

Thermo Scientific PXS5 Microfocus X-ray Sources

Thermo Scientific™ PXS5 Microfocus X-ray Sources provide a cost-efficient solution for applications in which lower voltages can deliver the performance required. Primary applications include electronic component inspection, for example for PCBs and semi-conductor devices, and dental imaging - applications where small, relatively thin structures give rise to low attenuation levels. More generally, PXS5 sources find application in other areas of AXI (automated X-ray inspection), high resolution non-destructive testing and for micro-CT (micro computed tomography). Integrated 80 and 90kV designs include options for side window configuration and digital interfacing to provide the flexibility required for individual applications, even when space is restricted. All PXS5 sources are specified for high resolution, high magnification, and enduring stability.

Key features

- **Fully integrated design:** to reduce space requirements, with X-ray tube, high-voltage power supply, and controller in a single package powered from a 12 VDC source
- **Small spot size*, round where optimal:** to produce high-resolution, low distortion, best-in-class images
- **Short FOD (focal object distance – down to 6 mm):** to deliver very high geometric magnification and short image acquisition times
- **High flux and spot location stability:** to ensure consistent high-quality imaging with minimal temporal variation
- **Automatic source conditioning:** to minimize the risk of damage as the source comes up to operating conditions
- **Side window configuration (optional):** to enable use in smaller cabinet systems and installation flexibility
- **Digital and analog interface options:** to enable easy operation and optimal on-going performance across a range of applications

* Model dependent, 4.5 – 15 μm

Note: Each of the three options in the PXS5 source range incorporates a different combination of key features. Individual detailed specifications for the PXS5-822, PXS5-925 and PXS5-928 sources are included for reference.

