

The **RS™** 3400 Blood Irradiator



The Premier X-Ray Blood Irradiator in the World Providing Superior Dose Uniformity, Productivity and Industry Leading Reliability

- **Highest Product Throughput and Flexibility**
Processes a variety of blood configurations of up to 6L capacity in 5 minutes - whole blood bags, platelet bags and loaded syringes in the same cycle
- **Excellent Dose Uniformity**
A combination of the patented Quastar® x-ray emitter, rotating carousel and new canister with Support Inserts may achieve as low as ~1.35 DUR
- **Direct Replacement for Gamma Irradiator**
U.S. Government recognized safe, direct alternative for radioactive isotope (gamma) source irradiators

*US-FDA CLEARED, CE MARKED, AND CB SCHEME CERTIFIED

blood

POWERED BY
QUASTAR™

X-Ray Designed for Life Science™

The RS 3400 is a registered medical device with a US FDA 510(k). It is produced and tested in Rad Source's Buford, Georgia, USA facility. Rad Source products conform to the radiation safety guidelines found in 21 CFR 1020.40.

Radiation safety features of the RS 3400 include redundant safety interlocks to prevent intrusion in to the radiation chamber while in operation. The unit is a Cabinet X-Ray Device that has external emissions far below the Federal Standard for such devices.

FEATURES & BENEFITS

- Patented Quastar x-ray emitter (Patent # 7346147)
- Dose Uniformity of ~1.6 to ~1.35 when using Support Inserts.
- Cycle time for 25Gy center dose is less than 5 minutes
- Patented carousel rotator uniquely rotates canisters around source w/out rotating contents. (Patent # 7515686)
 - Holds up to six 1 L canisters (dimensions on next page)
 - Can process blood bags, platelet bags, and drawn syringes of up to 60 mL (e.g. aliquots) in the same cycle
- Runs on single power supply, which runs at less than 2 kW
- Repairable x-ray emitter source operates up to 7 years
- Smallest blood irradiator footprint - 33.9 x 33.3" (86.0 x 84.5 cm)
- Onboard cooling system - no water hook-up required

Direct Cesium Replacement

- No Nuclear Regulatory Commission (NRC) License required
- No nuclear disposal requirements
- No additional safety equipment for laboratory staff
- No additional security requirements

Certification

- US-FDA cleared, CE marked, and CB Scheme certified

“The performance of the RS 3400 has been great. The staff have not had any issues using the irradiator.

Very simple to operate and user-friendly. I would purchase another RS 3400 and would recommend this product. Great company to work with.”

-Greg Early, Children's Hospital of Alabama



We pioneered the first FDA-cleared blood x-ray irradiation medical device used to prevent the highly fatal transfusion-associated graft-versus-host disease (TA-GVHD) in blood transfusion recipients.

Blood transfusion is a lifesaving procedure for people who are bleeding and people who cannot make a sufficient amount of blood on their own.

A rare but almost always fatal complication from blood transfusion is called transfusion-associated graft-versus-host disease (TA-GVHD), where immune cells from the donor blood attack the recipient's organs and cause a deadly infection that is nearly impossible to fight off.

Started over 20 years ago, we pioneered the first-ever FDA-cleared blood x-ray irradiation medical device used to prevent TA-GVHD, and today with over 250 worldwide installations, we have maintained our status as the industry leader and gold-standard in blood irradiation technology and instrumentation ever since.

Our patented x-ray irradiation technology effectively and routinely inactivates the immune cells in donor blood, which diminishes the risk of developing TA-GVHD for the transfusion recipient.

Optional Items Available



RS 3400 Canisters (2021)
Dose Uniformity Optimized

PN # 1402055

- New and improved design.
- Holds any standard blood or platelet bag.
- Onboard Support Inserts provide an improved dose uniformity ratio (from 1.6 to ~1.35).
- Made of durable Polycarbonate ABS.
- Provides improved durability, security & ease-of-use.
- The cap features a built-in groove which assists in holding the canister in place.
- Canister dimensions:
 - Volume: 868 mL
 - External Dimensions: 4.0" x 5.0" (10.2 cm x 12.7 cm)



RS 3400 Canisters (2021)
Standard Version

PN # 1409383

- New and improved design.
- Holds any standard blood or platelet bag.
- Made of durable Polycarbonate ABS.
- Provides improved durability, security & ease-of-use.
- The cap features a built-in groove which assists in holding the canister in place.
- Canister dimensions:
 - Volume: 1000 mL
 - External Dimensions: 4.0" x 5.0" (10.2 cm x 12.7 cm)



RS 3400 Syringe Holder

PN # 3400-09401

- Allows for syringes to be run simultaneously with whole blood and platelets in the same cycle.
- Accepts up to (3) 30 mL or 60 mL drawn syringes per holder (up to 18 total per cycle).



