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**GB/T 44384-2024**

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**Ergonomics of human-system interaction - Design directives  
for healthy home**

人-系统交互工效学 健康家居设计导则

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## Foreword

This document is in accordance with the provisions of GB/T 1.1-2020 "Guidelines for standardization work Part

1. Structure and drafting rules for standardization documents" Drafting. Please note that some of the contents of this document may involve patents. The issuing organization of this document does not assume the responsibility for identifying patents. This document is

proposed and coordinated by the National Technical Committee on Ergonomics Standardization (SAC/TC7). This document was drafted by: China National Institute of Standardization, Foshan Shunde Midea Washing Appliance Manufacturing Co., Ltd., Qingdao Haier Whole House Home Home Co., Ltd., Ningbo Fotile Kitchenware Co., Ltd., Xingwei International Home Furnishing Co., Ltd., Heye Health Technology Co., Ltd., China Construction Design Research Institute Co., Ltd., Ningbo Baichu Integrated Kitchen Co., Ltd., Guangdong Jingyi Furniture Co., Ltd., China National Testing Holding Group Shaanxi Co., Ltd., OPPEIN Home Furnishing Group Co., Ltd., Zhongbiao Energy Efficiency Technology (Beijing) Co., Ltd., Arrow Home Furnishing Group Co., Ltd. Company, Hisense (Guangdong) Air Conditioning Co., Ltd., Hisense Home Appliances Group Co., Ltd., Zhejiang Supor Kitchen and Bathroom Appliances Co., Ltd., Zhengzhou University, Beijing Union University, Nanjing Forestry University, Shandong Guangming Yuandi Children's Furniture Technology Co., Ltd., Nature Technology Co., Ltd., Qumei Home Home Group Co., Ltd., Beijing Jinzhao Decoration Design Co., Ltd., Xiamen Jiayu Intelligent Sanitary Ware Co., Ltd., Haitai Olin Group Co., Ltd. Co., Ltd., Zhuhai Hepin Health Technology Co., Ltd., Beijing Jinfa Technology Co., Ltd., SDIC Zhongbiao Quality Infrastructure Research Institute Co., Ltd. Company, Wuhu Midea Kitchen and Bathroom Appliance Manufacturing Co., Ltd., Zhongbiao Energy Efficiency Technology (Qingdao) Co., Ltd., Chanyan Technology Development (Beijing) Co., Ltd., Dongguan South China Design Innovation Institute. The main drafters of this document are: Hu Huimin, Huang Shi, Lian Jingjin, Ran Linghua, Zhang Xin, Zhao Chaoyi, Wei Weijie, Zhang Lei, Niu Wenlei, Wu Chenlong, Zhou Min, Li Yinxia, Luo Ling, Wang Zhongting, Yang Aiping, Zhang Fan, Ye Genlin, Wei Min, Pu Jun, Chen Hui, Ge Meng, Yu Guitao, Bie Qingfeng, Xie Yuerong, Zhao Xifeng, Guan Kuorong, Wang Xianrong, Chen Zongyong, Wang Kaifang, Zhu Ruijuan, Yu Na, Li Zhonghua, Hou Xuefeng, Su Jingyan, Dai Xianyan, Li Xiaoman, Ye Yongzhen, Wang Lili, Wang Rui, Wen Yanbin, Zheng Fangchun, Zhao Qichao, Wu Haimei, Chen Gang, Wei Bo, Jin Bingkui, Chen Jian, Yu Qun, He Yue, Fang Yanwen, Zhang Yue, Han Song, Zhao He, Li Dongyuan, Dong Yilong, Zhu Tong, Zhang Linhai, Cai Chang, Ding Hui, Chu Junpeng, Tian Hao, Lv Xiaoxiao, Gao Jiajia, Liao Zhongcai, Hu Qingyu, Shang Bei, Sun Huanle, Tian Tao, Yin Jun, and Wang Yong.

