

NEW

130 kV MICROFOCUS X-RAY SOURCE L9181



FEATURES

- **Focal Spot Size: 5 μm (at 4 W)**
Providing 5 μm focal spot size, for the sealed-off type X-ray source with built-in power supply. It gives a clear clairvoyance image despite of higher magnification ratio.
- **Easy Handling**
Convenient handling (with no high voltage wiring) since the air cooled X-ray source and the high voltage power supply are in one package.
- **Continuous Operation: 39 W**
It allows continuous maximum output, 130 kV and 300 μA , operation.
- **Serial Port Control (RS-232C)**
It is automatically operable from external computer control since head has a built-in RS-232C interface.
- **Wide Irradiation Angle: 100 degree (Maximum)**

APPLICATIONS

- **X-ray Non-destructive Test**
 - Printed Circuits
 - Semiconductor Devices
 - Soldered Parts
 - Combined Materials
 - New materials
 - Electronic Components
 - Ceramics
 - Rubbers
 - Plastics
 - Die casting
- **Multilayer Printed Circuit Board X-ray Inspection**
- **Drilling Instrument**
- **Industrial On-line Process Control and Measurement**
- **Industrial X-ray Computer Tomography System**

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SPECIFICATIONS

●GENERAL

Parameter	Value/Description	Unit
Target Voltage	40 to 130	kV
Target Current	0 to 300	μA
Maximum Output Power	39	W
Focal Spot Size	Small Spot Mode	8 (8 W isowatts), 5 (4 W)
	Middle Spot Mode	20 (16 W isowatts)
	Large Spot Mode	40 (39 W)
Beam Angle (Maximum)	100	degree
Minimum Distance Focus/Object	13	mm
Operation	Continuous	—

■X-RAY TUBE

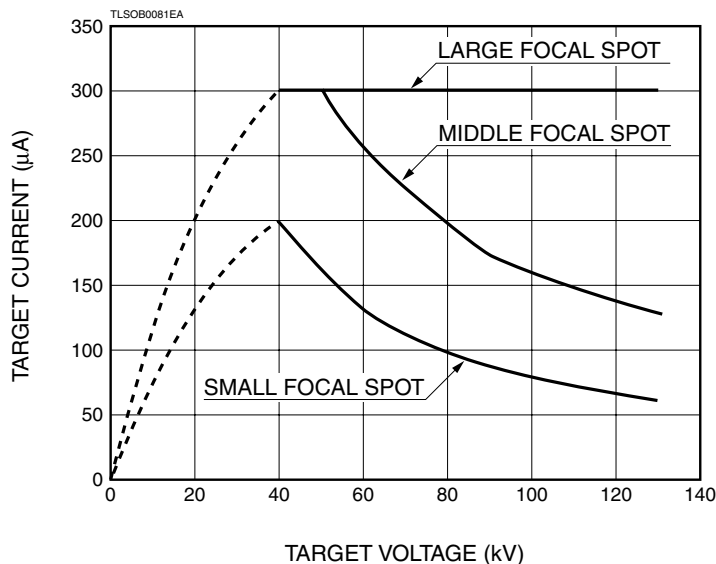
Parameter	Description
X-ray Tube	Sealed Type
Cooling Method	Forced Air Cooling
Window Material	Beryllium (500 μmt)
Target Material	Tungsten
Cathode Material	Dispenser Cathode
Window Position	End-window
High Voltage	Built-in Type
Power Supply	Less than 120 W
Power Consumption	24 V
Input Voltage (DC)	Designed for bench-top
Installation Method	Operation /Storage Temperature
Operation /Storage Temperature	+10 °C to +40 °C / 0 °C to +50 °C
Operation/Storage Humidity	85 % RH Max. [Ⓐ]
Weight	Approx. 10 kg

NOTE: [Ⓐ] Without moisture condensation.