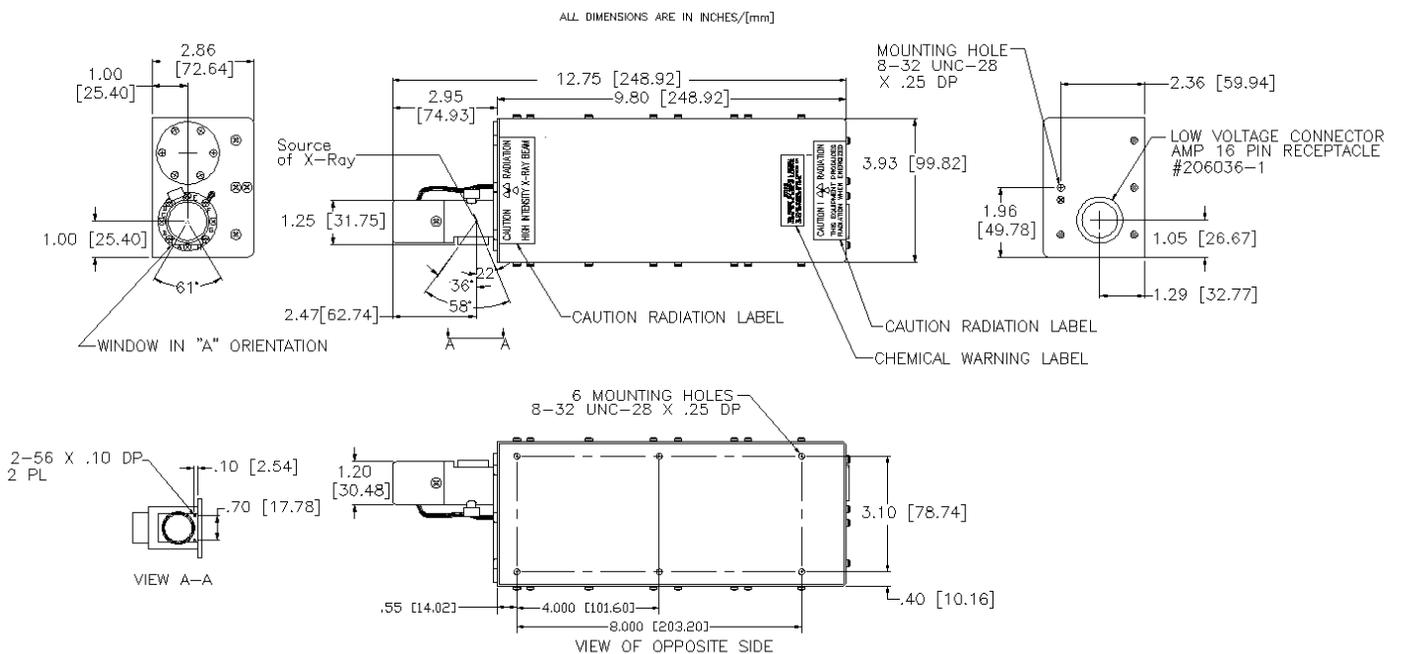


PXS5-928 X-ray Source

Specifications

PXS5-822 X-ray Source	
Maximum tube voltage	80kV
Operating voltage range	20–80kV
Tube current operational range	0–178 μ A
Maximum power output	8W
Minimum focal spot size	15 μ m
X-ray beam angle	34°, round beam
Focus to object distance (FOD)	12.5 \pm 0.5 mm
Target material	Tungsten
X-ray output window material	Beryllium
Weight	3.6kg
Ambient temperature and humidity	0–32 °C, 0–95% RH, up to 1,500 m (5,000 ft) altitude
Method of cooling	Internal fan. Adequate air circulation around unit must be provided
Input power	12–14 VDC, 4A max measured at the source
Control interface	Analog control and monitoring of operating conditions and status

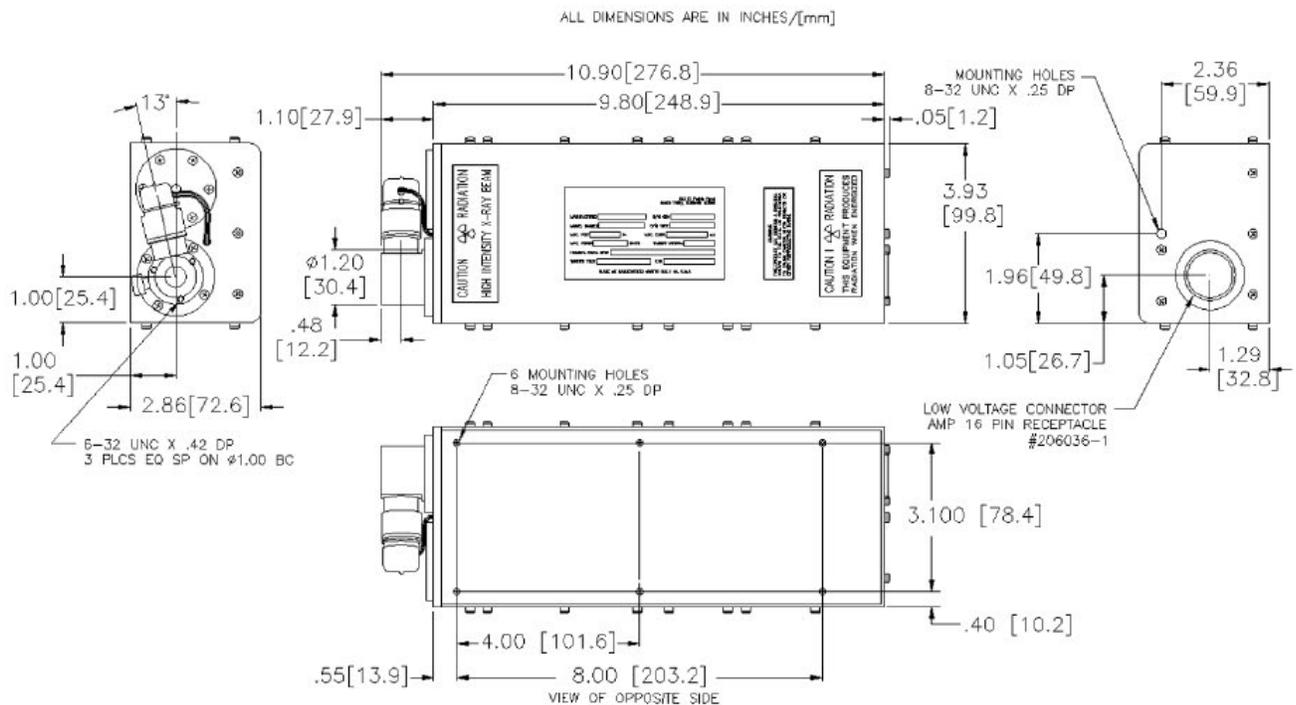
Outline drawing of PXS5-822 X-ray Source



