



艾瑞特电气
X-Ray Technology

X射线生物辐照仪

Biological X-Ray Irradiator

X-ART 160A型



丹东艾瑞特电气有限公司

Dandong X-Ray Technology Co.,Ltd



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X-RayTechnology

X-ART 160-A X射线生物辐照仪

X-ART 160-A X射线生物辐照仪特点

- 1、无放射源污染危害：以X射线管产生的X射线替代钴源、铯源辐照仪，产生的X射线精确可控，无同位素污染危害。具有剂量的均一性和精确可调性。
- 2、工作性能稳定：由于本辐照仪全面采用了国际上当前最先进的技术和生产工艺制作的部件，从而确保了整机的工作性能十分稳定。一体柜式结构使仪器的外观整洁美观、操作方便。
- 3、独特的安保设计理念：多重的安全联锁功能、卓越的自诊断功能和多达20种以上故障报警功能，极大地避免了工作人员因误操作而造成的可能的损害，使得系统运行更安全、更可靠。
- 4、操作方便：采用先进触摸屏可编程技术，中文界面使得操作更直观、更简便。有完善的剂量分布图测试报告。
- 5、参数可调：KV (电压)、mA(电流)、源距、时间、射线束过滤等均可调。
- 6、自研发独特的半导体冷却系统：噪音小；稳定性好；对环境温度适应性强。
- 7、无后顾之忧：订货后到货时间短、维护和维修便捷。

- 1, Without radioactive sources pollution hazard: X- ray from X- ray tube instead of Cesium or cobalt irradiation, resulting X-ray precise controllable and no isotope pollution hazard, the dose of uniformity and exact controllability.
- 2, Stable performance: The irradiator comprehensively adopted the most advanced technology and production craft components, so as to ensure that the system performance is very stable. A structure of cabinet looks neat and beautiful and easy to operate.
- 3, Unique security design concept: multiple safety interlocking functions, outstanding self-diagnosis functions and up to more than 20 different fault alarm functions, greatly avoids to hurt operators for a wrong operation , making the system running more security and more reliable.
- 4, convenient operation: advanced touch screen programmable technology, Chinese interface allows operation more intuitive, more easily. Improve the dose distribution test report.
- 5, Parameter adjustable: KV (voltage), mA (current), the source distance, time, X-ray of filtering, etc. can be adjusted.
- 6, Unique semiconductor cooling system: small noise, good stability.
- 7、 Good service : short delivery time, convenient maintenance and repair.



X-ART 160-A X射线生物辐照仪应用

生物医学中的主要应用包括：

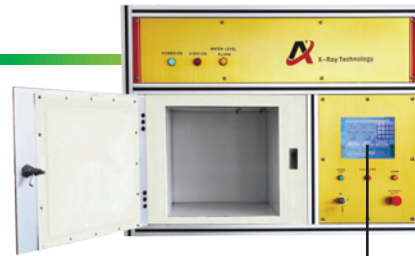
放射生物学、细胞生物学、微生物学、基因组学、免疫学、肿瘤学、药理学、干细胞与骨髓移植的动物辐照以及微生物的灭活、饲养层细胞的灭活、药物研发、嵌合鼠的制备等。

The main applications in biological medicine including: radiation biology, cell biology, microbiology, genomics, immunology, oncology, pharmacy, Stem cells from the bone marrow transplantation animal irradiation of animals and microbial inactivated, cells inactivated raising the layer, drug discovery and development, the preparation of chimeric rat, etc.

植物学与农业学主要应用包括：

育种、食品保鲜和消毒等。

The main applications in Plants and agriculture including: Breeding, food preservation and disinfection.



X-ART 160-A X射线生物辐照仪使用部门

使用单位: 涉及细胞培养、微生物、血液病及实验动物（小鼠、大鼠、兔等）的科研及医疗单位，包括：骨髓移植及血液中心、器官移植实验室、肿瘤实验室、放射医学实验室、放射治疗科实验室、电磁辐射预防研究室、细胞生物学实验室、分子生物学实验室、免疫学实验室等。

Application organizations involved in cell culture, microbes, and blood and experimental animals (rats, mice and rabbit and so on) of the scientific research and medical unit, including: bone marrow transplantation and blood center, organ transplant laboratory, tumor laboratories, radiation medical laboratories, radiation therapy laboratories, electromagnetic radiation prevention research center, cell biology lab, molecular biology laboratory, immunology labs, etc.



