

ICS 19.080
CCS N 09



**NATIONAL STANDARD OF THE
PEOPLE'S REPUBLIC OF CHINA**

GB/T 42125.15-2025

**Safety requirements for electrical equipment for measurement,
control, and laboratory use - Part 15: Particular requirements
for cabinet X-ray systems**
(English Translation)

Issued on: August 29, 2025

Implemented on: March 1, 2026

Issued by: State Administration for Market Regulation

Table of Contents

Preface

Introduction

1 Scope and Purpose

2 Normative References

3 Terms and Definitions

4 Experiment

5 Signs and Documents

6 Protection against electric shock

7 Prevent mechanical hazards.

8 Resistance to mechanical stress

9 Prevent the fire from spreading. 8.

10 Temperature limits and heat resistance of the equipment

11 Prevent hazards from fluids and solid foreign objects. 8.

12 Radiation protection (including laser sources), sound pressure, and ultrasonic pressure protection 9.

13 Protection against released gases and substances, explosions, and implosions.

14 Components and Assemblies

15 Protection using interlocking devices

16 Dangers caused by the application

17 Risk Assessment

Appendix

Appendix AA (Normative) Standard Phantoms for Some Protective Equipment

Appendix BB (Informative) Recommendations for Occupational Radiation Dose Limits

Reference

Foreword

This document complies with the provisions of GB/T 1.1-2020 "Standardization Work Guidelines Part 1: Structure and Drafting Rules of Standardization Documents".

Drafting.

This document is Part 15 of GB/T 42125 "Safety requirements for electrical equipment for measuring, control and laboratory use".

The following sections have been released.

- Part 1: General Requirements;
- Part 2: Special requirements for laboratory equipment used for heating materials;
- Part 3: Special Requirements for Refrigeration Equipment;
- Part 4: Special requirements for climate and environmental testing and other temperature control equipment;
- Part 5: Special Requirements for Laboratory Centrifuges;
- Part 6: Special requirements for test or measurement circuit equipment;
- Part 7: Safety requirements for handheld and manipulated probe assemblies for electrical measurement and testing;
- Part 9: Special requirements for household and professional handheld multimeters and other instruments capable of measuring mains power supply voltage;
- Part 10: Special requirements for equipment for insulation resistance measurement and dielectric strength testing;
- Part 13: Special Requirements for Laboratory Thermal Atomization and Ionization Atomic Spectrometers;
- Part 14: Specific requirements for automated and semi-automated equipment for laboratory analysis and other purposes;
- Part 15: Special Requirements for Cabinet-Type X-ray Systems;
- Part 17: Specific requirements for children's use of equipment in educational institutions;
- Part 18: Special Requirements for Control Equipment;
- Part 19: Special requirements for electrically controlled valve actuators.

This document is equivalent to IEC 61010-2-091:2019 "Safety requirements for electrical equipment for measuring, control and laboratory use - Part 2-091".

Part 1: Special Requirements for Cabinet-Type X-ray Systems.

The following minimal editorial changes have been made to this document.

---To harmonize with existing standards, the standard name has been changed to "Safety requirements for electrical equipment for measurement, control and laboratory use, Part 15".

Part 1: Special Requirements for Cabinet-Type X-ray Systems;

---Informative Appendix L, "Terminology Index," has been removed.

Please note that some content in this document may involve patents. The issuing organization of this document assumes no responsibility for identifying patents.

This document was proposed by the China Machinery Industry Federation.

This document is under the jurisdiction of the National Technical Committee on Standardization of Safety of Electrical Equipment for Measurement, Control and Laboratory (SAC/TC338).

Introduction

GB/T 42125 "Safety requirements for electrical equipment for measurement, control and laboratory use" is proposed to consist of 20 parts.

---Part 1: General Requirements. The purpose is to specify general safety requirements for electrical equipment and accessories used in measuring, control, and laboratory applications.

Require.

---Part 2: Special Requirements for Laboratory Equipment for Heating Materials. The purpose is to specify the special requirements for laboratory equipment for heating materials.

Safety requirements.

---Part 3: Special Requirements for Refrigeration Equipment. The purpose is to specify the special safety requirements for refrigeration equipment used in measurement, control, and laboratory settings.

Require.

---Part 4: Special Requirements for Climate and Environmental Testing and Other Temperature Control Equipment. The purpose is to specify the requirements for climate and environmental testing...

Special safety requirements for testing and other temperature control equipment.

---Part 5: Special Requirements for Laboratory Centrifuges. The purpose is to specify the special safety requirements for laboratory centrifuges.

---Part 6: Special Requirements for Test or Measuring Circuit Equipment. The purpose is to specify the special safety requirements for test or measuring circuit equipment.

Require.

---Part 7: Safety requirements for handheld and manually operated probe assemblies for electrical measurement and testing. The purpose is to specify the safety requirements for handheld and manually operated probe assemblies.

Safety requirements for the head assembly and related accessories.

---Part 8: Special requirements for handheld and manually operated current sensors for electrical measurement and testing. The purpose is to specify the requirements for handheld and manually operated...

Special safety requirements for current sensors.

---Part 9: Special Requirements for Household and Professional Handheld Multimeters and Other Instruments Capable of Measuring Mains Power Voltage. The purpose is to...

Special safety requirements are specified for household and professional handheld multimeters and other instruments capable of measuring mains power voltage.

---Part 10: Special Requirements for Equipment for Insulation Resistance Measurement and Dielectric Strength Testing. The purpose is to specify the output voltage AC.

Safety requirements for equipment used for insulation resistance measurement and dielectric strength testing at 50V or DC 120V and above.

---Part 11: Special requirements for sterilizers and cleaning/sterilizing equipment used for handling medical materials. The purpose is to specify requirements for equipment used for handling medical materials.

Special safety requirements for sterilizers and cleaning/disinfection equipment used in materials.

---Part 12: Particular Requirements for Mixing and Stirring Equipment for Laboratory Use. The purpose is to specify the electric motors used for mechanical stirring and agitation.

Special safety requirements for laboratory equipment and its accessories.

---Part 13: Special Requirements for Atomic Spectrometers for Laboratory Thermal Atomization and Ionization. The purpose is to specify the requirements for laboratory thermal...

Special safety requirements for atomized and ionized atomic spectrometers.

---Part 14: Particular requirements for automated and semi-automated equipment for laboratory analytical and other purposes. The purpose is to specify requirements for automated and semi-automated equipment for laboratory analytical and other purposes.

Specific safety requirements for automated and semi-automatic equipment for analysis and other purposes.

---Part 15: Special Requirements for Cabinet-Type X-ray Systems. The purpose is to specify the special safety requirements for cabinet-type X-ray systems.

---Part 16: Special Requirements for In Vitro Diagnostic (IVD) Medical Devices. The purpose is to specify the requirements for devices intended for in vitro diagnostic medical purposes.