Specifications

PXS5-925 X-ray Source	
Maximum tube voltage	90kV
Operating voltage range	20–90kV
Tube current operational range	0–180μA
Maximum power output	8W
Minimum focal spot size	5μm
X-ray beam angle	40°, round beam
Focus to object distance (FOD)	12.0±0.5mm
Target material	Tungsten
X-ray output window material	Beryllium
Weight	3.6kg
Ambient temperature and humidity	0–32 °C, 0–95% RH, up to 1,500 m (5,000 ft) altitude
Method of cooling	Internal fan. Adequate air circulation around unit must be provided
Input power	12–14VDC, 4A max measured at the source
Control interface	Analog control and monitoring of operating conditions and status

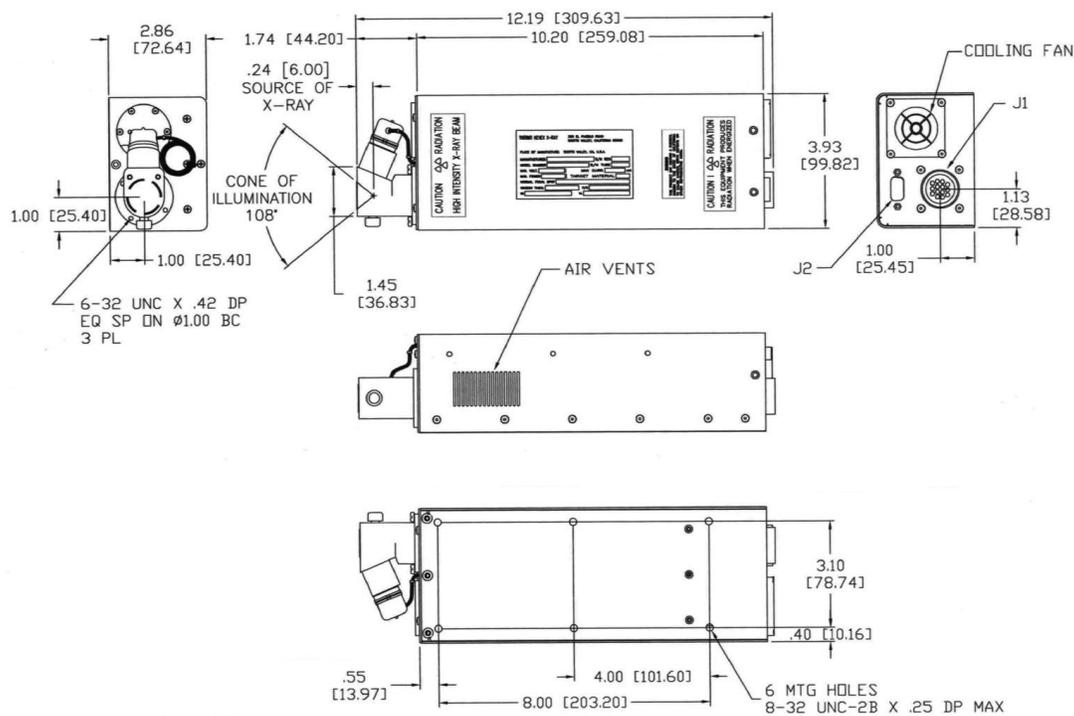
Outline drawing of PXS5-925 X-ray Source



Specifications

PXS5-928 X-ray Source	
Maximum tube voltage	90kV
Operating voltage range	20–90kV
Tube current operational range	0–160 μ A
Maximum power output	8W
Minimum focal spot size	4.5 μ m
X-ray beam angle	108°
Focus to object distance (FOD)	6.0 mm
Target material	Tungsten
X-ray output window material	Beryllium
Weight	3.6kg
Ambient temperature and humidity	0–32 °C, 0–95% RH, up to 1,500 m (5,000 ft) altitude
Method of cooling	Internal fan. Adequate air circulation around unit must be provided
Input power	12–14VDC, 4A max measured at the source
Control interface	RS-232, digital, as standard. Analog version also available

Outline drawing of PXS5-928 X-ray Source



Learn more at thermofisher.com/xraysources

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