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

GB/T 10067.414-2018

**Basic specification for electroheating and electromagnetic
processing installations - Part 414: Industrial gem furnace**

电热和电磁处理装置基本技术条件 第414部分：工业宝石炉

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Foreword

GB/T 10067 "Basic Technical Conditions for Electrothermal and Electromagnetic Processing Devices" is divided into the following parts.

- Part 1. General Section;
- Part 2. Arc heating device;
- Part 21. Large-scale AC arc furnaces;
- Part 3. Induction heating devices;
- Part 31. Intermediate frequency induction furnace;
- Part 32. Voltage type frequency conversion multiple sets of intermediate frequency induction furnace assembly;
- Part 33. Power frequency induction furnace;
- Part 34. Transistor-type high-frequency induction heating devices;
- Part 35. Intermediate frequency vacuum induction melting furnace;
- Part 4. Indirect resistance furnaces;
- Part 41. Mesh belt resistance heating units;
- Part 42. Push resistance heating units;
- Part 43. forced convection pit resistance furnace;

1 Scope

GB/T 10067.414-2018 is the Chinese national standard on basic specification for electroheating and electromagnetic processing installations - part 414: industrial gem furnace, in the field of manufacturing engineering. The /T suffix marks it as a recommended standard: it is not compulsory by itself, but it becomes binding as soon as a contract, a tender or a customer specification calls it up - which in practice is how most foreign buyers meet it. It was issued on 7 June 2018 by the State Administration for Market Regulation;

Standardization Administration of China, and has been in force since 1 January 2019.

Classification: ICS 25.180.10, CCS K61. This page is published from the official record of the standard held by the Chinese standards administration: the identification, the dates, the classification and the issuing body are taken from there. The clause text, the tables and the numeric limits are in the document itself, which is delivered complete in English translation.

This part of GB/T 10067 specifies the product classification, technical requirements, test methods, inspection rules, signs, and packaging for industrial gemstone furnaces. Transportation and storage, ordering and delivery. This section applies to high vacuum or under different protective atmospheres under positive pressure conditions using different growth methods (such as pulling method, bubble method, guided mode method, heat Exchange method, temperature gradient method, enthalpy drop method, etc.) Industrial gemstone furnaces that grow gem crystals, and other industrial gemstone furnaces can also be used as reference.

2 Normative references

The following documents are indispensable for the application of this document. For dated references, only dated versions apply to this article Pieces. For undated references, the latest version (including all amendments) applies to this document.

GB/T 150.1-2011 Pressure Vessels Part 1. General Requirements

GB/T 2900.23-2008 Electrotechnical terminology industrial electric heating device

GB 3095-2012 Ambient Air Quality Standard

GB 5959.1-2005 Safety of electric heating devices Part 1. General requirements

GB 8978-1996 Integrated Wastewater Discharge Standard

GB/T 10066.1-2004 Test methods for electroheat equipment Part 1. General parts

GB/T 10066.4-2004 Test methods for electroheat equipment - Part 4. Indirect resistance furnaces

GB/T 10067.1-2005 Basic technical conditions for electric heating devices Part 1. General parts

GB/T 10067.4-2005 Electrothermal installations - Basic technical conditions - Part 4. Indirect resistance furnaces

GB/T 10067.410-2014 Basic technical conditions for electroheat installations Part 410. Single crystal furnace

GB 12348-2008 Environmental noise emission standards for boundary of industrial enterprises

GB 16297-1996 Integrated emission standards for air pollutants

JB/T 9691-1999 Electric Equipment Modeling Method

3 Terms and Definitions

GB/T 2900.23-2008, GB/T 10067.4-2005, GB/T 10067.410-2014 and the following terms and definitions Applicable to this document.

3.1 Industrial gem furnace industrialgemfurnace Different crystal growth methods (such as Czochralski method, bubble method, guided mode method, heat exchange method, and temperature method) are used under high vacuum or under protective atmosphere with low positive pressure conditions. Gradient method, drop method, etc.) Industrial electrothermal devices for growing gem crystals.

3.2 Tilt shaft pulershaft Used to fix seed crystals to achieve crystal growth pulling and rotation, and at the same time perform heat transfer and thermal field to achieve the required temperature gradient for crystal growth