

ICS 19.040

CCS N61



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

GB/T 28853-2012

Thermostatic baths and circulators - Heated circulators

恒温槽与恒温循环装置 高温恒温循环装置

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Foreword

This standard was drafted in accordance with GB/T 1.1-2009 given rules. The standard proposed by China Machinery Industry Federation. The standard by the China Machinery Industry Federation. Drafting of this standard. Hangzhou snow carbon thermostat Technology Co., Ltd., Chongqing Sida Test Equipment Co., Ltd., Zhejiang Branch metering Studies Institute of Instrumentation Technology and Economy Institute, Southern Jiangsu Wuxi Test Equipment Co., Ministry of Electronics Industry and Information Technology Fifth Institute, Hunan Academy of measuring and testing. Participated in the drafting of this standard. the Environmental Equipment Co., Ltd., Shenyang Academy of Instrumentation Science, Anhui Institute of Metrology Study hospital, instrument Hengyang Heng Electric Co., Ltd., China Electric Apparatus Research Institute, Shanghai Jing Hong Experimental Equipment Co., Ltd. Ningbo Dongfang heating equipment Ltd., Chongqing Yinhe Experimental Instrument Co., Ltd. The main drafters of this standard. Xu Yueming, Chen Yunsheng, Zhou Lianqin, Jinli Hui, Ni Yiming, Zousu Yang, Xiong Zhi-ming, Feng Hua, Xu Qiuling, He Gang Jian, Liu Xiangheng, Zhouxiu Yuan, Li Yaqin, Wang Xiaofeng, Lim Chun Wing, Shen Zhong only, Jinmei Feng, Wang Jialong, Wang Huabin. Thermostatic bath and circulating means High temperature thermostat circulation means

1 Scope

GB/T 28853-2012 covers the heated circulator, the laboratory device that holds a liquid at a set temperature and pumps it through something else - a reactor jacket, a viscometer, a test chamber, a condenser. It is a piece of equipment whose specification is easy to state loosely and hard to compare: two circulators both claiming ± 0.1 °C may differ substantially in how quickly they reach a setpoint, how well they hold it against a changing load, and how much temperature difference exists between the bath and the point where the work is actually being done. This standard specifies the classification of heated circulators, the conditions under which they are rated, the requirements they must meet, the test methods, the inspection rules, and the provisions for marking, packaging, transport, storage and accompanying documentation. It applies to heated circulators without active cooling that supply a liquid heat transfer medium. Filed under ICS 19.040 and CCS N61 as basic laboratory equipment, it is the reference for instrument manufacturers, for laboratory procurement writing a comparable specification, and for the calibration bodies that check what a circulator is really delivering. It is the companion to GB/T 28850-2012 on heated liquid baths.

This standard specifies the classification, conditions of high temperature thermostat cycle apparatus, requirements, test methods, inspection rules, marking, packaging,

transportation, storage Deposit and accompanying documents. This standard applies to the high temperature thermostat cycle apparatus active cooling device is not equipped to provide liquid heat transfer medium in the form of a constant temperature environment (hereinafter High temperature short cycle apparatus).

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/T 191-2008 Packaging - Pictorial signs

GB/T 2829-2002 periodic inspection Sampling procedures and tables (suitable for process stability test)

GB 4793.1-2007 measurement, control and laboratory safety requirements for electrical equipment - Part 1. General requirements

GB 4793.6-2008 measurement, control and laboratory safety requirements for electrical equipment - Part 6. Laboratory material heating apparatus Particular requirements for equipment

GB/T 9969-2008 General Industrial Product Manual

GB/T 16895.10-2010 low-voltage electrical installations Part 4-44. Protection for safety voltage electromagnetic harassment and harassment protection

GB/T 17248.3-1999 Acoustics machinery and equipment noise emission and other operating position emission sound pressure levels specified location Measuring method in situ Determination of

JB/T 9512-1999 climate chamber test equipment and sound power levels Category

3 Non-combustible liquids or combustible liquids can be used as a high temperature liquid heat transfer medium circulation device, high temperature cycle device category names, requirements and standard Chi Table 1. Table

1 Category Name e liquid heat transfer medium request flag I a non-flammable liquid over-temperature protection c NFL Combustible liquid b Adjustable temperature over-temperature protection d Adjustable temperature over-temperature protection and an additional level of protection d FL a usually water and the other in a single fault condition and the predetermined temperature range nonflammable liquid. B liquid heat transfer medium flash point of not less than 65 °C, II class requirements apply, such as silicone oil. Otherwise III class requirements apply, such as ethanol. c independent, non-self-resetting, and can cut off all poles of the heater or level overtemperature protection device. d can be adjusted over a moderate level of protection, it should only be carried out by means of

tools. e manufacturers the option of using or not using.

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