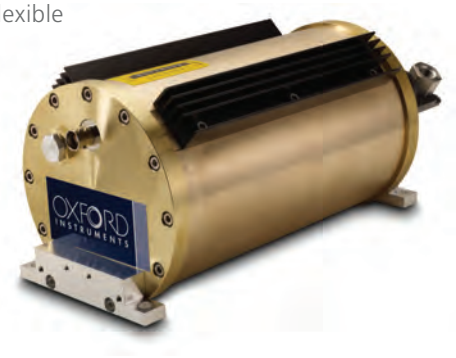
# Water-Cooled Radiation Shielded X-ray Tube
## Neptune 5200 Series

**Technical Datasheet**

The Neptune 5200 Series is a water-cooled 50kV, 100W packaged X-ray tube designed for applications where high flux density and continuous operation are important.

Utilizing our high stability and high intensity X-ray tube technology, the Neptune 5200 Series is ideal for most industrial inspection and non-destructive testing applications that require high resolution, including plastic, metal and mechanical parts inspection. Flexible and reliable, this unit is also highly suited for use in high power XRF applications.




The 5200 Series has a brass package that utilizes 0.2 liter/min of water flow, which enables the unit to provide maximum X-ray shielding and heat dissipation. The design includes high voltage, filament and water flow connectors, making it ideal for plug and play operation.

The Neptune 5200 Series is available in wide range of targets and price points to meet your needs.

## Benefits

- Wide operating range enables optimal image contrast
- Stable X-ray output delivers high precision measurements
- Low attenuation beryllium window ensures high transmission of low energy X-rays
- Fully-shielded compact package eliminates X-ray leakage and easily integrates into your system

## Applications

- Non-destructive testing of plastic, metal and mechanical parts
- Thickness gauging
- Analytical XRF

| Specifications | |
|---|---|
| Operating Voltage Range: | 10-50kV |
| Maximum Power: | 100W |
| Maximum Beam Current: | 2.0mA |
| Maximum Filament Current: | 2.40A |
| Filament Voltage: | 3.75V (Nominal) |
| Target Material: | See Product Ordering Table |
| Spot Size: | 175µm (except 93221) where X+Y/2 and X < 210µm and Y < 210µm |
| Cone of Illumination: | 25° |
| Spot to Window Spacing (FOD): | 48.8 mm ± 1mm (1.92") |
| Window Material & Thickness: | Be @ 127µm |
| Flux & Current Stability: | ≤ 0.2% over 4-hour period |
| Duty Cycle: | Continuous |
| Ambient Temperature Conditions: | Operating: 0 to 40°C<br>Storage: -10°C to 50°C |
| Humidity: | 0-95% RH up to 5,000ft |
| Cooling: | Water cooling > 0.2 l/min. Forced air cooling directed at the unit at 150 CFM may be required at high power operation. 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: | 210mm L X 106 mm W (8.25" L X 4.18" W) |
| Weight: | 6.17 kg (13.6 lbs) |



OXFORD INSTRUMENTS

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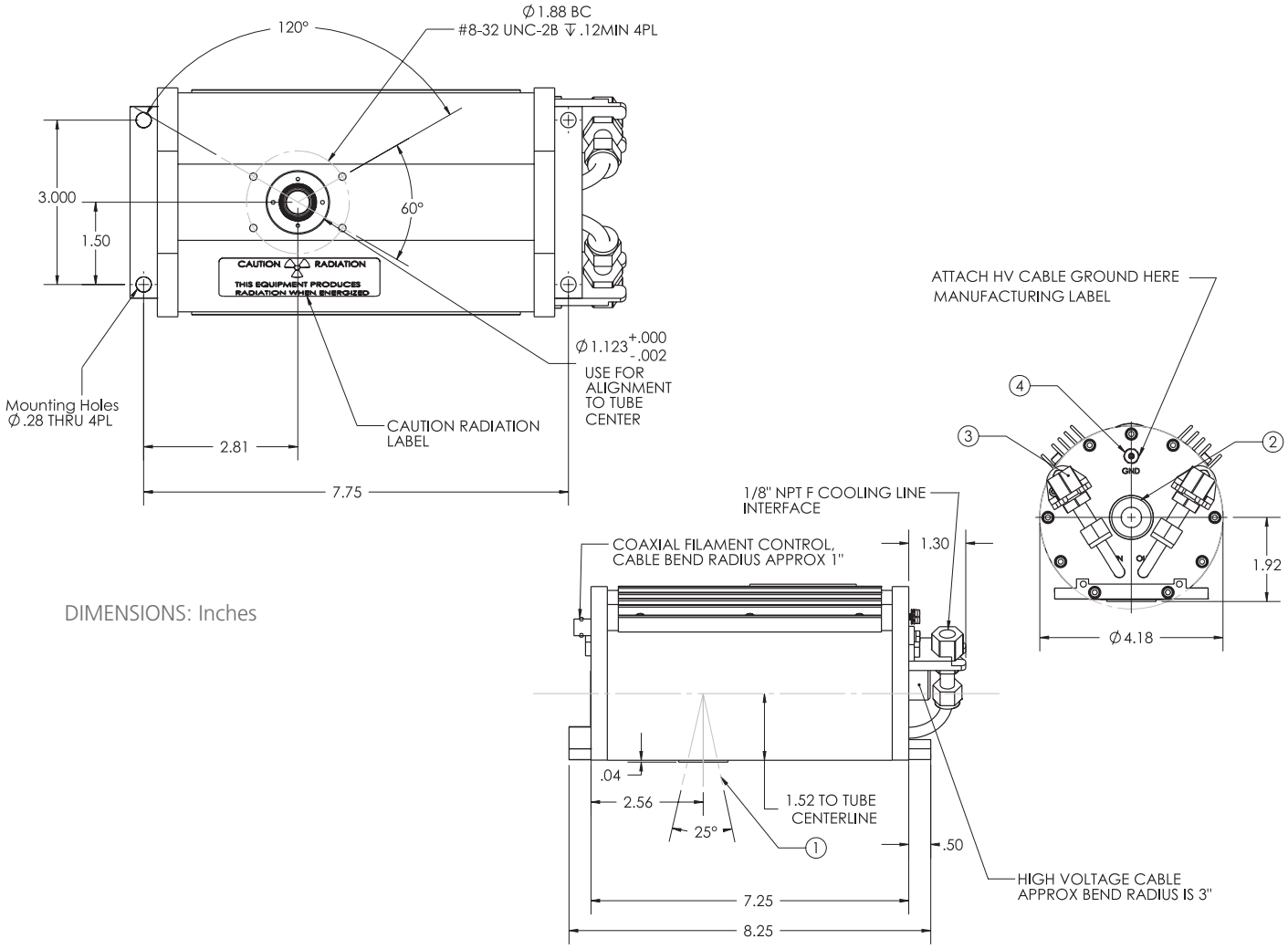


DIMENSIONS: Inches

## 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)** |
|---|---|---|---|---|---|---|---|
| 93211* | 8250 | Mo | 10 - 50 | 2.0 | 100 | 2.4 | 175 Max. |
| 93212* | 8250 | W | 10 - 50 | 2.0 | 100 | 2.4 | 175 Max. |
| 93221* | 8250 | Rh | 10 - 50 | 2.0 | 100 | 2.4 | 375 Max. |

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 xray.oxinst.com or xray-sales@oxinst.com for more information.



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