



# CIX3: CABINET X-RAY IRRADIATOR

Effective And Accurate Dose  
Delivery For Preclinical Research



**Xstrahl's CIX Series cabinet irradiators are free-standing, self-contained X-ray irradiators, designed to facilitate the safe and accurate irradiation of biological samples within a standard laboratory environment.**

Fulfilling the requirements of in vitro and in vivo biological research, the CIX3 is a 320kV self-contained cabinet irradiator incorporating the irradiation chamber and system electronics in one enclosure. The intuitive and easy to use software interface allows for multiple user logins, the X-Ray exposures can be programmed and executed automatically. In addition to removing the health and safety burden associated with the use of radioactive sources, the Xstrahl CIX3 provides a simpler, safer and lower cost alternative to radioisotope irradiators.

### Research Applications

- In vitro irradiation
- In vivo irradiation
- DNA repair mechanisms
- Tumour micro environment
- Bystander effects
- Normal tissue toxicity
- Low dose radiobiology studies
- Hypoxia research
- Combination therapy studies
- Radioimmunotherapy
- Immunology
- Bone marrow chimeras

### THE CIX3 CABINET IRRADIATOR CONSISTS OF:

- 320kV metal ceramic X-ray tube
- Large lead-shielded irradiation chamber
- Movable operator control panel with an intuitive touch screen interface
- Quick-change beam conditioning filters
- Unique vertical movement access door, resulting in a smaller footprint and safe, easy access to specimens
- Full commissioning report

### OPTIONAL ACCESSORIES

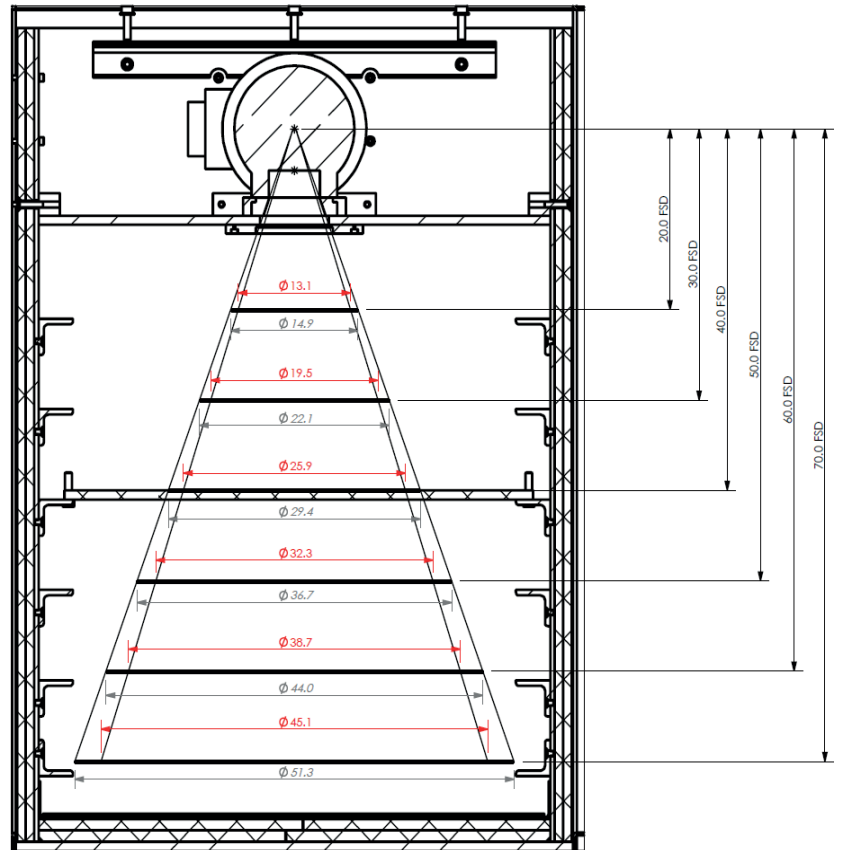
- Beam flattening filters
- Dosimetry system



### Ongoing Support

Xstrahl prides itself on providing best in class customer service with every system. We are proud to provide an unsurpassed level of service, from initial planning through to after sales maintenance and both technical and applications support.

