

## **IS 7620 (Part 2) : 1986**

### **Specification for diagnostic medical X-ray equipment : Part 2 Performance requirements**

This standard (IS 7620 Part 2: 1986) establishes performance requirements for diagnostic medical X-ray equipment used in healthcare settings for imaging and diagnostic purposes. The standard is part of a two-part series, with Part 1 focusing on general and safety requirements, and Part 2 specifically addressing **performance** criteria for various components of X-ray systems to ensure safety and **efficacy** in medical diagnostics.

**Consumers**, primarily healthcare providers as well as the target population expect the following from diagnostic X-ray equipment:

- 1) **Accurate Imaging** : High-resolution and clear images for accurate diagnostics.
- 2) **Safety** : Reliable control over radiation exposure levels, minimal leakage and protection against any kind of electric shock.
- 3) **Stability and Reliability** : Consistent performance across various voltage and temperature conditions with minimal drift in output.
- 4) **Durability and Maintenance** : Equipment that resists corrosion, functions effectively over extended periods and is easy to maintain with minimum service requirements.

**The standard addresses these quality expectations through:**

- **Comprehensive Testing:** Includes specific tests for **accuracy** of voltage and current indicators, **temperature stability**, and recycling time. Tests also evaluate grid alignment, Potter-Bucky Motion and synchronism Test and other image-quality factors.

- **Performance Benchmarks:** Sets permissible limits for deviations in milliampere stabilization, timer accuracy, and alignment, ensuring consistent image quality and reliability.

- **Safety Provisions:** Mandates protective measures for electrical insulation, interlocks to prevent accidental exposure, and corrosion protection for durability.

- **User Guidance:** Provides clear requirements for labelling, component testing, and safe installation practices, helping users understand and operate equipment safely and effectively.

Overall, IS 7620 (Part 2) ensures that diagnostic X-ray equipment meets rigorous standards for **safety, reliability and performance**, thereby aligning with the high expectations of healthcare service providers and patients for effective medical imaging.