

RS[®] 2000·Q2

BIOLOGICAL IRRADIATOR

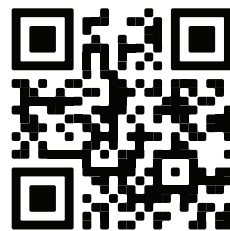
Reproducible Research Begins with Superior Irradiation Technology



Featuring 3rd-Generation QUASTAR[®] X-ray Technology

The RS 2000-Q2 represents the next generation of superior X-ray innovation.

Engineered for optimized dose delivery and unmatched reproducibility.



Get Started Now

Models available in 120 and 220 V AC



(678) 765-7900

RS® 2000-Q2 Biological Irradiator

Versatile X-ray Irradiation for Research and Production Environments

Applications

- **Cancer & Immunology Research:** Myeloablation, cell cycle arrest, DNA damage and repair studies, targeted tumor irradiation
- **Genetic & Molecular Biology:** Radiation-induced mutation studies in cells, tissues, and organisms
- **Agriculture & Pest Control:** Seed irradiation for crop improvement, sterile insect technique (SIT) for pest management
- **Food Safety & Preservation:** Irradiation studies to assess shelf-life extension, microbial load reduction, nutrient retention, and quality retention



Inside chamber

Performance Advantages

- **Advanced 3rd Generation QUASTAR X-ray Platform**
Next generation technology engineered for biological research
- **Industry Leading Dose Uniformity**
Superior symmetry, flatness, penetration and dose uniformity
- **Superior Reproducibility**
Optimized dose delivery ensures highly reproducible experimental outcomes
- **Plug and Play**
No external chiller required. Standard unit runs on a 120 V wall outlet
- **Animal Welfare and Cell Viability**
Reduced stress, injury, handling time, and cross contamination
- **Configurable Filters**
Tailor the Beam Profile and achieve effective energy comparable to 320 kV point-source
- **Real-Time Dosimetry**
Optional ion chamber enables accurate real-time monitoring of radiation dose
- **Unmatched Reliability**
Minimizes downtime and lowers operational costs



QUASTAR® X-ray Platform

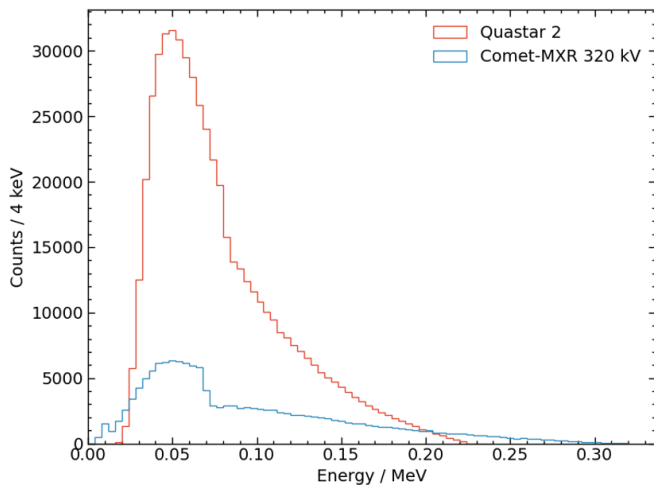
Engineered for the Demands of Life Science

QUASTAR is the advanced X-ray generation platform powering Rad Source irradiators. Purpose-engineered for life science, the QUASTAR platform delivers performance that significantly exceeds the legacy point-source tube systems still used in competitive irradiators. QUASTAR 2 is our third-generation platform, delivering further advancements in performance and reliability.

QUASTAR 2 Performance Exceeds Competitor's Point-Source-Based Solutions:

- Through-transmission design delivers superior beam symmetry and flatness
- Higher average energy provides enhanced penetration of the target
- 3x greater photon output (area under the curve), enables higher dose rates
- Exceptional energy efficiency, using up to 90% less energy
- Improved experimental reproducibility through industry-leading dose uniformity

Energy Spectrum:



3rd Gen+
QUASTAR®
Only from Rad Source

RADPlus™ Research Tools

Better Dose Uniformity, Better Research Outcomes

RADPlus™ Research Tools boost the performance and versatility of our biological irradiators. Designed for compatibility with common research consumables, these tools optimize dose delivery while supporting animal welfare and streamlining experimental workflows.

- Constructed from proprietary RADPlus material
- Enhance dose uniformity and increase effective dose rates
- Support animal welfare by reducing handling, stress, and injury
- Reduce cross-contamination between animals
- Preserve cell and tissue viability
- Improve operational efficiency through reduced handling time
- Enable consistent, reproducible research outcomes



RADPlus Rectangle

Holds Innovive cages that allow free movement of mice, eliminates the need for sedation or restraint.



RADPlus Round

Holds the Braintree Rad Disk Mouse Holder (8 pie and 12 pie wedges).



RADPlus Petri Dish Holder

Holds 100 mm (3 plates); 60 mm (6 plates); 35 mm (14 plates)



RADPlus Vial Holder

Inclination angle positions vials for optimal dosing. Holds 2 mL to 50 mL vials.



