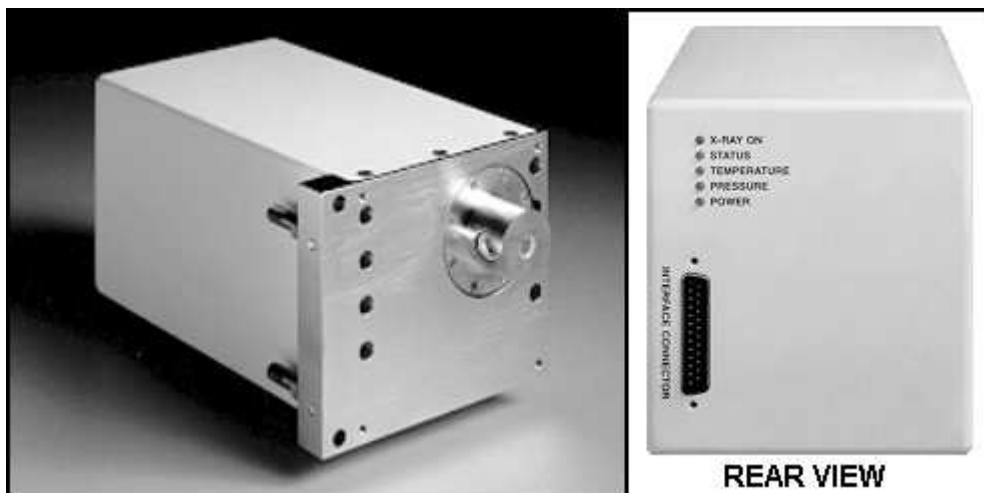


MAX-8

-80 kV Integrated X-Ray Source



Specification

- **Focal Spot Size: 200 μ m**
- **Continuous Operation: 160 W**
Continuous maximum output from -17 kV to -80 kV and 2.00 mA maximum operation.
- **Integrated System**
Internal power supply can be programmed to specification.
- **Liquid Cooled**

Application

- **Analytical**
 - Particle Analysis
 - Fluorescence
 - Isotope Replacement
 - Stress Analysis
 - Thickness Gauging
- **Densitometry**
- **Spectroscopy**
- **Soft X-Ray Radiology**

Description

The TruFocus **MAX-8** X-Ray source has a programmable interface and built in power supply. Built for extreme industrial environments, the **MAX-8** is designed to provide mobile continuous output without the constraint of high voltage cables or external power supply installation. The **MAX-8** is fully enclosed and shielded and provides protection from unnecessary x-ray exposure beyond the angled beam.

Characteristics

General

Parameter	Value	Unit
Target Voltage	-17 to -80	kV
Target Current	0-2.0	mA
Maximum Power	160	W
Focal Spot Size	200	µm
Focal Spot Shape	Circular	—
Beam Angle	34	degree
Operation	Continuous	—

X-Ray Tube

Parameter	Description
X-ray Tube	Glass
Filament	3 V at 3.5 mA (max)
Target Material	Tungsten
Target Angle	15°
Window Material	Beryllium
Window Thickness	.005 “
Window Type	End Window
Operating / Storage Temperature (Max.)	+10 °C to +60 °C / 0 °C to +60 °C
Operating / Storage Humidity (Max.)	85 % RH
Cooling Method	Propylene glycol
Weight	2 lbs
Flux Stability	<0.2%

