508*	8243	Cu	10 - 50	1.0	50	1.7	35 Nom.
93510*	8243	Cu	10 - 50	1.0	50	1.7	35 Nom.
93511*	8243	Mo	10 - 50	1.0	50	1.7	35 Nom.
9300005	8243	Mo	10 - 55	1.0	50	1.7	35 Nom.

Note: Part number specific copies of outline drawings and product specification sheets are available.
 *Includes a thermal switch which adds an additional level of protection to the cooling system safeguards. // **Max. = Maximum, Typ. = Typical, Nom. = Nominal (per IEC60336, NEMA XR5-1999)

visit <https://xray.oxinst.com> for more information

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