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NATIONAL STANDARD OF THE PEOPLE'S REPUBLIC OF CHINA

GB/T 20663-2026

Replacing GB/T 20663-2017

Accumulators

蓄能压力容器

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Foreword

This document is drafted in accordance with the provisions of GB/T 1.1-2020 "Directives for standardization - Part 1: Rules for the structure and drafting of standardizing documents".

This document replaces GB/T 20663-2017 "Accumulator pressure vessels". In addition to structural adjustments and editorial changes, the following main technical changes have been made with respect to GB/T 20663-2017:

a) the general parameters of accumulators have been changed (see Table 1; 1.4 of the 2017 edition);

b) the scope of definition of accumulators has been added (see 4.1);

c) all steel pipe standards have been updated, and duplex stainless steel pipe material has been added to the shell materials (see 5.2, Table 3; 5.2, Table 2 of the 2017 edition);

d) general design requirements have been added (see 6.1);

e) fatigue assessment has been added (see 6.12);

f) the index requirements for the properties and tests of the shell after heat treatment have been changed (see 8.1.1; 5.2.4 of the 2017 edition);

g) requirements for the metallographic structure of duplex stainless steel in manufacture have been added (see 8.4);

h) requirements for non-destructive testing of stainless steel shells in manufacture have been added (see 8.7.3);

i) the content of functional verification tests has been added (see 8.19);

j) the physical properties of integrally injection-moulded bladders have been added (see Annex E).

Attention is drawn to the possibility that some of the elements of this document may be the subject of patent rights. The issuing body of this document shall not be held responsible for identifying patent rights.

This document was proposed by and is under the jurisdiction of the National Technical Committee on Boilers and Pressure Vessels of Standardization Administration of China (SAC/TC 262).

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Equipment Safety and Energy Saving Promotion Association, China Special Equipment Inspection and Research Institute, Shanghai Lanya Petrochemical Equipment Testing Institute Co., Ltd. of the Machinery Industry, Ningbo Chaori Hydraulic Co., Ltd., Shanghai Special Equipment Supervision and Inspection Technology Research Institute Co., Ltd., Bookmar Accumulator (Tianjin) Co., Ltd., Jiabang Hydraulic Machinery Manufacturing (Shanghai) Co., Ltd., Shanghai Lanbin Petrochemical Equipment Co., Ltd., Hainan Provincial Institute of Inspection and Testing, Ningbo Fenghua Sainuoou Hydraulic Technology Co., Ltd., Hydac Hydraulic Technology (Shanghai) Co., Ltd., Shanghai Lanhai Chuangke Testing Co., Ltd., Dalian Boiler and Pressure Vessel Inspection and Research Institute Co., Ltd.

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This document was first issued in 2006, first revised in 2017, and the present revision is the second revision.

Accumulator Pressure Vessels

1 Scope

This document specifies the requirements for materials, design, manufacture, technical performance and test methods, inspection rules, marking, packaging and transport of accumulator pressure vessels (except where a specific type of accumulator is expressly designated, hereinafter referred to as "accumulators").

This document is applicable to the design, manufacture and inspection of accumulators.

This document is not applicable to the design, manufacture and inspection of accumulators made of non-metallic materials.

2 Normative references

The contents of the following documents constitute indispensable provisions of this document through normative reference in the text. For dated references, only the version corresponding to that date applies to this document; for undated references, the latest version (including all amendments) applies to this document.

GB/T 150.2 Pressure vessels — Part 2: Materials

GB/T 150.3 Pressure vessels — Part 3: Design

GB/T 150.4 Pressure vessels — Part 4: Fabrication, inspection and testing, and acceptance

GB/T 196 General purpose metric screw threads — Basic dimensions

GB/T 197 General purpose metric screw threads — Tolerances

GB/T 223 (all parts) Methods for chemical analysis of iron, steel and alloy

GB/T 228.1 Metallic materials — Tensile testing — Part 1: Method of test at room temperature

GB/T 229 Metallic materials — Charpy pendulum impact test method

GB/T 231.1 Metallic materials — Brinell hardness test — Part 1: Test method

GB/T 232 Metallic materials — Bend test method

GB/T 246 Metallic materials — Tube — Flattening test method

GB/T 528 Rubber, vulcanized or thermoplastic — Determination of tensile stress-strain properties

GB/T 529 Rubber, vulcanized or thermoplastic — Determination of tear strength (trouser, angle and crescent test pieces)

GB/T 531.1 Rubber, vulcanized or thermoplastic — Determination of indentation hardness — Part 1: Durometer method (Shore hardness)

GB/T 699 Quality carbon structural steels

GB/T 1220 Stainless steel bars

GB/T 1682 Vulcanized rubber — Determination of low temperature brittleness — Single test piece method

GB/T 1688 Vulcanized rubber — Determination of tension fatigue

GB/T 1690 Rubber, vulcanized or thermoplastic — Determination of the effect of liquids

GB/T 3077 Alloy structural steels

GB/T 3512 Rubber, vulcanized or thermoplastic — Accelerated ageing and heat resistance tests — Air-oven method

GB/T 4732.2 Pressure vessels design by analysis — Part 2: Materials

GB/T 4732.3 Pressure vessels design by analysis — Part 3: Formula method

GB/T 4732.4 Pressure vessels design by analysis — Part 4: Stress classification method

GB/T 4732.5 Pressure vessels design by analysis — Part 5: Elastic-plastic analysis method

GB/T 4732.6 Pressure vessels design by analysis — Part 6: Fabrication, inspection and testing, and acceptance

GB/T 5721 General specifications for marking, packaging, transport and storage of rubber sealing products