Programming

PIN#	PARAMETER	MIN	MAX
Voltage and Current Control			
2	+10 VDC Reference Output	+9.95	+10.05
3	kV Program Input, full scale	0	+10 VDC
4,6	kV mA Program Return, floating	-2 VDC	+2 VDC
5	mA Program Input, full scale	0	+10 VDC
7	kV Monitor Output, full scale	0	+10 VDC
8	mA Monitor Output, full scale	0	+10 VDC
	HV Monitor Accuracy		2%
	mA Monitor Accuracy		2%
9	Monitor Return, floating	-2 VDC	+2 VDC
Control & Fault Detection			
1, 14	Ground and Logic Return	0	0
15	Enable Input low level interlock	+3.5 VDC	+36 VDC
16	Fault Output	+4.5 VDC	+5.5 VDC
17	Pressure Fault	200 Kpa	500 Kpa
18	Temperature Fault	0 C	65 C
	Over Voltage Tube Fault	80 kV	83 kV
	Over Current Tube Fault	2.0 mA	2.5 mA
19	Over Power Tube Fault	160 W	180 W
20	Ready Output	+4.5 VDC	+5.5 VDC
21	Tube Power Monitor, full scale		+2 VDC
Power Inputs			
10	+ VDC input for filament: Voltage	22 VDC	32 VDC
	+ VDC input for filament: Current	0.2 AMP	0.8 A
11,12,13	+ VDC Input for HV: Voltage	24 VDC	32 VDC
	+ VDC input for HV: Current	0 AMP	11 A
	+ VDC input for HV: Power	0 WATT	250 W
23,24,25	- VDC input supply returns	0	0
	Fusing on power inputs		18 A

Calibration*

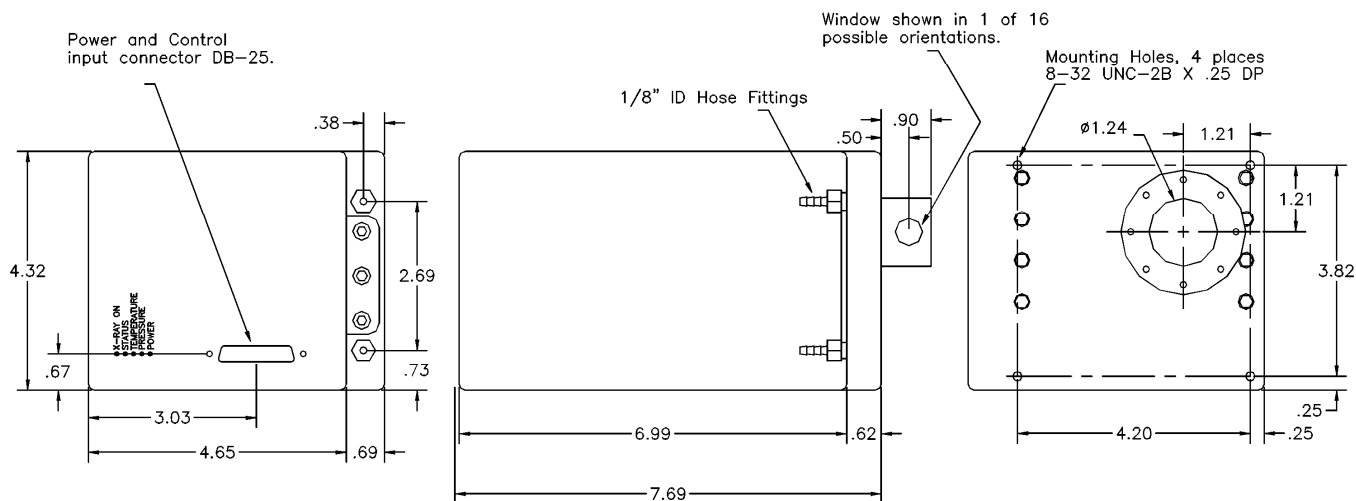
Voltage Output (kV)	Voltage Input (V)
20	2.50
30	3.75
40	5.00
80	10.00
Current Output (mA)	Current Input (V)
0.3	1.5
0.4	2.0
0.5	2.5
0.6	3.0
0.7	3.5
0.8	4.0
0.9	4.5
1.0	5.0
2.0	10.0

Dimensional Outline (unit: in)

NOTES:

- 1) Do not use excessive force on tube body.
- 2) 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.

MAX-8 Outline Drawing.dwg Rev. A
5/8/98 AR.



MAX-8.
OUTLINE DRAWING.



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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