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

GB/T 12079-2012

Replacing GB 12079-1989

Measurements of the photoelectric properties for X-ray tubes

X射线管光电性能测试方法

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Foreword

This standard GB/T 1.1-2009 given rule drafting.

This standard replaces GB/T 12079-1989 "X-ray tube photoelectric performance test methods."

This standard compared with GB/T 12079-1989 main changes are as follows.

Inherent filtration test method --- using YY/T 0062 "X-ray tube assembly inherent filtration determination" in the X-ray tube;

--- Using YY/T 0063 "Medical electrical equipment - X-ray tube assemblies for medical diagnosis - Characteristics of focal" in focus size tested party

Test Method focal spot size;

--- Optical Performance Index increased leakage current, remove the X-ray tube anode

current stability, gated X-ray tube filament inter-gate Pressure.

The standard proposed by the Ministry of Industry and Information Technology of the People's Republic of China.

This standard by the National Standardization Technical Committee electric vacuum devices (SAC/TC167) centralized.

This standard was drafted. East Electronics Co., Ltd. Hangzhou million.

The main drafters of this standard. Tian Feng, Ding Xu, Yu Xiao Mei, Lu Jin rabbit, Zheng Huifang.

This standard replaces the standards previously issued as follows.

X-ray tube Optical Performance Test Method

1 Scope

This standard specifies the X-ray tube photoelectric performance test conditions and test methods.

This standard applies to all types of X-ray tube.

2 Normative references

The following documents for the application of this document is essential. For dated references, only the dated version suitable for use herein

Member. For undated references, the latest edition (including any amendments) applies to this document.

GB 9706.12-1997 Medical electrical equipment Part 1. General requirements for safety, side by side standard diagnostic X-ray equipment General requirements for radiation protection Determination of YY/T 0062 X-ray tube assembly inherent filtration

YY/T 0063 Medical electrical equipment - X-ray tube assemblies for medical diagnosis - Characteristics of focal Test Conditions

3.1 Environmental conditions

Should include ambient temperature, relative humidity, atmospheric pressure and other environmental conditions, it shall comply with the detailed specification requirements.

3.2 pairs of test equipment requirements

3.2.1 X-ray tube used in a variety of electrical test equipment shall comply with standards for electrical equipment, there should be a circuit diagram of each device, instrument calibration

Cards and related technical information.

Insulation resistance 3.2.2 X-ray tube anode and cathode contacts should be greater than 5000MΩ.

3.2.3 Test equipment shall meet the test tube cooling requirements detailed specification. X-ray tube cooling has the following ways.

a) natural cooling. near the X-ray tube should not have any bulkhead shield and other parts can cause overheating of the X-ray tube. If they are

Pipe enclosed in a housing, the housing should be on the air vents;

b) forced air cooling. If the test standard or specification does not detail specific provisions of cooling method, the gas flow should be along the axial direction of the X-ray tube

Flows through the cooling system should measure the gas flow rate, the flow of the instrument, the thermal conditions should be consistent with the provisions of the detail specification;

c) forced water. mandatory water-cooled X-ray tubes, should be equipped with circulation systems and measuring instruments water inlet temperature and water flow, which

Cooling conditions should be consistent with the provisions of the detail specification;

d) Natural oil cooling. thermal conditions should be consistent with its detailed specification requirements;

e) Forced oil cooling. mandatory oil-cooled X-ray tube should be fitted into the oil circulation system and measuring the temperature of the oil flow and oil equipment, which

Cooling conditions should be consistent with the provisions of the detail specification.

When oil is used as dielectric strength of the insulation shall be not less than 35kV/2.5mm. When using other insulating and cooling medium to

Seeking provisions from the detailed specification.

3.2.4 measuring cathode characteristics should be the connecting wire resistance wire and tube voltmeter is connected with the seat tube and the seat tube and between enough