Xstrahl works with you to ensure your system operates effectively and efficiently, minimising down time and maximising performance. From user training to our extensive range of ongoing maintenance and service contracts, the Xstrahl team's comprehensive in-depth knowledge ensures an unrivalled level of technical support, is provided to all users. Our international network of factory trained and clinically experienced engineering teams support hundreds of clinical radiotherapy and research systems worldwide.



Red = 90% max. homogeneity field size  
Black = Maximum irradiation field size

"We have been using an Xstrahl X-ray cabinet for some years for cell culture experiments, and it is one of the most frequently used machines in our lab. In my opinion, the X-ray irradiator is a great tool for the irradiation of cells. The possibility to change the filters quickly and to work with different distances away from the x-ray tube, markedly enlarges the spectrum of experiments that can be performed. The safety aspect is a big advantage."

— Postdoctoral Researchers, Ludwig Maximilian University of Munich, Munich, Germany

## CIX3 FEATURES

### STANDARD FEATURES

The standard components of the system include:

- No additional room shielding required - the CIX3 complies with radiation protection regulations in Europe, USA & the rest of the world.
- Space-saving, vertically operated, lead-lined door – drastically reduces the system footprint
- Large irradiation chamber with fully adjustable specimen table from 20cm to 70cm SSD
- Quick-change beam conditioning filters
- Automatic warm up procedure with optimal beam conditioning keeps the X-ray tube in peak condition
- Cable maze side port for safely introducing cables and tubing into the irradiation chamber
- Proven long-term reliability of components
- Movable touch screen control panel
- Intuitive user interface allows the user to independently set the kV, mA and time for an exposure or select from saved pre-programmed exposures
- Individual, password-protected accounts
- System usage data including operator logon time, X-ray exposure time and the total number of exposures can be exported to a USB memory stick

### OPTIONAL FEATURES

The optional components of the system include:

- MuriLaser alignment system for accurate setup of specimens and samples
- CCTV video system for live specimen monitoring
- Independent dose measurement system for real-time dose monitoring and QA
- Motorized Turntable to maximise dose homogeneity
- Environmental Hypoxia chamber
- Air-blower heating system to warm the irradiation chamber
- Bespoke beam conditioning filters
- Fixed size beam collimators
- Dosimetry system
- Mouse containment cages

## SPECIFICATIONS

### CABINET SIZE AND WEIGHT

**Overall Dimensions:** 2090mm H x 1000mm W x 810mm D

**Irradiation Chamber:** 650mm H x 595mm W x 650mm D

**Weight:** 1450kg (excluding generator and cooling system)

### X-RAY TUBE

**Type:** Metal ceramic, fixed anode, unipolar water cooled

**Maximum Voltage:** 320kV

**Maximum Current:** 1.0mA to 30.0mA

**Power:** 3200W/3.2kW (broad focus for designated stability)

**Focal Spot Size (EN12543):** 8.0mm

**Inherent Filtration:** 4.0mm Be (Berilyum)

**Divergent Beam Angle:** 40°

**Maximum Field Size:** 51.3cm diameter at 70cm FSD

### HT GENERATOR & COOLING SYSTEM

**Maximum Power:** 4200W/4.2kW

**kV Range:** 23 to 320kV

**kV Accuracy:** ±1% of demand value

**kV Reproducibility:** Better than ± 0.05kV

**mA Range:** 1.0mA to 30.0mA (auto power restricted)

**mA Accuracy:** ± 0.5% of demand value

**mA Reproducibility:** Better than 2µA

**Cooling System:** Oil-to-water /oil-to-air

## About Xstrahl

*Xstrahl is a medical technology company that designs clinical and research systems to help eradicate cancer. For more than 20 years, Xstrahl has been shaping the development of superficial and orthovoltage therapies for cancer treatment and advancing pre-clinical research. Xstrahl systems are in operation at more than 700 treatment and research facilities worldwide.*

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