With the development of economy and scientific and technological progress, in addition to the quality performance, safety and environmental protection of the system (product or service, etc.), people pay more attention to the system Humanization and user experience have put forward higher requirements. Ergonomics is the study of the interaction between people and various elements in the system. The discipline that applies theories, principles, data, and methods to design to enhance human well-being and optimize the overall performance of systems. Aims to design and improve product and environment systems according to human physiological and psychological characteristics, and achieve the best match between people, products/services and environment systems. Ultimately, we will realize the humanization of products, services and environmental systems, and create safe,

healthy, comfortable and efficient working and living conditions for people. Products that meet ergonomic requirements can effectively improve the comfort and quality of the product and improve the user experience. Ergonomic design of design and user experience level has become a necessary indicator in evaluating the comprehensive quality level of healthy homes. As people's demands for a better life and a happier experience increase, the ergonomic requirements for healthy home products are also getting higher and higher. Due to the lack of relevant standard guidance, companies have different understandings of healthy home ergonomic design, and even deviate from the original intention of ergonomics. It only achieved simple function superposition without considering the ergonomic requirements of the function itself, resulting in poor user experience. Later, GB/T 36608.1-2018 "Ergonomic Technical Requirements and Evaluation of Household Appliances Part

1.Refrigerators" was formulated. GB/T 36608.2-2018 "Ergonomic Technical Requirements and Evaluation of Household Appliances Part

2.Air Conditioners", GB/T 39223.3- 2020 Ergonomics Requirements for Healthy Homes Part

3.Office Desks and Chairs, GB/T 39223.4-2020 Ergonomics Requirements for Healthy Homes GB/T 39223.5-2020 Ergonomic Requirements for Healthy Homes Part

## 1 Scope

GB/T 44384-2024 gives the ergonomic design directives for the healthy home, the Chinese attempt to turn a marketing phrase into something measurable. It sets out the general principles, that a home system should match its user and its scenario, be accessible, be safe to interact with, adapt across the whole process of use and be compatible as a system; then the ergonomic design elements, geometric, mechanical, visual, auditory, tactile, olfactory, cognitive and behavioural fit together with intelligent adaptability; and then the assessment elements, the methods and the rating criteria. What makes the document usable rather than merely aspirational are its seven normative annexes: a guideline for the ergonomic risk assessment of home products, and full design requirements, assessment specifications, scoring methods and grading scales for the kitchen space and kitchen cabinets, for range hoods, for perceived kitchen air quality, and for bathroom systems, plus the principles for selecting and training the experts and the testers who carry the assessment out. It applies to home systems that already meet the basic performance, quality, safety and environmental requirements. For a furniture, kitchen or appliance maker selling into China, this is the text a healthy home claim is judged against.

This document provides the general principles of ergonomic design, ergonomic design elements and ergonomic evaluation elements for healthy homes, and provides some It stipulates the ergonomic design requirements and evaluation specifications. This document applies to home systems that meet basic performance quality, safety and environmental

protection requirements.

## 2 Normative references

The contents of the following documents constitute essential clauses of this document through normative references in this document. For referenced documents without a date, only the version corresponding to that date applies to this document; for referenced documents without a date, the latest version (including all amendments) applies to This document.

GB/T 4214.1 General requirements for noise test methods for household and similar electrical appliances

GB 4706.28 Particular requirements for safety of household and similar electrical appliances - range hoods

GB/T 6882 Acoustics Sound pressure method for determining the sound power level and sound energy level of noise sources - Anechoic chamber and semi-anechoic chamber precision method

GB/T 17657-2013 Test methods for physical and chemical properties of wood-based panels and veneer wood-based panels

GB/T 17713-2022 Range hoods and other cooking fume extraction devices

GB/T 18883 Indoor Air Quality Standard

GB 19606 Noise limits for household and similar electrical appliances

GB 29539 Energy efficiency limits and energy efficiency grades for range hoods

GB/T 35157-2017 Resin-based synthetic stone slabs JJG245 Light Meter QB/T 2584-2023 Shower Room

## 3 Terms and definitions

The following terms and definitions apply to this document.

3.1 Home system The supplies, utensils, facilities, equipment, environmental conditions and related systems required for home life.

Note. Home system includes household appliances (furniture, household appliances and other household items), physical environment system (lighting environment, thermal environment, sound environment, etc.), environment, odor environment, color environment, air quality, etc.), service facilities conditions and other related home life auxiliary support systems.