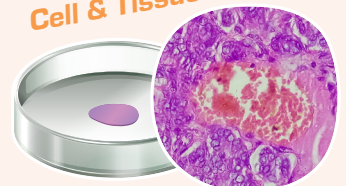
RADPlus Well Plate Holder

Holds two standard 24 and 96 well plates.

Small
Animal



Cell & Tissue



About Rad Source


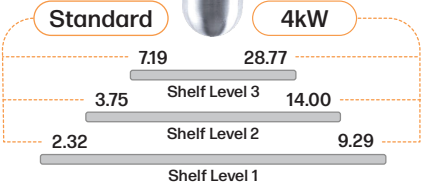
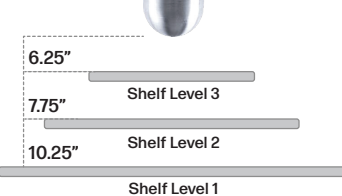
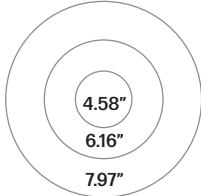

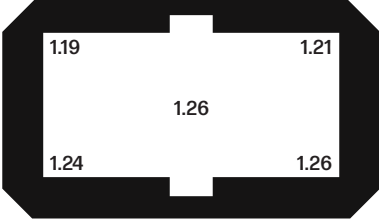
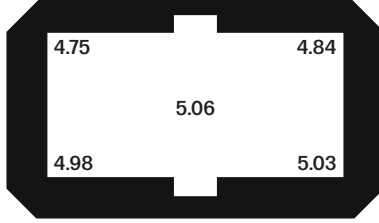

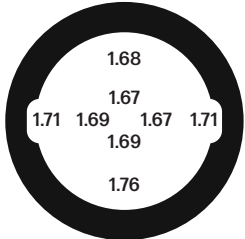
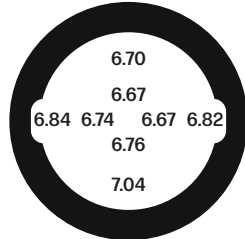
Rad Source is the global leader in developing biological irradiator solutions for life science. Our mission is to develop life changing biological X-ray solutions that enable our customers to advance the world through life science research and innovation. Our global network delivers innovative X-ray life science solutions backed by responsive worldwide service and support.

Proven in the Vivarium

The RS 2000-Q2 has become the workhorse of our vivarium. Its high reliability and excellent dose uniformity have improved the reproducibility of our experiments.

- Laboratory Operations Manager,
Cancer Institute

Specifications

Aluminum Shelf	Dose Rates by Level (Gy/min)	Distance to Source (in.)	Ring Size (dia. in.)
	 <p>Standard 4kW</p> <p>7.19 28.77</p> <p>3.75 Shelf Level 3 14.00</p> <p>2.32 Shelf Level 2 9.29</p> <p>Shelf Level 1</p>	 <p>6.25" Shelf Level 3</p> <p>7.75" Shelf Level 2</p> <p>10.25" Shelf Level 1</p>	 <p>4.58"</p> <p>6.16"</p> <p>7.97"</p>
RADPlus™ Tools	RS 2000 Q2 (standard) Dose Rate (Gy/min)	RS 2000 Q2 (4kW) Dose Rate (Gy/min)	
 RADPlus Rectangle	 <p>1.19 1.21</p> <p>1.26</p> <p>1.24 1.26</p> <p>Symmetry: 0.97 Flatness: 0.97</p>	 <p>4.75 4.84</p> <p>5.06</p> <p>4.98 5.03</p> <p>Symmetry: 0.97 Flatness: 0.97</p>	
 RADPlus Round	 <p>1.68</p> <p>1.67</p> <p>1.71 1.69 1.67 1.71</p> <p>1.69</p> <p>1.76</p> <p>Symmetry: 0.98 Flatness: 1.02</p>	 <p>6.70</p> <p>6.67</p> <p>6.84 6.74 6.67 6.82</p> <p>6.76</p> <p>7.04</p> <p>Symmetry: 0.98 Flatness: 1.02</p>	
Specifications	Standard	4kW	
Cooling Requirements	No Chiller Required		
Electrical Requirements (Two Configurations Available)	110-120 V, Single Phase, 20 A, 50-60 Hz 220± 5% V, Single Phase, 20 A, 50-60 Hz	220± 5% V, Single Phase, 30 A, 50-60 Hz	
Equipment Weight	Approx. 2,750 lb (1,247 kg)		
Equipment Dimensions	43" W x 75" H x 36" D (109.2 cm x 190.5 cm x 91.4 cm)		
Internal Chamber Dimensions	17.5" W x 15.5" H x 16.75" D (44.5 cm x 39.4 cm x 42.5 cm)		
Required Clearance Dimensions	48" W x 76" H x 40" D (121.9 cm x 193.0 cm x 101.6 cm)		

Dosimetry instruments meet NIST standards

BU-BR-0005 Rev 7, 04/26

