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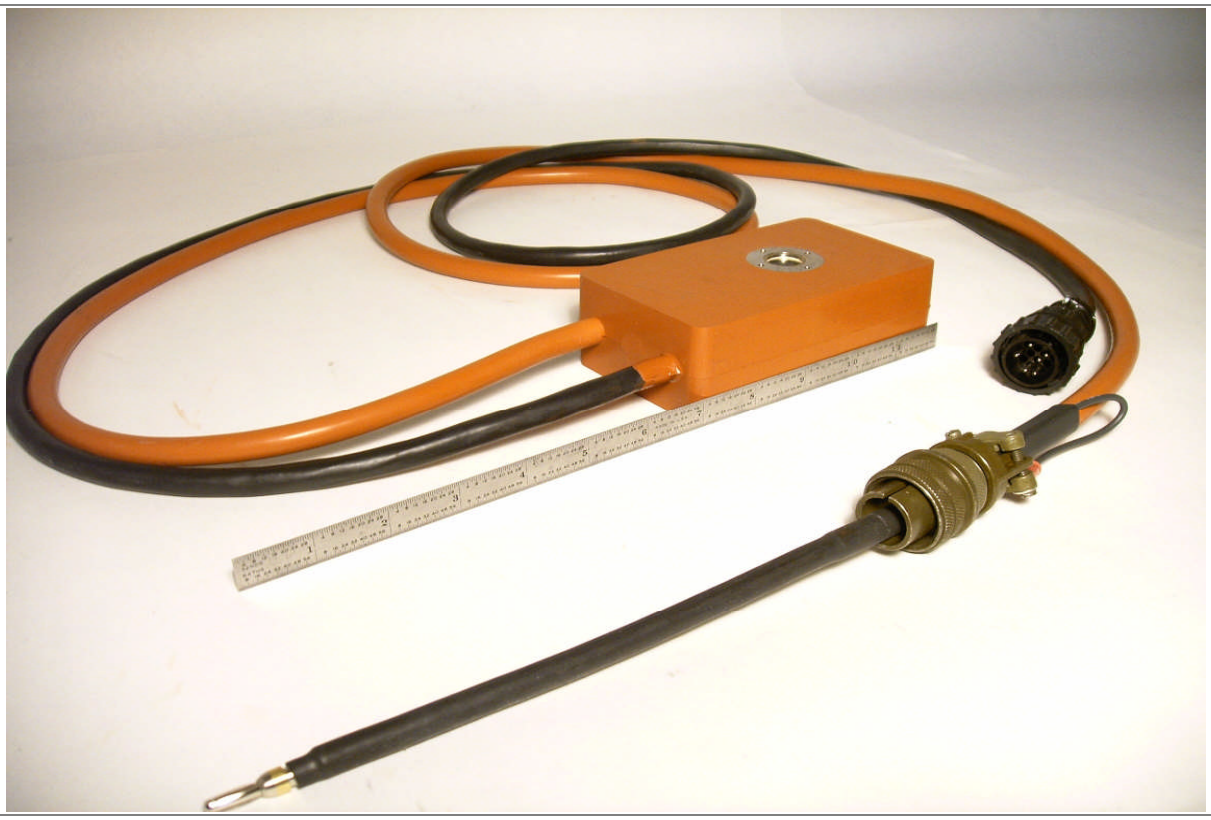
TFX-8010

5-40 kV Micro-focus X-Ray Source



Specification

- **Focal Spot Size: <8 µm**
  Approaching the world's smallest focal dimension.
- **Continuous Operation: 12 W**
  Continuous maximum output from 5 kV to 40 kV and 1.0 mA to 300 µA operation, respectively.
- **Durable Packaging**
  Encapsulated in silicon, the 8010 keeps constant stable output of up to 40 kV. Compact in size the tube can be easily inserted into any rated enclosure.

Application

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

Description

The TruFocus **TFX-8010** X-Ray source has been developed to fulfill the need for high resolution imaging in a variety of applications. The 8 micron spot size and close target to window distance allows for high magnification and exceptional image quality.

Characteristics

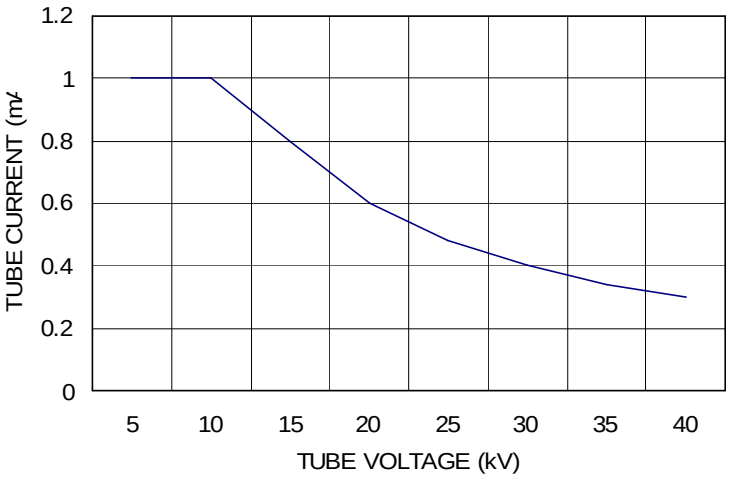
General

Parameter	Value	Unit
Target Voltage	5-40	kV
Target Current	1.0 – 0.300	mA
Maximum Power	12	W
Focal Spot Size	<8	µm
Beam Angle	40	degree
Operation	Continuous	—

