

**CIX2**



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**CIX2 CABINET  
X-RAY IRRADIATOR**

**EFFECTIVE AND ACCURATE  
DOSE DELIVERY FOR  
PRECLINICAL RESEARCH**

**xstrahl**  
LIFE SCIENCES

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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 CIX2 is a 225kV 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 CIX2 provides a simpler, safer and lower cost alternative to radioisotope irradiators.

#### The CIX2 cabinet irradiator consists of:

- 225kV 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

#### 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





## XSTRAHL ARE SPECIALISTS IN THE SUPPLY OF CABINET IRRADIATORS

### Bespoke Commissioning

Bespoke commissioning of each Xstrahl CIX Series cabinet irradiator based on your experimental needs is conducted by Xstrahl to provide the most accurate and traceable dosimetry for your research.

### Pre-Installation Planning Support

To ensure seamless integration, a qualified Xstrahl engineer will conduct a site survey prior to delivery and installation to establish the service and delivery requirements.

### Comprehensive Warranty

All new Xstrahl CIX Series cabinet irradiators include a comprehensive warranty and service package that covers all parts, labour and travel and includes biannual service visits. Application training and access to technical support, assists users in maximising performance of their system, by reducing unexpected down time and providing comprehensive technical support.

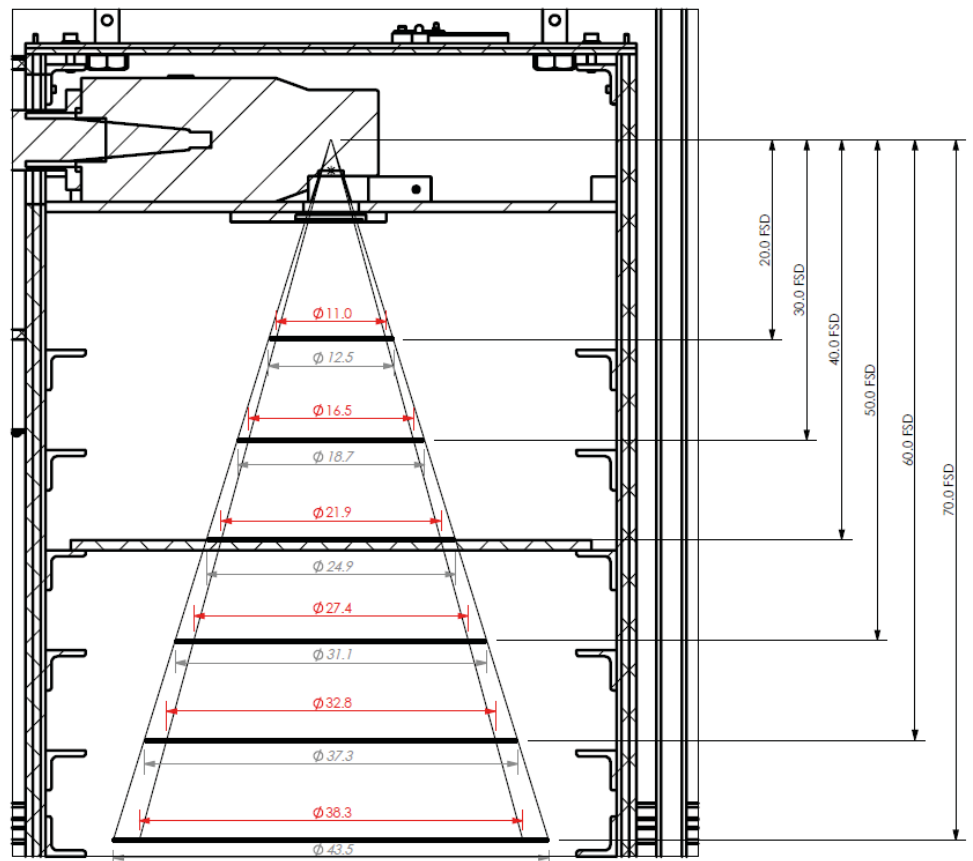
“We have been using an Xstrahl X-ray cabinet for some years for cell culture experiments, and it is one of the most frequently used machines in our lab. In my opinion, the X-ray irradiator is a great tool for the irradiation of cells. The possibility to change the filters quickly and to work with different 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

