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

GB/T 13927-2022

Industrial valves - Pressure testing

工业阀门 压力试验

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Foreword

This document was issued on 30 December 2022 by the State Administration for Market Regulation; Standardization Administration of the PRC and takes effect on 1 July 2023.

It is a GB/T standard: recommended rather than compulsory, but it is the text a Chinese reviewer applies when assessing a submission.

1 Scope

GB/T 13927-2022 covers the pressure testing of metal industrial valves. Clause 4 sets the conditions added when a buyer takes part - testing a stock valve without stripping paint or coating from the shell surface, witnessed tests, and the optional test items a contract may call up. Clause 5 holds the requirements: safety precautions, where the test is carried out, the test rig and the pressure measuring equipment, the state of the shell surface, the test fluid, the test pressures, which tests apply to which valve, and how long pressure is held. Clause 6 gives the three methods - the shell test, the back closure test and the sealing test - and Clause 7 the acceptance criteria for each, closing with the certificate of conformity the manufacturer hands the buyer. Annex A maps the clause structure against ISO 5208:2015 and Annex B gives equivalent nominal sizes. A valve has to hold pressure and also move, and the two duties pull against each other. A rig that clamps the ends too hard distorts the body and lets a leaking seat pass, so the procedure has to be pinned down as tightly as the pass mark. For valve manufacturers, inspection bodies and purchasers who witness tests.

This document specifies pressure test additional conditions, pressure test requirements, test methods, test acceptance criteria for industrial valves.

This document applies to pressure testing of metal valves.

2 Normative references

This document has no normative references.

3 Terms and definitions

The following terms and definitions apply to this document.

During the test, the gauge pressure of the test fluid, which is endured by the inner cavity of the valve.

4 Additional conditions for pressure test

If the buyer performs a pressure test on a stock valve, the stock valve may be tested,

without removing paint or coating from the shell surface.

When the order contract requires it, the test of the "optional" items in Table 1 can be carried out.

5 Pressure test requirements

The pressure test equipment shall not exert external forces, that would affect the valve test results. If an end pair clamping test device is used, the valve manufacturer shall be able to ensure that the test device does not affect the test results of the sealing performance of the valve being tested.

6 Test methods

For valves with an upper sealing structure, close the inlet and outlet of the valve. Fill the valve shell with liquid test medium. Drain the air in the valve body cavity. Use the valve operating mechanism, to open the valve to the fully open position. Loosen the packing gland bolts.

7 Test acceptance criteria

The valve manufacturer shall provide the buyer with a certificate of conformity, certifying that the valve product complies with this document.

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Appendix A for a list of structural number comparisons between this document and ISO

5208.2015.

The technical differences between this document and ISO 5208.2015 and their reasons are as follows.

- a) DELETE the terms and definitions of "test fluid temperature", "DN/NPS", "PN/Class"; ADD the terms and definitions of "back closure test", which appears in the document (see 3.3);
- b) CHANGE the requirements for pressure measurement equipment (see 5.4), to meet the needs of practical applications in China;

- c) ADD the fluctuation requirements of test pressure (see 5.7.4), to meet the needs of practical applications in China;
- d) ADD the test item requirements for cast iron valves (see 5.8.2), to meet the needs of practical applications in China;
- e) INTEGRATE the contents noted in Tables 1 and 3 into the Tables and clauses (see 5.8 and 6.3.2).

This document has made the following editorial changes, as compared with ISO 5208.2015.

- DELETE Note 3 in Table 3 regarding "Plug gasket material requirements".

Please note that some content in this document may be subject to patents. The publisher of this document assumes no responsibility for identifying patents.

This document was proposed by China Machinery Industry Federation.

This document shall be under the jurisdiction of the National Valve Standardization Technical Committee (SAC/TC 188).

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