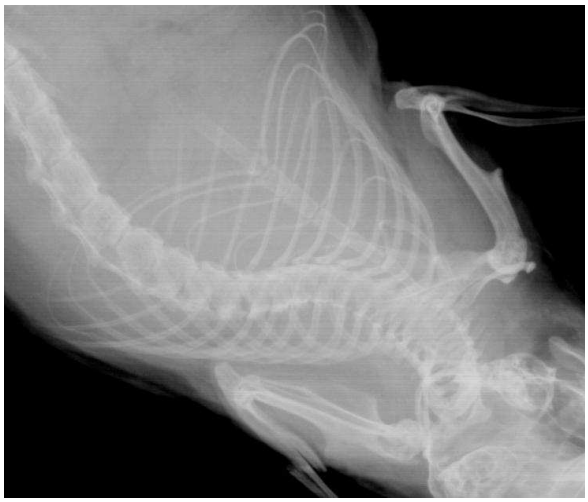
X-Ray Tube

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
Weight	1.5 lbs
Flux Stability	<0.2%

X-Ray Tube I-V Curve (12W)



Sample Imaging

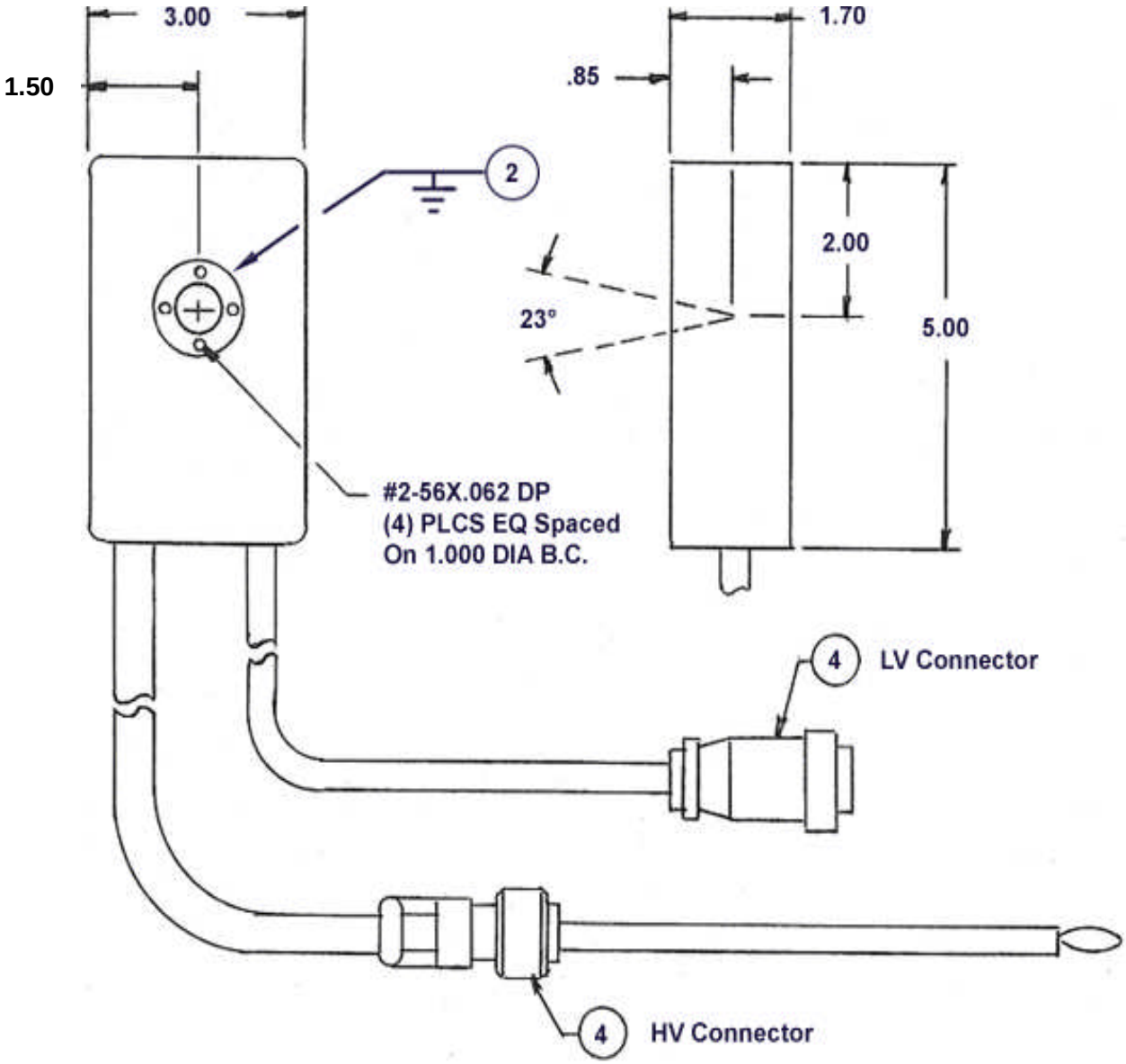


▲ Real-time image of small specimen. Courtesy of Faxitron.

Dimensional Outline (unit: in)

NOTES:

1) Do not use excessive force on tube body.
2) Window flange must be grounded.
3) It is user responsibility to ensure that adequate shielding and interlock devices are provided to avoid accidental exposure to the hazards of radiation and or electrical shock.
4) Use TCM-8040-OEM or TCM-INT 8040-Lab P.S.



TFS-8010
OUTLINE DRAWING

Recommended Power Supply

• TCM-8040 OEM Application

The TruFocus **TCM-8040** 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-8040** 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-8040

• 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 8040

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 of 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.

TruFocus Corporation

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