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**PHARMACEUTICAL INDUSTRY STANDARD OF THE
PEOPLE'S REPUBLIC OF CHINA**

YY/T 0479-2026

Replacing YY/T 0479-2004

**Medical diagnostic X-ray tube assemblies and X-ray source
assemblies - Determination of maximum symmetric radiation
field**

(English Translation)

Issued on: March 9, 2026

Implemented on: March 1, 2027

Issued by: National Medical Products Administration

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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 replaces YY/T 0479-2004 "Determination of Maximum Symmetric Radiation Field of Medical Diagnostic Rotating Anode X-ray Tubes", and is consistent with YY/T 0479-Compared to 2004, aside from structural adjustments and editorial changes, the main technical changes are as follows.

--Terminology and definitions have been changed (see Chapter 3, Chapter 2 of the 2004 edition);

--The "maximum air kerma rate" has been removed (see section 4.3 in the 2004 edition);

--The general rule for "Determination of air kerma rate distribution" has been deleted (see Chapter 5 of the 2004 edition).

--Added a "detector" (see 5.1);

--The "compliance evaluation" has been removed (see 6.1 in the 2004 edition);

--The section "Determination of air kerma rate by X-ray photometric optical density measurement" has been deleted (see Appendix B of the 2004 edition).

This document is modified to adopt IEC 60806:2022 "Determination of maximum symmetric radiation field of X-ray tube assemblies and X-ray source assemblies for medical diagnostic purposes".

The technical differences between this document and IEC 60806:2022, and the reasons therefor, are as follows.

--IEC 60601-1 has been replaced by the normatively referenced GB 9706.1-2020, GB 9706.103-2020, and YY/T 0063-2024.

2005, IEC 60601-1-3:2008, IEC 60336:2020 (see Chapter 3) to adapt to my country's technical conditions.

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

--Added notes (see Chapter 1 and Chapter 4).

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 National Medical Products Administration.

This document was prepared by the Subcommittee on Medical X-ray Equipment and Instruments of the National Technical Committee on Standardization of Medical Electrical Appliances (SAC/TC 10/SC 1).

Under the jurisdiction of the relevant authorities.

1 Scope

This document describes a method for determining the maximum geometrically symmetric radiation field at a specified distance from the focal point, where the air leaching along the principal axis of the radiation field occurs.

The power efficiency percentage shall not be lower than the allowable value.

Note 1: In practical applications, air kerma or air kerma rate is the most practical physical measurement index for quantifying X-ray performance.

This document applies to X-ray source assemblies and X-ray tube assemblies.

Note 2: This document does not apply to specific medical electrical systems that require special radiation fields (e.g., using a CT collimator with a butterfly filter).

Appropriate system-specific standards.

If multiple focal points do not overlap, each focal point must have its own reference axis,

and then the maximum radiation field of each focal point can be given separately.

Note 3: As the X-ray tube ages during use, the maximum symmetric radiation field may change from its initial value.

Note 4: The historical background of this document is described in Appendix A.

2 Normative references

The contents of the following documents, through normative references within the text, constitute essential provisions of this document. Dated citations are listed below.

For references to documents, only the version corresponding to that date applies to this document; for undated references, the latest version (including all amendments) applies. document.

GB 9706.1-2020 Medical electrical equipment - Part 1: General requirements for basic safety and basic performance (IEC 60601-1) 2012, MOD) GB 9706.103-2020 Medical Electrical Equipment - Parts 1-3.General Requirements for Basic Safety and Basic Performance (Parallel Standard). Diagnostic Equipment Radiation protection for X-ray equipment (IEC 60601-1-3:2013, MOD) YY/T 0063-2024 Focal Dimensions and Related Characteristics of Medical Diagnostic X-ray Tube Assemblies for Medical Electrical Equipment (IEC 60336) 2020, MOD) YY/T 0064-2016 Electrical and load characteristics of medical diagnostic X-ray tube assemblies (IEC 60613:2010, IDT) IEC TR 60788:2004 Glossary of Definitions and Terms for Medical Electrical Equipment (fixed terms)

3 Terms and Definitions

GB 9706.1-2020, GB 9706.103-2020, YY/T 0063-2024, YY/T 0064-2016 and IEC TR 60788.

The terms and definitions defined in 2004 apply to this document.

Note: An index of defined terms is provided at the end of this document.

4.1 Location of the maximum symmetric radiation field

To determine the maximum symmetric radiation field, the distribution of air kerma rate along the two principal axes in the measurement plane needs to be measured. See Figure 1.