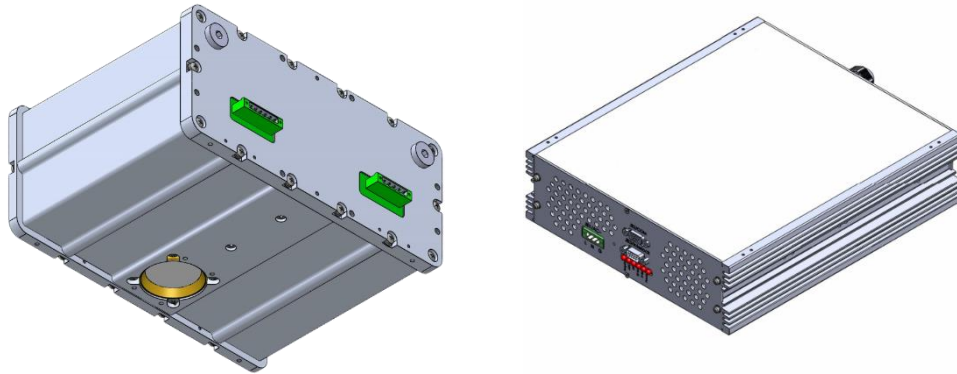


## MEDICAL X-RAY SOURCE

### 1.HVP1003A0 X-Ray Source



#### Introduction:

The HVP1003A0 is a compact, safe, low-leakage, and electrically stable integrated X-ray source. It can continuously operate at 100W for up to 300 seconds (or more than 100W for 200 seconds) within the specified temperature range. The X-ray source includes a high-voltage power supply, filament power supply, X-ray tube, high-voltage oil tank, and cooling system. This integrated X-ray source features high-frequency operation, self-cooling, and built-in protection. It supports a maximum voltage of 100kV and a maximum power of 300W. The system consists of a control box and an X-ray oil tank and is managed via RS232 interface for control, monitoring, and firmware updates.

#### Features:

1. Integrated design, compact appearance, and lightweight structure
2. System integrates high-voltage power supply, filament power supply, and control unit
3. Can be installed in any orientation
4. Standard digital interface for easy application

#### Application:

Mainly used for bed bone density meter, bone density detection.

#### Specification:

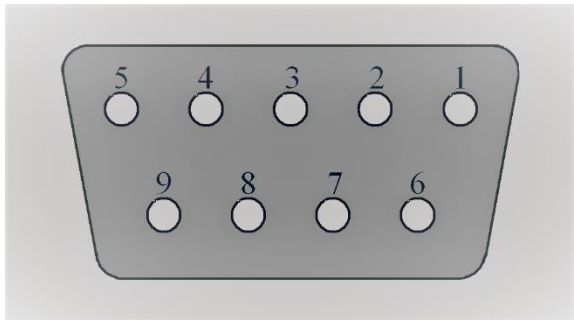
Item	Specification
Input voltage	230VAC $\pm$ 10%, 50/60Hz, 3Amps
Output power of X ray tube	Max continuous output power 300W (100kV/3mA)

Output voltage	Rated output voltage: Continuously adjustable voltage range 30kV---80kV
	Output voltage ripple: $\pm 0.5\%$ (peak to peak)
	Output voltage accuracy: $\pm 2\%$ of voltage setting value
	line regulation: $\pm 0.1\%$
	load regulation: $\pm 0.1\%$
Tube current	Rated tube current: Continuously adjustable current range 1.0mA-3.0mA
	Tube current accuracy: $\pm 0.2\text{mA}$ of current setting value
	line regulation: $\pm 0.1\%$
	load regulation: $\pm 0.1\%$
Rise time of output voltage	The kV rise time is <0.6 Sec at maximum power
	The kV rise time is <0.1 Sec at low voltage ( < 40kV )
Filament power supply:	input voltage: 24VDC
	filament voltage: 2.0 to 5.3Vac
	filament: 3.0 to 3.8 Amps RMS
	preheating time: 3sec
Tube feature	Tube type: Fixed anode, glass shell, tungsten target
	focus: 0.5mm
	inherent filtration: 1.65mm Al
	target angle: 20°cone beam
Cooling	Transformer oil medium, air cooling heat dissipation.
Working temperatures	-10°C---40°C
Storing temperature	-20°C---60°C
System temperature protection	60°C $\pm 3^\circ\text{C}$ of oil temperature
Humidness	98%, Non-condensation
Weight	X-ray tank: 8.47kg
	Control box: 3.7kg
Installation direction	Installation in any direction
Radiation angle	cone angle of ray tapered beam 20°
X-ray leakage	Less than 100mR/hr @1mm from the surface of the HVP1003A0.

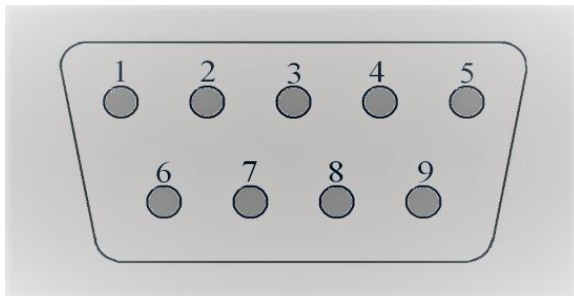
**JB1/AC~, (AC Input Power Connector)**


Pin	Signal	Parameter
1	L	live wire
2	N	Neutral line
3	G	PE

**JB2/COM, (DMR-9S interface definitions)**

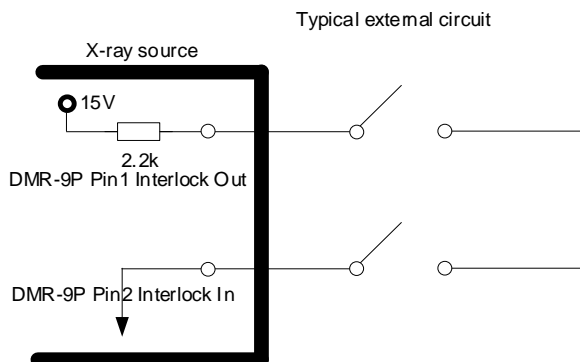


Pin	Signal	Parameter
1.4.6.7.8.9	N/C	No connect
2	TXD	Data transmit
3	RXD	Data receive
5	GND	Signal gnd

**JB3/Interlock, (DMR-9P interface definitions)**


Pin	Signal	Parameter
3/4/5/6/7/8/9	N/C	No connect
1	Interlock Out	
2	Interlock In	

Short connect pin1 and pin2 make X ray source normal operation. Typical connection :


**Led indicator**

ID	Color	Meaning
XrayOn	Yellow	indicate X ray on
ARC	Red	Arcing in oil tank
OT	Red	Over temperature
EP_Err	Red	Tube voltage error
IP_Err	Red	Tube current error
Power	Green	Power on

HVP1003A0  
Unit: mm