### Ongoing Support

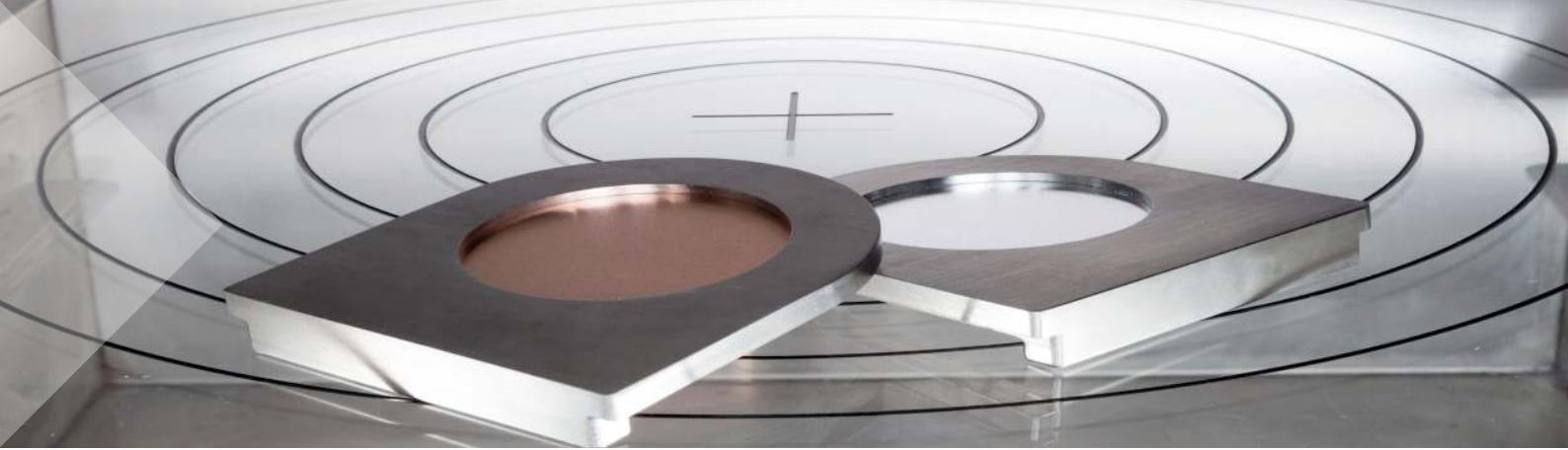
Xstrahl prides itself on providing best in class customer service with every system. We are proud to provide an unsurpassed level of service, from initial planning through to after sales maintenance and both technical and applications support.

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





## Cabinet Features

### Standard Features

- No additional room shielding required – the CIX2 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 Administrator and User 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

- Laser 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 570mm W x 600mm D

Weight: 1100kg (excluding generator and cooling system)

### X-ray Tube

Type: Metal ceramic, fixed anode, unipolar water cooled

Maximum Voltage: 225kV

Maximum Current: 1.0mA to 30.0mA

Power: 3000W/3kW (broad focus for designated stability)

Focal Spot Size (EN1523): 7.5mm

Inherent Filtration: 0.8mm Be (Beryllium)

Divergent Beam Angle: 40°

Maximum Field Size: 43.5cm diameter at 70cm FSD

### HT Generator & Cooling System

Maximum Power: 3200W/3.2kW

kV Range: 20 to 225kV

kV Accuracy:  $\pm 1\%$  of demand value

kV Reproducibility: Better than 0.05kV

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

mA Accuracy:  $\pm 0.5\%$  of demand value

mA Reproducibility: Better than 2 $\mu$ A

Cooling System: Water-to-water & water-to-air available