ICS 23.060.10
CCS J16

NATIONAL STANDARD OF THE PEOPLE'S REPUBLIC OF CHINA

GB/T 12237-2021

Replacing GB/T 12237-2007

Steel ball valves for petroleum, petrochemical and allied industries

石油、石化及相关工业用的钢制球阀

Issued on: March 9, 2021 **Implemented on: October 1, 2021**

Issued by: State Administration for Market Regulation;
Standardization Administration of China

Table of Contents

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 of Standardization Documents" Drafting. This document replaces GB/T 12237-2007 "Steel Ball Valves for Petroleum, Petrochemical and Related Industries", and is consistent with GB/T 12237-2007 Compared with the editorial changes, the main technical changes are as follows:

a) Expanded the scope of application of the ball valve and increased the pound level requirements, increased the applicable structure and applicable temperature requirements (see Chapter 1,.2007 Chapter 1 of the Year Edition);

b) The requirements for overpressure in the valve body cavity have been added (see 5.1.3);

c) Modified the minimum cross-sectional area requirements for the connection between the valve bodies (see 5.6.8,

5.6.6 in the.2007 edition);

d) The stuffing box requirement (

5.12.2 of the.2007 edition) has been deleted;

e) The limit requirements of the operating mechanism have been added (see 5.12.3);

f) The material requirements have been revised (see Chapter 6, Chapter 6 of the.2007 edition). Please note that some of the contents of this document may involve patents. The issuing agency of this document is not responsible for identifying patents. This document was proposed by China Machinery Industry Federation. This document is under the jurisdiction of the National Valve Standardization Technical Committee (SAC/TC188). This document was drafted by: Hefei General Machinery Research Institute Co., Ltd., China Nuclear Suvalve Technology Industrial Co., Ltd., Suzhou Neway Valve Co., Ltd., Special

Valve Group Co., Ltd., Shanghai Electric Valve Co., Ltd., Zhejiang Bethel Technology Co., Ltd., Shenjiang Valve Door Co., Ltd., Aogong Valve Co., Ltd., Sichuan Feiqiu (Group) Co., Ltd., Chengdu Chenggao Valve Co., Ltd., Sichuan Jingkong Valve Manufacturing Co., Ltd., Jiangsu Shentong Valve Co., Ltd., Kairuite Valve Industry Co., Ltd., Zhejiang Petrochemical Valve Co., Ltd., Jiangsu Suyan Valve Door Machinery Co., Ltd., Shanghai Hugong Valve Factory (Group) Co., Ltd., Jiangsu Chenggong Valve Technology Co., Ltd., Sifron Valve Group Co., Ltd. Company, Shanghai High and Medium Pressure Valve Co., Ltd., Jiangsu Shengtai Valve Co., Ltd., Nanjing Solid High and Medium Pressure Valve Manufacturing Co., Ltd., Yonglong Valve Co., Ltd., Crete Group Co., Ltd., Shangzheng Valve Group Co., Ltd., Zigong Zigao Valve Co., Ltd., Kaiximu Valve Co., Ltd. Company, Datong Mutual Group Co., Ltd., Jiangsu Qinghai Petroleum Machinery Co., Ltd., Shanghai Kaike Valve Manufacturing Co., Ltd., Yuanda Valve Group Co., Ltd., Xuanda Industrial Group Co., Ltd., Global Valve Group Co., Ltd., Tianjin Baili Zhanfa Group Co., Ltd., Weiduli Valve has Co., Ltd., Henan Gaoshan Valve Co., Ltd., Zhejiang Tiansheng Valve Co., Ltd., Liangzheng Valve Co., Ltd., Zhejiang Yongyuan Valve Co., Ltd. Company, Lianggong Valve Group Co., Ltd., Fangyuan Valve Group Co., Ltd., Shanghai Shuanggao Valve (Group) Co., Ltd., Ennis Valve Group Co., Ltd., Jiangsu Yandian Valve Co., Ltd., Wenzhou Pingtel Control Equipment Co., Ltd., Tanggong Valve Group Co., Ltd., Chengdu Chuanlizhi Energy Fluid Equipment Co., Ltd., Jiangsu Sino-Ocean Valve Intelligent Control Co., Ltd., Keystone Valve Co., Ltd., Shanghai Keke Valve Group Co., Ltd., Ovike Group Co., Ltd. The main drafters of this document. Wang Xiaojun, Zhou Yu, Gao Kaike, Wu Xianjin, Cai Shoulian, Hu Daozhong, Ye Xunliang, Zhi Zuochang, Zhang Xiongjie, Zhu Yongping, Zeng Pinqi, Liu Peijian, Zhang Qingshuang, Peng Yulin, Xue Hongquan, Han Zhenghai, Yang Xiongjun, Chen Shuanghe, Chen Weibin, Deng Jilin, Yan Tao, Wang Junxian, Yu Jinxian, Ma Lei, Zhao Andong, Gu Caili, Zhang Chengxuan, Cai Tianzhi, Han Wenhao, Wang Hong, Du Libo, Chen Xiaoping, Wu Guangzhong, Dai Zhanwei, Wang Xuefeng, Yang Quanqing, Qian Zhongyi, Sun Ning, Li Haiping, Zhang Peng, Zhang Rongwei, Li Guoxiang, Huang Guangwen, Ma Zhengping, Ji Zhongxian, Xiang Ce, Hou Bozhong, Yu Jingui, Teng Xinting, Wu Binbin, Shao Liping, Hu Jiantian. The previous versions of this document and the documents replaced are as follows:

---First published in 1989 as GB/T 12237-1989, first revised in.2007;

---This is the second revision. Steel ball valves for petroleum, petrochemical and related industries

1 Scope

GB/T 12237-2021 is the Chinese national standard on steel ball valves for petroleum, petrochemical and allied industries, in the field of fluid systems and general-purpose components. 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 9 March 2021 by the State Administration for Market Regulation; Standardization Administration of China, and has been in force since 1 October 2021. Classification: ICS 23.060.10, CCS J16. 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 document specifies the structural type, technical requirements, materials, and test methods of steel ball valves with elastic seals for petroleum, petrochemical and related industries And inspection rules, signs, protection, packaging, storage and transportation. This document applies to.

---Flange connection end and butt welding connection end of the ball valve, nominal pressure PN16~PN100, nominal size DN15~DN600, pressure Class150~Class600, nominal size NPS~NPS24;

---Ball valve with threaded connection end and socket welding connection end, nominal pressure PN16~PN140, nominal size DN8~DN50, pressure, etc. Class 150~Class800, nominal size NPS~NPS2;

---Full-bore and reduced-diameter ball valves, floating ball structure and fixed ball structure ball valve;

---Applicable temperature -46°C~260°C. The ball valve of the metal and ceramic material sealing pair can be implemented by reference.

2 Normative references

The contents of the following documents constitute the indispensable clauses of this document through normative references in the text. Among them, dated quotations Only the version corresponding to that date is applicable to this document; for undated reference documents, the latest version (including all amendments) is applicable to This document.

GB/T 150.4 Pressure Vessel Part

4 Manufacturing, Inspection and Acceptance

GB/T 152.4 Fasteners with counterbore for hexagon head bolts and hexagon nuts

GB/T 196 Basic size of ordinary thread

GB/T 197 Common thread tolerance

GB/T 228.1 Tensile Test of Metallic Materials Part