

International Standard



5208

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Industrial valves — Pressure testing for valves

Robinetterie industrielle — Essais sous pression pour les appareils de robinetterie

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Foreword

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Draft International Standards adopted by the technical committees are circulated to the member bodies for approval before their acceptance as International Standards by the ISO Council.

International Standard ISO 5208 was developed by Technical Committee ISO/TC 153, Valves, and was circulated to the member bodies in December 1980.

It has been approved by the member bodies of the following countries:

Austria	France	Norway
Belgium	Germany, F. R.	Poland
Brazil	India	Romania
Canada	Iraq	Sweden
Denmark	Italy	Switzerland
Egypt, Arab Rep. of	Japan	United Kingdom
Finland	Netherlands	USA

The member bodies of the following countries expressed disapproval of the document on technical grounds:

Australia
South Africa, Rep. of
USSR

Industrial valves — Pressure testing for valves

0 Introduction

The aim of this International Standard is the establishment of certain basic requirements for the production testing of industrial valves in order to ensure that uniform tests and methods are adopted. In general, this International Standard must be considered in conjunction with any specific requirements in the development of standards appropriate to the individual type of valves.

1 Scope and field of application

This International Standard specifies tests to confirm the pressure integrity of the shell of an industrial valve under pressure, and tests verifying the degree of tightness and pressure-retaining adequacy of the valve seat and closure mechanism.

2 Definitions

2.1 test pressure: The internal pressure, expressed in bars¹⁾ to which the valve under test is subjected.

2.2 test fluid: At the discretion of the manufacturer, either:

a) **liquid:** Water which may contain a corrosion inhibitor, kerosene, or other suitable liquid having a viscosity not greater than that of water;

or:

b) **gas:** Air or other suitable gas.

3 Test pressure

3.1 Shell test

A shell test using fluid shall be performed at a minimum pressure of 1,5 times the maximum permissible working pressure (MPWP) at 20 °C, or, for valves up to and including DN 50 in the pressure range up to and including PN 50 using gas at a test pressure of 6 bar (600 kPa).

3.2 Seat test

A seat test shall be performed in accordance with table 1.

Table 1 — Seat test pressures

DN	PN	Seat test
Up to and including DN 80	All	1,1 × maximum permissible working pressure at 20 °C
DN 100 up to and including DN 200	Up to and including PN 50	Liquid or 6 bar (600 kPa) gas
	PN 100 and greater	1,1 × maximum permissible working pressure at 20 °C
DN 250 and greater	All	Liquid

3.3 Pressure differential limitations

Valves conforming to this International Standard in all respects, except that they are designed for operating conditions that have the pressure differential across the obturator limited to values less than the nominal pressure rating and have obturators and/or actuating devices (direct, mechanical, fluid or electrical) that would be subject to damage at high differential pressures, shall be tested as described above except that the closure test requirement may be reduced to 1,1 times the maximum specified closed position differential pressure.

This exception may be exercised by agreement between the manufacturer and purchaser. The manufacturer's nameplate data shall include reference to any such limitations.

4 Tests

4.1 General considerations

4.1.1 The valve shall be essentially freed of air when testing with a liquid.

4.1.2 Valves shall not be painted or otherwise coated with materials capable of sealing against leakage before shell pressure tests are completed, except that internal linings and non-pressure sealing chemical corrosion protection treatments are permitted. If pressure tests in the presence of a representative of the purchaser are specified, painted valves from stock may be re-tested without removal of paint.

4.1.3 Test equipment shall not subject the valve to externally applied stresses which may affect the results of the tests.

1) 1 bar = 10⁵ Pa