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

GB/T 28776-2012

**Steel gate valves, globe valves and check valves for the
petroleum and natural gas industries (DN 100 and smaller)**

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Foreword

This standard was drafted in accordance with GB/T 1.1-2009 given rules. This revised standard adopts ISO 15761.2002 "oil and gas industry with a nominal size of less than or equal to DN100 steel gate, Globe and check valves. " This standard is based on ISO 15761.2002 redrafted. This standard and ISO 15761.2002 as compared to the main changes are as follows:

- With our standards instead of international standards of normative documents referenced;
- Remove the ISO 15761.2002 on the term, because the term has been defined in our standards and have the same meaning;
- The ISO 15761.2002 in the pound to PN level, the unit can also be modified accordingly;
- Not using ISO 15761.2002 5.4.4.3Class1500 valve structure length, according to China's valve provisions of the standard;
- Not using ISO 15761.2002 in 5.4.5, according to China's valve standards, thick-walled tube butt weld end requirements set out in the Appendix;

- Not using ISO 15761.2002, Chapter 8, according to China's existing, applicable to the petroleum and petrochemical valve inspection and test standards;
- Increased static life test frequency bellows valve stem seal requirements;
- Product testing according to the requirements of our country, increase the inspection rules;
- Added Appendix A;
- The ISO 15761.2002 Annex A, Annex D into the body, Appendix B and Appendix C after the merger as Appendix B of this standard;
- The ISO 15761.2002 welding end dimensions in Appendix C of this standard;
- Deleted Appendix E availability information. The standard proposed by China Machinery Industry Federation. The standard valve by the National Standardization Technical Committee (SAC/TCS188) centralized. This standard was drafted. Hefei General Machinery Research Institute, Anhui Tunxi High Pressure Valve Co., Ltd., Henan mountains Valve Co., Ltd., China East Valve Co., Bethel Valve Group Co., Ltd Baoyi group. The main drafters of this standard. Wang Xiaojun, Cao Yaohua, Yangquan Qing, gold AD, metal, rain, Zhang Xiaozhong, Zhang Jiwei. Oil and gas industry with a steel gate, globe and Check valve ($\leq$ DN100)

1 Scope

GB/T 28776-2012 is the Chinese standard for the small steel gate, globe and check valves used in the petroleum and natural gas industries, up to and including DN 100. Small valves are bought in very large numbers on a wellhead, a platform or a process plant, and they are the ones most likely to be treated as commodities and least likely to be individually inspected, which is exactly why they have a standard of their own rather than being covered by the large-valve one. It is the Chinese adoption of the API 602 family of requirements. The document sets the pressure-temperature ratings and the classes, the design requirements for each valve type including the body, bonnet, stem, seat and disc, the wall thickness and the end-to-end dimensions, the material requirements and the trim designations, the requirements on bolting and gaskets, the stem sealing and the fire-safe requirements where they apply, the marking, the testing including the shell and seat tests and the acceptance criteria, and the documentation. This is the clear-print edition. For a valve maker, an EPC contractor or an operator in China, this is the acceptance text.

This standard specifies the oil and gas industry with a nominal size no greater than DN100 steel gate, globe (including the throttle) and non-return Form valve structure (hereinafter referred to as "valve"), the technical requirements, materials, test methods and inspection rules, marking, packaging, storage and transportation requirements. This standard applies to nominal pressure PN20, PN50, PN100, PN250, nominal size DN8 ~ DN100 valve flange

end of. This standard applies to nominal pressure PN140, PN250, nominal size socket weld or threaded ends DN8 ~ DN65 of valves. This standard applies to nominal pressure PN20 ~ PN250, nominal size butt welding ends DN8 ~ DN100 valve. This standard applies to gate and globe valve bellows stem seal structure.

Note. Nominal pressure PN20 equivalent Class150, nominal pressure PN50 equivalent Class300, nominal pressure PN100 equivalent Class600, nominal pressure PN140 equivalent Class800, nominal pressure PN250 equivalent Class1500.

2 Normative references

The following documents for the application of this document is essential. For dated references, only the dated version suitable for use herein Member. For undated references, the latest edition (including any amendments) applies to this document.

GB 150 steel pressure vessels

GB/T 196 common thread basic size (GB/T 196-2003, ISO 724.1993, MOD)

GB/T 197 common thread tolerance (GB/T 197-2003, ISO 965-1.1998, MOD)

GB/T 228.1 tensile testing of metallic materials - Part 1. room temperature test methods (GB/T 228.1-2010, ISO 6892-1. 2009, MOD) GB/T 898 stud bm = 1.25d

GB/T 1220 stainless steel rods GB/T 1221 Steel Bars GB/T 3077 alloy steel

GB/T 5796.1 trapezoidal thread - Part 1. tooth shape (GB/T 5796.1-2005, ISO 2901.1993, MOD)

GB/T 5796.2 trapezoidal thread - Part 2. The diameter of the pitch series (GB/T 5796.2-2005, ISO 2902. 1977, MOD)

GB/T 5796.3 trapezoidal thread Part 3. Basic Size (GB/T 5796.3-2005, ISO 2904. 1977, MOD)

GB/T 5796.4 trapezoidal thread Part 4. Tolerances (GB/T 5796.4-2005, ISO 2903.1993, MOD)

GB/T 7306.2 55 ° in a sealed tube in Part 2 taper thread and taper external thread screw (GB/T 7306.2-2000, egv ISO 7-1.1994)

GB/T 9113 Integral steel pipe flanges

GB/T 12220 Universal Valve logo (GB/T 12220-1989, idt ISO 5209. 1977)

GB/T 12221 metal valve structure length (GB/T 12221-2005, ISO 5752. 1982, MOD)