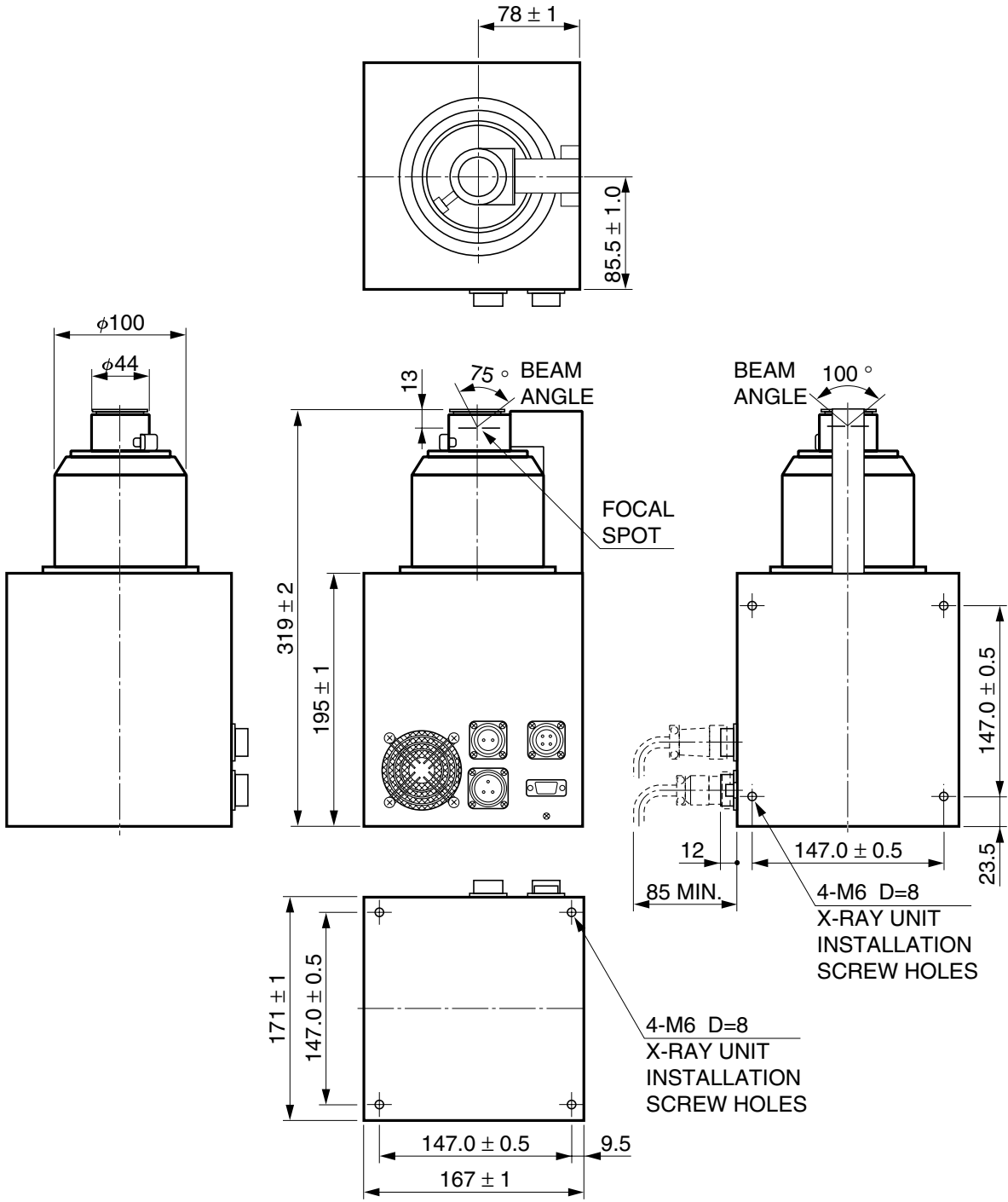
■CONTROL PART

Parameter	Description
Control Command	X-ray ON/OFF, Focal Spot Size Select, Target Voltage/Current Setup, Target Voltage/Current Pre-set
Function	Pre-set, Auto Warm-up
Protection	Safety Interlock
External Control	RS-232C
Applicable OS	Windows® 2000 professional
Computer Operating Conditions	CPU: Intel Pentium or Higher, Memory: 64 MB or More

Figure 1: X-ray Tube Operational Range



DIMENSIONAL OUTLINE (Unit: mm)



RELATED PRODUCTS

X-RAY IMAGE INTENSIFIER CAMERA UNIT C7716, C7716-10

The C7716 series X-ray image intensifier (I. I.) camera unit now offers greatly improved X-ray detection efficiency even at low energy levels. This improvement stems primarily from a built-in X-ray image intensifier having an extremely thin aluminum input window. Its thickness is only 0.3 mm or less, virtually at the limit of present technology providing excellent X-ray transmittance and low scattering.

The results are sharp, clear, high-quality images taken at low energy X-ray levels down to several keV which penetrate plastic (PET) materials.



X-RAY IMAGE INTENSIFIER CAMERA UNIT C7876, C7876-10

The C7876 is an X-ray image intensifier camera unit ideal for non-destructive inspection of light-element materials and radiation imaging at low-energy X-ray levels.

The C7876 remarkably improves X-ray transmittance at low-energy X-ray levels by using a beryllium window instead of the aluminum window currently used for most X-ray image intensifiers.

The result is a sharp and clear, high-contrast image taken in real time even at low energy X-ray levels down to a few keV.



⚠ PRE-CAUTION TO USE

1. X-ray emitted from this device is harmful for human body. And it should be necessary for the operator to protect himself/herself from it.
2. During an operation, the X-ray tube unit should be installed in the X-ray shielded cabinet in order to avoid any X-ray leakage. Also the safety interlock system in X-ray control unit should be always used in order to avoid any misoperation.

WARRANTY PERIOD

This device is guaranteed for 18 months from data of purchase.

The warranty extends only to replacement of the products. The warranty does not cover damage due to misuse or natural calamity.

* **CE** This product(s) conforms to the EMC directive (89/336/EEC) of the European Union.

* To meet FDA standards, the Interlock-1 circuit incorporates a relay that shuts off the X-ray generation power supply circuit if the circuit is open.

Subject to local technical requirements and regulations, availability of products included in this promotional material may vary. Please consult with our sales office. Information furnished by HAMAMATSU is believed to be reliable. However, no responsibility is assumed for possible inaccuracies or omissions. Specifications are subject to change without notice. No patent rights are granted to any of the circuits described herein. ©2003 Hamamatsu Photonics K.K.

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