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Industrial valves — Pressure testing of metallic valves

Robinetterie industrielle — Essais sous pression des appareils de robinetterie métalliques

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Foreword

ISO (the International Organization for Standardization) is a worldwide federation of national standards bodies (ISO member bodies). The work of preparing International Standards is normally carried out through ISO technical committees. Each member body interested in a subject for which a technical committee has been established has the right to be represented on that committee. International organizations, governmental and non-governmental, in liaison with ISO, also take part in the work. ISO collaborates closely with the International Electrotechnical Commission (IEC) on all matters of electrotechnical standardization.

International Standards are drafted in accordance with the rules given in the ISO/IEC Directives, Part 2.

The main task of technical committees is to prepare International Standards. Draft International Standards adopted by the technical committees are circulated to the member bodies for voting. Publication as an International Standard requires approval by at least 75 % of the member bodies casting a vote.

Attention is drawn to the possibility that some of the elements of this document may be the subject of patent rights. ISO shall not be held responsible for identifying any or all such patent rights.

ISO 5208 was prepared by Technical Committee ISO/TC 153, *Valves*, Subcommittee SC 1, *Design, manufacture, marking and testing*.

This third edition cancels and replaces the second edition (ISO 5208:1993) which has been technically revised.

Introduction

The purpose of this International Standard is the establishment of basic requirements and practices for pressure testing valves of various configurations that are used in general purpose, power generation, petroleum, and petrochemical or allied industry applications. The intent is to provide a consistent set of procedural requirements and acceptance criteria that can be considered in conjunction with valve specific standards appropriate for specific applications. Account has been taken of the valve testing requirement needs of EN 12266 and API 598 with requirements referenced for PN designated valves for the former and Class designated valves for the latter.

Industrial valves — Pressure testing of metallic valves

1 Scope

This International Standard specifies examinations and tests that a valve manufacturer needs to act upon in order to establish the integrity of the pressure boundary of an industrial metallic valve and to verify the degree of valve closure tightness and the structural adequacy of its closure mechanism. This International Standard is to be applied in conjunction with the specific requirements of a valve product standard to the extent cited by the product standard as a normative reference. Where requirements of a product standard differ from those given in this International Standard, the requirements of the product standard apply.

This International Standard does not cover safety aspects of pressure testing.

2 Terms and definitions

For the purposes of this document, the following terms and definitions apply.

2.1
shell test
test at a pressure in excess of the **cold working pressure** (2.9) rating of a valve for the purpose of validating the soundness and strength of the valve pressure containing and retaining structures

NOTE These structures include valve-actuating mechanisms that have a direct connection to the valve internals subject to fluid test pressure within the valve proper.

2.2
closure test
pressure test for the purpose of validating leakage through a valve's closure mechanism

2.3
test pressure
internal pressure (gauge), expressed in bar [1] to which the valve under test is subjected

NOTE Unless otherwise noted, gauge pressure is used throughout this International Standard.

2.4
test fluid
pressurized liquid or gas used to test a valve

2.5
test fluid temperature
temperature of the test fluid, $\geqslant 5$ °C and $\leqslant 40$ °C

2.6
resilient seats
broad category of seating surface materials that make up a pliable seat sealing combination, including elastomeric, polymeric, solid and semi-solid grease seals, either used in combination or used in conjunction with a mating metallic or ceramic component

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[1] 1 bar = 10^5 Pa.