Dose Mapping Phantom

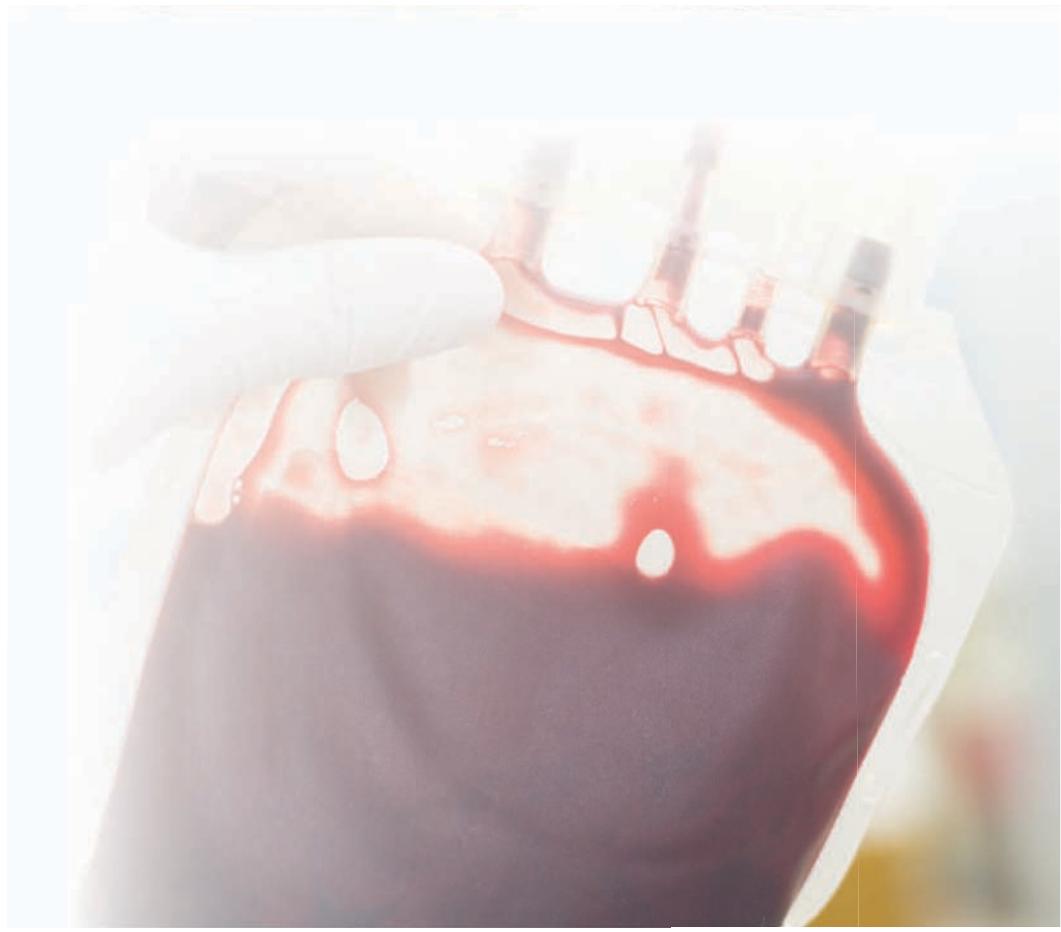
* available outside the US only

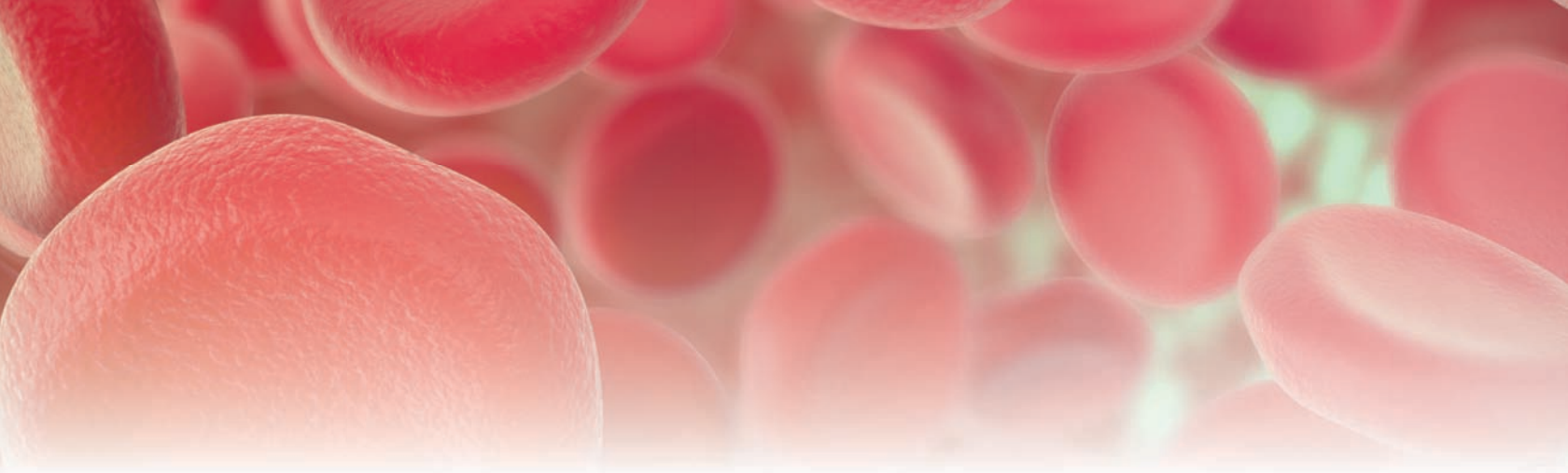
PN # PHANTOM

A Dose Mapping Phantom is a cylindrical device placed into one of the canister holders to simulate a canister full of blood.

Thermoluminescent dosimeters (TLDs) are placed in the phantom to measure the dose.

A Phantom is required to perform commissioning and routine dosimetry.





SPECIFICATIONS

PHYSICAL DIMENSIONS

EQUIPMENT DIMENSIONS

33.9 x 33.3 x 68.3" | 86.0 x 84.5 x 173.4 cm

CRATED DIMENSIONS

38.0 x 37.0 x 75.0" | 96.5 x 94 x 190.5 cm

EQUIPMENT WEIGHT

1735 lbs. | 786.98 kg

ELECTRICAL REQUIREMENTS

POWER

208/240VAC, Single phase, 50/60Hz, 30 Amp, true earth ground

INSTRUMENT WIRING

10 AWG L1, L2/N

SAFETY & QUALITY

All Rad Source irradiators receive a quality inspection, dose map, and radiation survey prior to shipment and again at installation.

All Rad Source irradiators are manufactured as cabinet x-ray devices and conform to the radiation safety guidelines in US CFR 1020.40

IRRADIATION GUIDELINES

USA (FDA)

15 Gy min/25 Gy central/50 Gy max

EUROPE (EDQM) & UK (BCSH)

25 Gy min/50 Gy max dose rate: 5.5 - 6.5 Gy/min

PROCESSING

DOSE UNIFORMITY RATIO (DUR)

~1.6 to as low as ~1.35*

*when using the Support Inserts

PROCESSING VOLUME / CYCLE

Blood Bags	Up to (6) 600 mL bags
Platelet Bags	Up to (6) 500 mL bags
Syringes	Up to (18) 60 mL Syringes

WARRANTY

DOSE MAPPING

The RS 3400 is dose mapped prior to shipment and at the time of installation.

12 MONTH FULL WARRANTY

Includes Installation, Training, Initial Dose Map, Radiation Survey, 2nd Dose Map and all parts, labor & travel.

EXTENDED WARRANTY PROGRAM

Available for purchase anytime within 12 months from date of installation.



The X-Ray Reinvented™



Our mission is to become the world leader in creating x-ray technologies and solutions that enable our customers to improve the world through life science. For over 24 years we have been a trusted and reliable partner to approximately 900 hospitals, pharmaceutical, academic and research institutions worldwide. Quastar, our patented technology, produces high output x-ray irradiation safely, efficiently and reliably for a wide variety of applications in life sciences.

To learn more about our positive impact on our world, contact us today.

www.radsources.com/blood-irradiator-rs3400

678-765-7900

MKT- 037 Rev 3 RS 3400 Blood Irradiator Int