

TFX-8100 SW

100 kV Micro-focus X-Ray Source



Shown with removable large flange

Specification

- **Focal Spot Size: <math><8 \mu\text{m}</math>**
Approaching the world's smallest focal dimension.
- **Continuous Operation: 12 W**
Continuous maximum output from 20 kV to 80 kV and 0.6 mA to 0.15 mA operation, respectively.
- **Durable Packaging**
Encapsulated in silicon, the 8080 EW keeps constant stable output of 80 kV. Removable large flange assists in maintaining an optimal SOD.

Description

The **TFX-8100SW** X-Ray source is the most powerful non-liquid cooled X-ray source Trufocus offers. The design criteria for the TFX-8100SW was to produce a powerful yet reliable air-cooled x-ray source in a lightweight, compact package. Able to provide continuous, stable 100 kV while still weighing just two pounds, the TFX-8100SW sets a new standard for size and performance in an air-cooled X-ray source. As with the rest of the Trufocus 8000 series, the 8100SW has an 8-micron spot size, 45 degree target angle and close target to window distance, the 8100SW provides high magnification, power and exceptional image quality. The standard .010" hermetically sealed beryllium window allows for stable vacuum within the tube and the clearest image quality possible. The large flange is completely removable for ideal SOD.

Application

- **X-Ray NDT**
 - Multi-layered boards
 - Hybrid Circuits
 - Semiconductor devices
 - Electronic components
 - Soldering
 - Ceramics
 - Plastics
 - Rubbers
- **Needle Biopsy Procedure**
- **Metallurgy**

Characteristics

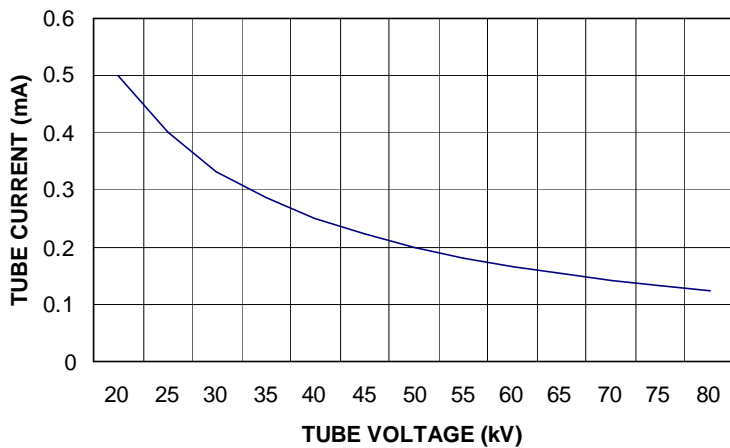
■ General

Parameter	Value	Unit
Target Voltage	5-100	kV
Target Current	1.0 – 0.12	mA
Maximum Power	12	W
Focal Spot Size	<8	µm
Beam Angle	40	degree
Operation	Continuous	—

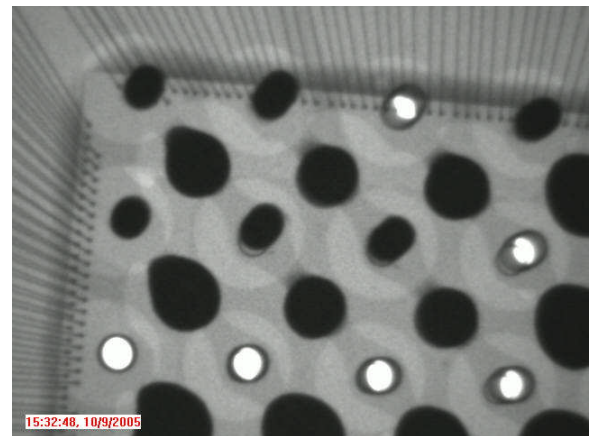
■ X-Ray Tube

Parameter	Description
X-ray Tube	Encapsulated
Target Material	Tungsten
Window Material	Beryllium
Window Thickness	.010 “
Window Type	Side Window
Operating / Storage Temperature (Max.)	+10 °C to +55 °C / 0 °C to +60 °C
Operating / Storage Humidity (Max.)	85 % RH
Cooling Method	Forced Air (100 cfm)
Weight	2 lbs
Flux Stability	<0.2%

■ X-Ray Tube I-V Curve (10W)

