

ICS 13.280
CCS F 84



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

GB/T 7165.3-2008

Replacing GB/T 7165.3-1989

**Equipment for continuous monitoring of radioactivity in
gaseous effluents -- Part 3: Specific requirements for
radioactive noble gas monitors**

气态排出流(放射性)活度连续监测设备 第3部分：放射性惰性气体监测仪的特殊
要求

(English Translation)

Issued on: June 19, 2008

Implemented on: April 1, 2009

Issued by: Standardization Administration of China

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Foreword

This part of GB/T 7165 "gaseous effluents (radioactive) activity continuous monitoring equipment" Part 3. The total includes a lower standard Column five parts.

--- GB/T 7165.1 "gaseous effluents (radioactive) activity continuous monitoring equipment - Part 1. General requirements";

--- GB/T 7165.2 "gaseous effluents (radioactivity) Equipment for continuous monitoring activity - Part 2. radioactive aerosols (including transuranic Aerosol) monitors the special requirements ";

--- GB/T 7165.3 "gaseous effluents (radioactive) activity continuous monitoring equipment - Part 3. radioactive noble gas monitors special requirements";

--- GB/T 7165.4 "gaseous effluents (radioactive) activity continuous monitoring equipment - Part 4. radioactive iodine monitors specific to begging";

--- GB/T 7165.5 "gaseous effluents (radioactive) activity continuous monitoring equipment - Part 5. Particular requirements for tritium monitors." this part is GB 7165.3-1989 amendments.

This section identical with IEC 60761-3:2002 "gaseous effluents (radioactive) activity continuous monitoring equipment - Part 3. Radioactive idler Particular requirements for gas monitors "(in English).

For ease of use, this section made the following editorial changes.

--- Delete the original preface to the international standards;

--- With a decimal point instead of the original international standard decimal ",". ",";

--- Will be in "2 Normative references" existing national standards and industry standards relevant international standards to our standards (in GB/T 2423.5-1995 instead of IEC 60028-2-27. 1987, with GB/T 7165.1-2005 instead of IEC 60761-2.

2002 in GB/T 17626 instead of IEC 61000, GB 9254-1998 to replace the IEC/CISPR22);

--- Retain only the contents of the current used in the voltage and frequency of the AC power supply.

This Part replaces GB 7165.3-1989 "gaseous effluents (radioactive) activity in the third part of the continuous monitoring equipment. an inert gas discharge Particular requirements for flow monitors. " Compared with GB 7165.3-1989 part of the main changes are as follows.

--- Meter increase in radioactive gas emitted during a given activity and/or function of a radioactive gas mixture composition information;

--- Instrument measuring range, beyond the control of less than three decimal revised to not less than five decimal;

--- Reference test gas source volume activity of uncertainty has been revised by the uncertainty of not more than 10% less than the revised 7% ($k = 2$);

--- Standard test conditions were amended to increase the natural radioactive noble gas radon, electrostatic and chemical pollution requirements, reduced Warm-up time;

--- An indication of the relative intrinsic error linearity requirements revised from 20% to 10%;

--- An indication of the duration of the stability test requirements as amended by 500h 100h;

--- Alarm threshold stability test the time required by the revised 500h 100h;

--- Nuclide specific radioactivity monitor and affect other nuclides revised from 1% to 15%;

--- Meter indoor ambient temperature requirements by the 10 °C ~ 50 °C revised to 10 °C ~ 35 °C;

--- Relative humidity test requirements by the 87% ~ 92% ($30\text{ °C} \pm 2\text{ °C}$) was revised to 90% (35 °C);

--- Change the test contents affect the amount of increase for seals, mechanical shock and electromagnetic compatibility requirements;

--- Air circuit block diagram of the test was revised, the amount of time on the magnitude of the range by the revised 1h ~ 100h 30min ~ 100h;

GB/T 7165.3-2008/IEC 60761-3:2002

--- "Air dose rates" to "air kerma rate";

--- Table 5 Reference sources increased beta energy average.

Appendix A of this section is an informative annex.

Use this section should be combined with the GB/T 7165.1-2005.

This part is proposed by the China National Nuclear Corporation.

This part of the National Nuclear Instrument Standardization Technical Committee.

This section is drafted. Shanghai Nuclear Engineering Research and Design Institute.

Drafters of this section. Xu Jin Choi, Shi red.

Original standard was first released in October 1989.

GB/T 7165.3-2008/IEC 60761-3:2002 Gaseous effluents (radioactive) activity Continuous monitoring equipment Part 3. radioactive noble gases Particular requirements for monitors

1 Scope

GB/T 7165 This section applies to the same time, or sequentially delay measuring radioactive noble gas discharge to discharge the gaseous environment equipment.

Radioactive noble gas effluent monitors should have the following features.

--- Measuring gaseous exhaust stream at the point of discharge of radioactive gas volume activity and its changes over time;

--- When the preset value exceeds the volume of activity or total activity discharged, start the alarm signal;

--- Ingredient information to determine the activity of a given period radioactive gas emissions and/or radioactive gas mixture.

This section does not include natural radioactive noble gas radon measurements. However, the presence of radon or its decay daughters will affect the other (non-native) put Radioactive gas measurement.

The purpose of this section is to provide an inert gas effluent monitors specific standard requirements, including technical characteristics and general test conditions, and to an example of a feasible approach.

GB/T 7165.1-2005 gives the general requirements, technical characteristics, test methods, radiation characteristics, electrical characteristics, mechanical characteristics, safety Characteristics and environmental characteristics. Unless otherwise noted, these requirements apply to this section.

2 Normative references

The following documents contain provisions which, through GB/T reference in this 7165 constitute provisions of this part. For dated reference documents Member, all subsequent amendments (not including errata content) or revisions do not apply to this section, however, encouraged to reach under this section Parties to research agreement to use the

latest versions of these documents. For undated reference documents, the latest versions apply to this section.

GB/T 2423.5 Environmental testing for electric and electronic products Part 2. Test methods Test Ea and guidance. Shock (GB/T 2423.5-1995, idt IEC 60068-2-27. 1987) GB/T 7165.1-2005 gaseous effluents (radioactive) activity continuous monitoring equipment - Part 1. General requirements (IEC 60761-1.

2002, IDT)

GB radio disturbance characteristics - Limits and methods of measurement 9254 Information Technology Equipment (GB 9254-1998, idt IEC/CISPR22.1997) GB/T 17626 (all parts), electromagnetic compatibility test and measurement technology (idt IEC 61000)

3 Terms and Definitions

GB/T 7165.1-2005 to establish the following terms and definitions apply to this section.

For radioactive noble gas equipment for continuous monitoring of emissions discharged to a gaseous environment.

4 Radioactive noble gas effluent monitors free

According to the measured radiation type, the device can be divided into.

--- Gamma;

--- Beta;

GB/T 7165.3-2008/IEC 60761-3:2002