

ICS 19.100
N 78



National Standard of the People's Republic of China

GB/T 26830-2011

Non-destructive testing instruments—
High frequency constant potential X-ray equipment

无损检测仪器

高频恒电位工业 X 射线探伤机

Issued on Jul 29, 2011

Implemented on Dec 01 2011

Issued by the General Administration of Quality Supervision, Inspection and Quarantine,
The People's Republic of China (AQSIQ) and the Standardisation Administration of the
People's Republic of China (SAC)

Contents

Foreword		2
1	Scope	1
2	Normative References	1
3	Terms and Definitions	2
4	Product classifications	2
5	Requirements	2
	5.1 Service condition	2
	5.2 Service performance	2
	5.3 Reliability	4
	5.4 Security	4
	5.5 Stability	5
	5.6 Appearance quality	5
6	Testing methods	5
	6.1 Testing condition	5
	6.2 Main instruments and appliances for test	5
	6.3 The penetrating power and transillumination sensitivity test of the high-frequency defectoscope	5
	6.4 Uniformity test for the radiation angle and radiation field of the high-frequency defectoscope	8
	6.5 Determination method for timing error of the timer	11
	6.6 Adjustment test for the tube voltage	12
	6.7 Overvoltage protection test of the high-frequency defectoscope	12
	6.8. Over current protection test of the high-frequency defectoscope	12
	6.9 Test for temperature protective device of high-frequency defectoscope	13
	6.10 Test for low-pressure protective device of the high-frequency defectoscope	14
	6.11 Stability test for continuous operation of high-frequency defectoscope	14
	6.12 Test for air kerma rate of leakage ray of high-frequency defectoscope	14
	6.13 Low-voltage loop insulating resistance, insulating strength and ground test	15
	6.14. Test voltage for insulating strength of the high-Voltage loop	16
	6.15 Leak test for tube head, high-voltage generator, cooling, unit and other sealing elements of the high-frequency defectoscope	17
	6.16 Test environment temperature	17
	6.17. Test for transportation and storage environment	17
	6.18 Packaging test	17
	6.19 Normal work test when the power supply voltage fluctuates	17
	6.20 Determination for stability of tube voltage and tube current	18
	6.21 Appearance quality inspection	19
7	Inspection rules	19
	7.1 EX factory inspection	19
	7.2 Type test	19
	7.3 Sampling and regulation determination	20
8	Mark, packing, transportation and storage	20
	8.1 Mark	20
	8.2 Package	21
	8.3. Transportation and storage	22
	Annex A (Normative) Standard test block for high frequency and constant potential X-ray detection machine	23

Foreword

Annex A of this Standard is normative annex.

This Standard is proposed by Chinese Mechanical Engineering Society.

This Standard is under jurisdiction of National Technical Committee 122 on Testing Machines of Standardization Administration of China.

Chief draft units of this Standard are Liaoning Instrument Research Institute, Dandong Tongyong Electric Co., Ltd and Dandong Huari Electric Co., Ltd.

Participating draft units of this Standard are Dandong NDT Equipment Co., Ltd, Dandong Wanquan Nondestructive Examination Instrument Factory and Dandong Flaw Detector Making Factory.

Chief drafters of this Standard are Wu Taifeng, Shao Defeng, Chen Gang, Dong Diangang, Zhang Hong, Lin Baohua and Xu Bo.

Non-destructive testing instruments—

High frequency constant potential X-ray equipment

1 Scope

The standard sets the terms and definitions, the requirements on product category, technical requirements, test methods, inspection principles, marks, packages and transportation and storage etc for the non-destructive testing instrument- high-frequency and constant-potential industrial X-ray defectoscope (hereinafter referred to as high-frequency defectoscope).

The standard is applicable to the high-frequency and constant-potential industrial X-ray defectoscope where the voltage frequency applied on the high-voltage transformer is no less than 40 kHz and the voltage applied on X-ray tube is constant direct current.

2 Normative References

The provisions of the following documents become provisions of this Standard after being referenced. For dated reference documents, all later amendments (excluding corrigenda) and revised versions do not apply to this Standard. However, the parties to the agreement are encouraged to study whether the latest version of these documents applies. For undated reference documents, the latest versions apply.

GB/T 191 Packaging - Pictorial marking for handling of goods

GB/T 9582-1998 Photography-Industrial radiographic film-Determination of ISO speed and average gradient when exposed to X-and γ -radiation

GB/T 13384 General specifications for packing of mechanical and electrical product

GB/T 17618 Information technology equipment--Immunity characteristics--Limits and methods of measurement

GB 18871 Basic standards for protection against ionizing radiation and for the safety of radiation sources

GB 22448-2008 Protection rules for industrial X-ray radiographic equipment up to 500kV

JB/T 6220-2004 The densimeter for radiography

JB/T 7902 Non-destructive testing-Image quality indicators(wire type) for radiographic testing

JB/T 7903 Industrial radiographic illuminators

JB/T 9329-1999 Basic environmental conditions and testing methods for instruments transportation and storage in the transportation

3 Terms and Definitions

For the purpose of this Standard, the following terms and definitions apply.

3.1 High-frequency and constant-potential industrial X-ray defectoscope

The operation voltage frequency of the high-voltage transformer is no less than 40 kHz and the voltage applied on X-ray tube is constant direct current X-ray defectoscope.

4 Product classifications

4.1 The high-frequency defectoscope is mainly composed of moveable type and portable type.

4.2 The product models of the high-frequency defectoscope are mainly composed of the following five parts: I-Category; II- Team; III- Model; IV- Main parameter; V- Improved serial number.

For example: XYG225/10A refers to high-frequency and constant-potential industrial X-ray defectoscope whose movable rated tube voltage is 225kV and the rated current is 10 mA; XXG320/6B refers to high-frequency and constant-potential industrial X-ray defectoscope whose portable rated tube voltage is 320 kV and the rated tube current is 6mA.

5 Requirements

5.1 Service condition

The high-frequency defectoscope shall operate according to the rated procedure under the following conditions:

- a) Atmospheric pressure: 76kPa ~106kPa;
- b) The environmental temperature of the fixed type is 2°C~40°C and that of the portable type is -10°C~50°C;
- c) The relative humidity of air is no more than 85%;
- d) The fluctuation of supply voltage shall be no more than $\pm 10\%$ of the rated supply voltage;
- e) Supply frequency (50 \pm 1) Hz;
- f) Electromagnetic Interference it must conform to the relevant requirements in GB/T 17618.

5.2 Service performance

5.2.1 For the penetrating power indicator of the high-frequency defectoscope, the fixed (movable) high-frequency defectoscope shall meet the requirements in Table 1 and the portable

完整版本请在线下单

或咨询：

TEL: 400-678-1309

QQ: 19315219

Email: info@lancarver.com

<http://www.lancarver.com>

线下付款方式：

1. 对公账户：

单位名称：北京文心雕语翻译有限公司

开户行：中国工商银行北京清河镇支行

账 号：0200 1486 0900 0006 131

2. 支付宝账户：info@lancarver.com

注：付款成功后，请预留电邮，完整版本将在一个工作日内通过电子 PDF 或 Word 形式发送至您的预留邮箱，如需索取发票，下单成功后的三个工作日内安排开具并寄出，预祝合作愉快！



银联特约商户