

# 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 & 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**

The combination of the patented Quastar® x-ray emitter, rotating carousel and canister may achieve a DUR as low as ~1.35.

## **Direct Replacement for Gamma Irradiator**

U.S. Government recognized safe, direct alternative for radioactive isotope (gamma) irradiator.

## **Unmatched Service & Support Footprint**

With more than 800 irradiator installs in renowned hospitals, universities, pharma, government and life science institutions worldwide, Rad Source is a proven and reliable x-ray manufacturer with unmatched and trusted services.

\*CE marked

blood



## The RS 3400 Blood Irradiator

### 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 into 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 and 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 single power supply - runs at less than 2 kW.
- Repairable x-ray emitter source operates up to 7 years
- Smallest irradiator footprint - 34 x 36" (86.36 x 91.44 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



## Rad Source in Action

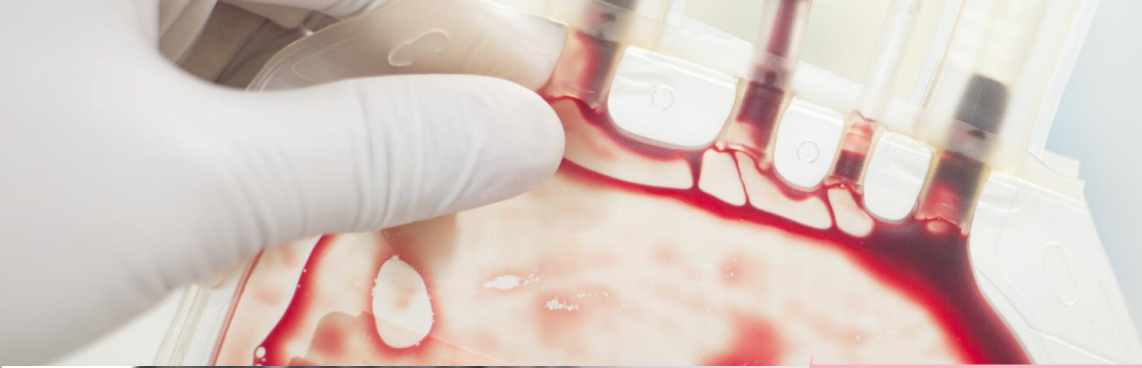


We pioneered the first FDA-cleared blood x-ray irradiation medical device used to prevent the highly fatal transfusion-associated graft-versus-host disease (TA-GVHD) in blood transfusion recipients.

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.



## CARBON FIBER CANISTER

Highest Flexibility and Capacity on the Market

### Blood Bags

- 6 x 600 mL bags
- 6 x 500 mL bags
- 12 x 250 mL bags per
- Can be run in cycle with syringes and platelet bags

### Platelet Bags

- 6 x 600 mL bags
- 6 x 500 mL bags
- 12 x 250 mL bags per
- Can be run in cycle with syringes and blood bags

### Drawn Syringes

- (3) 30 mL or 60 mL drawn syringes per canister
- Up to 18 total syringes per cycle
- Can be run in cycle with blood and platelet bags



RS# 1402055

## SYRINGE HOLDER

- Holds fully drawn syringes.
- Two (2) Syringe Holders are supplied with the unit.
  - Additional are available to purchase.
- \* Syringes must have Leur Lock Caps.
- \* Syringe holders do not work with a sterile dock system.



RS# PHANTOM

\*\* INTERNATIONAL AVAILABILITY ONLY \*\*




RS# 3400-09401

## DOSE MAPPING 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.





"The performance of the RS 3400 has been great. The staff has 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

## TECHNICAL SPECIFICATIONS

### PHYSICAL DIMENSIONS

#### EQUIPMENT DIMENSIONS

34 x 33 x 67.75" | 86 x 84.6 x 173.35 cm

#### CRATED DIMENSIONS

38 x 37 x 75" | 96.52 x 101.60 x 190.50 cm

#### EQUIPMENT WEIGHT

1400 lbs. | 635.0 Kg

### ELECTRICAL REQUIREMENTS

#### POWER

208/240VAC, Single phase, 50/60Hz, 30 Amp, grounded

#### 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 GUIDELINE

#### 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)

Dose Uniformity of 1.6 to ~ 1.35

#### PROCESSING VOLUME / CYCLE

Blood Bags - Up to (6) 600 mL bags

Platelet Bags - Up to (6) 500 mL bags

Drawn 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 and travel.

#### EXTENDED WARRANTY PROGRAM

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

[radsource.com/products/rs-3400-blood-irradiator/](https://radsource.com/products/rs-3400-blood-irradiator/)

POWERED BY  
**QUASTAR** X-Ray Designed for Life Science™

Rad Source is a global leader in developing x-ray solutions for life science. Our mission is to develop innovative x-ray technologies that enable our customers to improve the world through life science innovation.

Whether our customers are doing cancer and cell research, solving life's most challenging issues or preventing the spread of infectious diseases, we are here to support them. Our global network of employees and partners deliver an unrivaled combination of the world's most innovative x-ray-based life science solutions and a highly trained and responsive global service and support footprint.

