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

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**Minimum allowable values of energy efficiency and energy
efficiency grades for heat pump water heaters**

热泵热水机（器）能效限定值及能效等级

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Foreword

Clauses 4 and 5 of this standard are mandatory and the rest are recommended. This standard is drafted in accordance with the rules given in GB/T 1.1-2009. This standard was proposed by the Department of Resource Conservation and Environmental Protection of the National Development and Reform Commission and the Department of Energy Conservation and Comprehensive Utilization of the Ministry of Industry and Information Technology. This standard shall be under the jurisdiction of the National Energy Foundation and Management Standardization Technical Committee (SAC/TC 20). Drafting organizations of this standard. China National Institute of Standardization, Zhuhai Gree Electric Co., Ltd., Guangdong Midea HVAC Equipment Co., Ltd., Guangdong Tongyi Electric Co., Ltd., Guangdong New Energy Technology Development Co., Ltd., Maanshan Bolang Thermal Energy Technology Co., Ltd., Ao Smith (China) Water Heater Co., Ltd., Jiangsu Tianshu Electric Co., Ltd., Beijing University of Technology, South China University of Technology, Weikai Testing Technology Co., Ltd., International Copper Association (China), Jinhua Yangfan Technology Co., Ltd., Zhejiang Zhongguang Electric Co., Ltd., Shanghai Hitachi Electric Co., Ltd., Guangzhou Deeneng Heat Source Equipment Co., Ltd., Zhejiang Zhengli Shengneng Technology Co., Ltd., Hangzhou Jinjiang Bailang New Energy Co., Ltd., Guangdong Changling Air Conditioner Manufacturing Co., Ltd., Shenzhen McQuay Air Conditioning Co., Ltd., Guangdong Ouke Air Conditioning Refrigeration Co., Ltd., China Household Electric Appliances Research Institute, Beijing Zhonglengtong Quality Certification Center Co., Ltd., Guangdong Zhigao Air Conditioning Refrigeration Equipment Division, Qingdao Haier Water Heater Co., Ltd., Ariston Thermal Products (China) Co., Ltd., Guangzhou Zhongyu Cold Gas Technology Development Co., Ltd. The main drafters of this standard. Cheng Jianhong, Li Shaobin, Rao Rongshui, Tang Bikui,

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1 Scope

China's mandatory energy efficiency standard for air source heat pump water heaters - the document that decides which units may be sold at all and which energy efficiency label they carry. It sets the minimum allowable values of energy efficiency, the energy conservation evaluation value, the energy efficiency grades, the test methods and the inspection rules. It applies to water heaters driven by an electric motor, working on a vapour compression refrigeration cycle, using air as the heat source and intended for the supply of hot water; it does not apply to water source heat pump water heaters. The energy efficiency grades are expressed in terms of the coefficient of performance of the unit measured under the rated conditions, and are set separately for the household and similar units covered by GB/T 23137-2008 and for the commercial, industrial and similar units covered by GB/T 21362-2008, with the limits distinguishing the categories of unit within each. The minimum allowable value is the compliance threshold: a unit below it may not be manufactured, imported or sold. The energy conservation evaluation value is the higher threshold used for the energy saving product certification. The test methods clause refers the measurement of the performance back to the two product standards, and the inspection rules set how conformity with the grades is judged. Issued on 9 June 2013 and in force since 1 October 2013.

This standard specifies the energy efficiency limit value, energy conservation evaluation value, energy efficiency rating, test method and inspection rules of heat pump water heaters. This standard is applicable to water heater driven by electric motor, using vapor compression refrigeration cycle, using air as heat source and for the purposes of supplying hot water. This standard does not apply to water source type heat pump water heaters.

2 Normative references

The following documents are essential to the application of this document. For the dated documents, only the versions with the dates indicated are applicable to this document; for the undated documents, only the latest version (including all the amendments) are applicable to this standard.

GB/T 21362-2008 Heat pump water heater for commercial & industrial and similar application

GB/T 23137-2008 Heat pump water heater for household and similar application

3 Terms and definitions

The terms and definitions as defined in GB/T 21362 and GB/T 23137 and the following terms and definitions apply to this document.

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