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NATIONAL STANDARD OF THE PEOPLE'S REPUBLIC OF CHINA

GB 12664-2024

Technical specifications for portable X-ray security inspection equipment

便携式X射线安全检查设备技术规范

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Foreword

This document is in accordance with the provisions of GB/T 1.1-2020 "Guidelines for standardization work Part

1.Structure and drafting rules for standardization documents" Drafting. This document replaces GB 12664-2003 "General Specification for Portable X-ray Safety Inspection Equipment" and is consistent with GB 12664-2003. In addition to structural adjustments and editorial changes, the main technical changes are as follows:

--- Changed the scope (see Chapter 1, Chapter 1 of the.2003 edition);

--- Added some terms. test body, X-ray generating device (see 3.2, 3.3);

--- Changed the definition of one term. portable X-ray security inspection equipment (see 3.1,

3.1 of the.2003 edition);

--- Deleted 1 term. working position (see

3.2 of the.2003 edition);

--- Added equipment classification (see Chapter 4);

--- Changed the appearance requirements (see 5.1.1,

4.1 of the.2003 edition);

--- Changed the equipment structure (see 5.1.2,

4.2.1 of the.2003 edition);

--- Changed the enclosure protection level (see 5.1.3,

1 Scope

China's mandatory technical specification for portable X-ray security inspection equipment. These are the transportable systems used where a fixed scanner cannot be installed - by bomb disposal teams examining a suspect package, at temporary checkpoints, at events and in the field - and they present a hazard that fixed cabinet scanners do not. A cabinet machine encloses the beam completely; a portable one fires it across open ground with the operator and often bystanders nearby, so the exclusion zone and the dose rate at distance become the governing safety parameters rather than a shielding specification. The requirements therefore cover the leakage and scattered radiation, the interlocks and the delay before emission, the warning devices, and the training and control of the exclusion area, alongside the imaging performance that determines whether the operator can actually resolve a detonator or a wire in the image the system produces.

This document specifies the classification, technical requirements, marking, and operating instructions of portable X-ray security inspection equipment and describes the corresponding test The inspection method was established and the inspection rules were established. This document applies to the design, manufacture and inspection of portable X-ray security inspection equipment. This document does not apply to portable X-ray security inspection equipment based on X-ray backscatter technology.

2 Normative references

The contents of the following documents constitute essential clauses of this document through normative references in this document. For referenced documents without a date, only the version corresponding to that date applies to this document; for referenced documents without a date, the latest version (including all amendments) applies to This document.

GB/T 2423.1-2008 Environmental testing for electric and electronic products Part

3 Terms and definitions

The terms and definitions defined in GB 15208.1-2018, GB 15208.2-2018 and the following apply to this document.

3.1 A device that uses the penetrating properties of X-rays to conduct on-site safety inspections and whose entire structure or its components can be directly carried.

3.2 Test block Test objects used to test and evaluate the performance indicators of X-ray images.