技术参数 Technical Data

X 射线管 X-ray Tube	最大管电压: 160 KV 最大输出功率: 3000W 型号: 金属陶瓷X 射线管 焦点: 7.5mm (per EN 12543) 双焦点的射线管可选	Max. Tube Voltage: 160 KV Max. Output Power: 3000 W Metal Ceramic X-ray Tube Focus Focal Spot: 7.5 mm (per EN 12543) Double Focal Spots X-ray tube available
高压发生器 High Voltage Generator	稳定性: $\leq 0.1\%$ 精度: 0.25% 最大输出电压Max. KV : 160KV 最大输出电流 Max. mA : 30 mA	Stability: $\leq 0.1\%$ accuracy: 0.25% Maximum output voltage Max. KV: 160 KV Maximum output current Max. MA: 30 mA
冷却系统 Cooling system	独特的低噪声水冷系统 The Unique Low Noise water cooling system	
剂量率输出 Dose rate output	10mGy~1000mGy/分钟、1Gy~45Gy/分钟, 1Gy=100Rad , 相当于伽马辐照仪的输出剂量。 10 mGy – 1000 mGy/min., 1 Gy – 45 Gy/min., 1 Gy = 100 Rad, equivalent to the output dose of Gama radiation instrument.	
剂量均一性 Dose uniformity	$\pm 5\%$	
操作控制 System Control	<p>中文操作界面: 独特设计的电脑触摸屏操作, 可轻松实现程序设置、调用、执行和监测。英文操作界面可选。</p> <p>参数设定: KV设定5–160KV , 增量0.1KV; mA 设定 0.1–30mA , 增量0.01mA。辐照时间设定1–6000秒 或连续。</p> <p>实时显示: 管电压, 管电流, 辐照时间, 冷却水温度, 水流量, Gy 数, 发生器内部温度等。如果存在安全联锁或其它系统故障, 还可显示故障代码。</p> <p>远程控制: 允许连接台式电脑或笔记本电脑完成整个实验的操作过程。在参数设定功能和实时显示功能上, 外接电脑与面板上的触摸屏电脑一样, 因此远程控制也可实现。</p> <p>Chinese interface: The unique design of computer touch screen operation, can be easily realize application Settings, calls, implementation and monitoring. English operation interface is available.</p> <p>Parameters setting: KV set 5–160 KV, incremental 0.1 KV; mA set 0.1–30 mA, incremental 0.01 mA Irradiation time setting: 1–6000 sec or continuous</p> <p>Real-time display: all data of tube voltage, tube current, irradiation time, cooling water temperature, Gy number, generator internal temperature, etc. will be displayed on the screen of the controller .in case of safety interlocking or system trouble , failure code will appear on the screen .</p> <p>Remote control: connecting a desktop PC or laptop computer remote control can be achieved.</p>	
电力要求 Power Requirement	220V 40A ,60 Hz , 单相 220V 40A ,60 Hz , 1PE	
机箱 Cabinet	<p>整体一柜式结构: 开机运行过程中的环境剂量符合国际有关标准的规定。</p> <p>机箱总尺寸: 120 cm × 85 cm × 199.5 cm (长X宽X高)</p> <p>铅房尺寸: 44.5cm × 44.5cm × 42.5cm (长X宽X高)</p> <p>总重量: 550kg</p> <p>The overall structure of a cabinet; Operation environment with international standards of dose regulations.</p> <p>Chassis total size: 120 cm × 85 cm × 199.5 cm(LXWXH)</p> <p>Lead room size: 44.5cm × 44.5cm × 42.5cm (LXWXH)</p> <p>Total weight: 550 kg</p>	



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