

ICS 55.200

CCS J 83



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

GB/T 38457-2020

**Specification for packaging quality inspectors for bottled liquid
products**

液态瓶装包装质量检测机技术要求

Issued on: March 6, 2020

Implemented on: October 1, 2020

**Issued by: State Administration for Market Regulation;
Standardization Administration of the PRC**

Table of Contents

- 1 Scope
- 2 Normative references
- 3 Terms and definitions

Foreword

This standard was drafted in accordance with the rules given in GB/T 1.1-2009. Please note that some content of this document may involve patents. Publication of this document The institution does not assume responsibility for identifying these patents. This standard was proposed by the China National Machinery Industry Federation. This standard is under the jurisdiction of the National Food Packaging Machinery Standardization Technical Committee (SAC/TC494). This standard was drafted by: Shandong Mingjia Technology Co., Ltd., Tsinghua University, Hefei General Machinery Research Institute Co., Ltd., Slack Precision Manufacturing Co., Ltd., Tianjin Rongxinjia Machinery Co., Ltd., Guangzhou Wanshide Intelligent Equipment Technology Co., Ltd., Beijing Boshi Zhidong Technology Co., Ltd., Shanghai Botron Electric Co., Ltd., Baumer Electronics (Shanghai) Co., Ltd., Teledar Dalestar (Shanghai) Trading Co., Ltd., Hefei General Electromechanical Products Testing Institute Co., Ltd., China Light Industry Machinery Association, Danone (China) Food & Beverage Co., Ltd. Guangzhou Branch, Coca-Cola Le Beverage (Shanghai) Co., Ltd., South China University of Technology, Shanghai Want Want Food Group Co., Ltd., China Resources Snow Beer (China) Co., Ltd., Green Island Beer Co., Ltd., Beijing Yanjing Beer Co., Ltd., Guangzhou Nansha Zhujiang Beer Co., Ltd., Hangzhou Wahaha Group Co., Ltd. Company, Shandong University of Science and Technology. The main drafters of this standard. Shi Chenbo, Zhang Shujun, Wang Guijin, Chen Runjie, Zhang Chun, An Xu, Wang Zhong, Liu Yuanqiang, Li Yuhang, Zhang Wei, Sun Weijie, Yang Hanlin, Zhang Kai, Meng Long, Dizhuqing, Gao Xiaoyu, Yang Huazhong, Wang Bingsheng, Xing Enhong, Cai Rui, Jiang Xinyu, Tao Kai, Meng Qingsheng, Jiang Hui, Ji Rong, Wang Xin, Jin Guoxing, Ye Hui, Tang Weiqiang, Yu Mingda, Chen Xiongfei, Kang Chao, Tang Hailong, Li Yong, Zhao Pingyuan, Cao Maoyong. Technical requirements for liquid bottle packaging quality testing machine

1 Scope

China's national specification for the automatic inspection machines that check filled bottles on a packaging line. It specifies the terms and definitions, the models, types and basic parameters. The machine sits after the filler and capper and looks at every bottle passing at speeds of tens of thousands an hour, checking the things a human inspector was once

employed to check and can no longer keep up with: fill level, cap presence and seating, label position, and the presence of foreign matter in the liquid. Each of those is a different sensing problem - fill level by transmitted light or high frequency, cap by vision or by a mechanical probe, particles by rotating the bottle to set the liquid spinning and then watching for anything that continues to move after the liquid has stopped. The specification's parameters matter because a machine that rejects too readily costs more in good product than the defects it catches.

This standard specifies the terms and definitions, models, types, and basic parameters of the liquid bottled packaging quality testing machine (hereinafter referred to as "inspection machine") And working conditions, technical requirements, test methods, inspection rules, signs, packaging, transportation and storage requirements. This standard is applicable to liquid filling (filling), capping, spraying (printing) codes, stickers (sets) in the fields of beverages, alcohol, condiments, food, daily chemical, medicine, etc. The quality inspection machine for bottled packaging after the completion of the bidding.

2 Normative references

The following documents are essential for the application of this document. For dated references, only the dated version applies to this article Pieces. For the cited documents without date, the latest version (including all amendments) applies to this document.

GB/T 191 Graphic mark for packaging, storage and transportation

GB 2894-2008 safety signs and guidelines for their use

GB/T 4208-2017 enclosure protection level (IP code)

GB 5226.1-2008 Mechanical Electrical Safety Mechanical Electrical Equipment Part 1. General Technical Conditions

GB/T 7311 Packaging machinery classification and model compilation method

GB/T 7932-2017 Pneumatic general rules and safety requirements for the system and its components

GB/T 9969 General Instructions for Use of Industrial Products

GB/T 13277.1-2008 Compressed air Part 1. Pollutant purification grade GB/T 13306 sign

GB/T 13384 General technical requirements for packaging of electromechanical products

GB/T 14253 General technical requirements for light industry machinery

GB 16798 Food Machinery Safety and Sanitation

GB/T 19891 Machinery Safety Hygienic requirements for machine design

JB/T 7232 Simple method for measuring the sound power level of packaging machinery

noise JB7233 Packaging machinery safety requirements

3 Terms and definitions

The following terms and definitions apply to this document.

3.1 Liquid quality packaging quality inspection machine

packagingqualityinspectorforbottledliquidproducts Use machine vision and other optical, acoustic, and electrical detection technologies to check the quality of bottled packaging after filling (filling), capping, spraying (printing) codes, and sticking (sets) of labels Amount of testing equipment.

3.2 Inspection unit inspectunit The detection machine is composed of software and hardware to realize a certain detection function in the detection process.