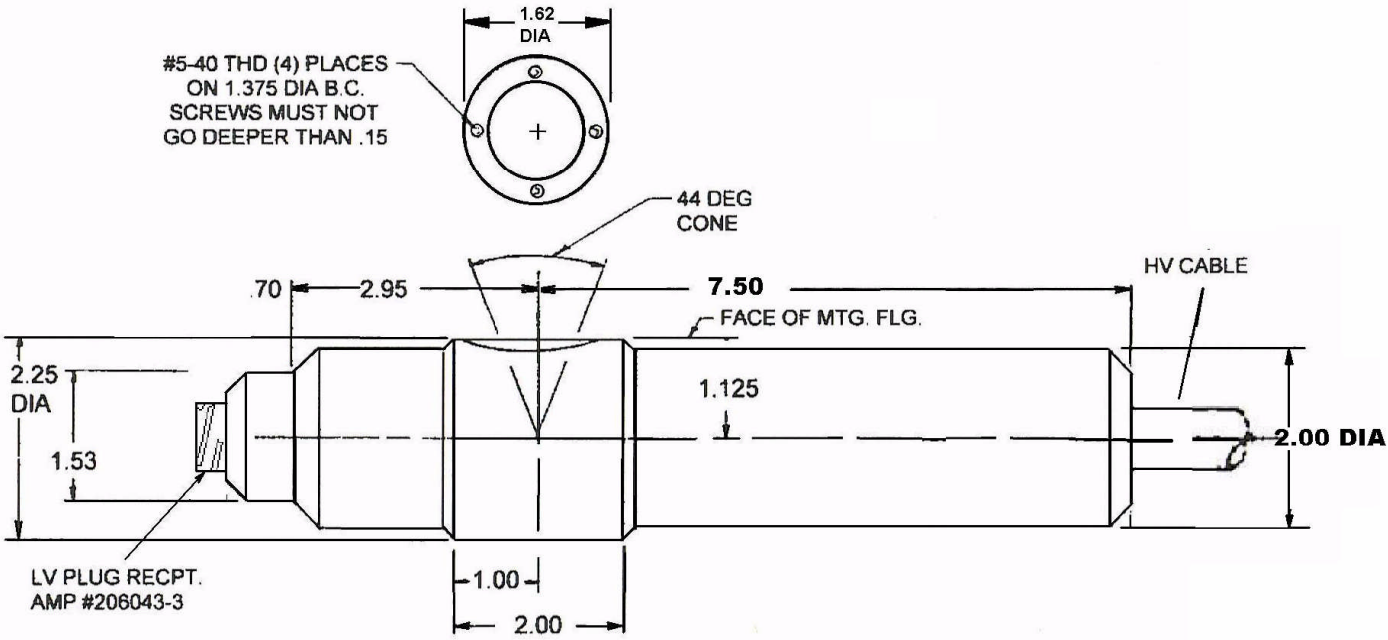


■ Sample Imaging



▲ Courtesy of ScienScope

Dimensional Outline (unit: in)



TFX-8100 SW
OUTLINE DRAWING

Recommended Power Supply

100 kV Microfocus X-Ray Source

• TCM-8100 OEM Application

The TruFocus **TCM-8100** Microfocus X-ray System has been designed in conjunction with our TFX Side and End Window high resolution tubes and was specifically developed to fulfill the needs for exceptional resolutions in a variety of industrial applications.

The **TCM-8100** high voltage power supplies provides safety interlock, low ripple voltage and feedback controlled regulation of 0.01 % for kV and mA. The system's additional features include computer interface capabilities with anode and emission programming and monitoring of anode current and grid power supplies.

Note: It is important that this device is properly grounded to a reliable earth ground.



▲ TCM-8100

• TCM-INT Laboratory Interface

The TruFocus **TCM-INT** Microfocus X-ray System has been designed in conjunction with our TFX Side and End Window high resolution x-ray tubes and was specifically developed to fulfill the needs for exceptional resolutions in a variety of industrial applications. The system's rack-mounted design makes accessible and efficient usage of controls, and features interlocks as an indispensable safety measure. Since the **TCM-INT** is an integrated device, capable of being controlled both via computer interface and remote analog input. The system's additional fine focus adjustment makes the digitally metered **TCM-INT** highly versatile, having been approved in Europe to be CE compatible.



▲ TCM-INT 8100



Pre-Cautionary Note

1. X-Ray radiation is harmful to the human body. It is necessary to take all safety precautions when operating this device.
2. The x-ray tube should be installed in an x-ray shielded cabinet to avoid exposure. It is recommended that the safety interlock system be used at all times.

Warranty Information

This x-ray tube is warranted to be free of defects in materials and performance for a period of 356 days (1 year). This warranty is limited to repair or replacement of defective products only. This warranty replacement cost to customer shall be prorated over the duration of the warranty period. The warranty period commences on the date of installation, but no later than 30 days from the date of shipment from TruFocus to the customer. Any loss, damage, failure and/or malfunction relating in any way to accident, abuse, alteration, misuse, neglect, fitting, disassembly, attempted repair, storage, adjustment of the electronics, or failure to use the tube within the specifications or operating instructions provided by TruFocus, or the lack of proper routine care and maintenance of the tube or system in which it is installed, are expressly denied coverage under this warranty.

Subject to local and technical requirements and regulations. Availability of products in this promotional material may vary. Please consult with our sales office for availability.

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