



SLOVENSKI STANDARD
oSIST prEN ISO 8233:2020
01-oktober-2020

Plastomerni ventili - Vrtilni moment - Preskusna metoda (ISO/DIS 8233:2020)

Thermoplastics valves - Torque - Test method (ISO/DIS 8233:2020)

Armaturen aus Thermoplasten - Drehmoment - Prüfverfahren (ISO/DIS 8233:2020)

Robinets en matériaux thermoplastiques - Couple de manoeuvre - Méthode d'essai (ISO/DIS 8233:2020)

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Ta slovenski standard je istoveten z: prEN ISO 8233

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ICS:

23.060.01	Ventili na splošno	Valves in general
83.140.30	Polimerne cevi in fittingi za snovi, ki niso tekočine	Plastics pipes and fittings for non fluid use

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en,fr,de

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DRAFT INTERNATIONAL STANDARD

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Thermoplastics valves — Torque — Test method

Robinets en matériaux thermoplastiques — Couple de manoeuvre — Méthode d'essai

ICS: 83.140.30; 23.060.01

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ISO/DIS 8233:2020(E)

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.

The procedures used to develop this document and those intended for its further maintenance are described in the ISO/IEC Directives, Part 1. In particular, the different approval criteria needed for the different types of ISO documents should be noted. This document was drafted in accordance with the editorial rules of the ISO/IEC Directives, Part 2 (see www.iso.org/directives).

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. Details of any patent rights identified during the development of the document will be in the Introduction and/or on the ISO list of patent declarations received (see www.iso.org/patents).

Any trade name used in this document is information given for the convenience of users and does not constitute an endorsement.

For an explanation of the voluntary nature of standards, the meaning of ISO specific terms and expressions related to conformity assessment, as well as information about ISO's adherence to the World Trade Organization (WTO) principles in the Technical Barriers to Trade (TBT), see www.iso.org/iso/foreword.html.

This document was prepared by Technical Committee ISO/TC 138, *Plastics pipes, fittings and valves for the transport of fluids*, Subcommittee SC 07, *Valves and auxiliary equipment of plastics materials*.

This second edition cancels and replaces the first edition (ISO 8233:1988), which has been technically revised.

The main changes compared to the previous edition are as follows:

- updating of the normative references and terms and definitions clauses;
- specification of the type of valve in the test report and explanation for the opening torque.

Any feedback or questions on this document should be directed to the user's national standards body. A complete listing of these bodies can be found at www.iso.org/members.html.

Introduction

The aim of this document is to establish certain basic requirements for the torque testing of plastics valves to ensure that uniform test methods are adopted. This document is intended to be considered in conjunction with any specific requirements in particular product standards applicable to the individual types of valves.

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Thermoplastics valves — Torque — Test method

1 Scope

This International Standard specifies a test method for the determination of the opening and closing torque of thermoplastics valves.

This International Standard applies to all types of thermoplastics valves intended to be used for the transport of fluids according to ISO 16135, ISO 16136, ISO 16138, ISO 16139, ISO 21787.

It does not specify the relationship between the torque and its possible increase after valve prolonged use at specific working condition or materials wear/chemical aggression.

NOTE Concerning the chemical aggression of the materials, a collection of data is reported in ISO/TR 10358^[1], concerning the endurance test necessary to confirm the ability of hand-operated plastics valves to withstand prolonged use, with repeated opening and closure, information are given in ISO 8659^[2].

2 Normative references

The following documents are referred to in the text in such a way that some or all of their content constitutes requirements of this document. For dated references, only the edition cited applies. For undated references, the latest edition of the referenced document (including any amendments) applies.

ISO 161-1, *Thermoplastics pipes for the conveyance of fluids — Nominal outside diameters and nominal pressures — Part 1: Metric series*

ISO 10931, *Plastics piping systems for industrial applications — Poly(vinylidene fluoride) (PVDF) — Specifications for components and the system*

ISO 15493, *Plastics piping systems for industrial applications — Acrylonitrile-butadiene-styrene (ABS), unplasticized poly(vinyl chloride) (PVC-U) and chlorinated poly(vinyl chloride) (PVC-C) — Specifications for components and the system — Metric series*

ISO 15494, *Plastics piping systems for industrial applications — Polybutene (PB), polyethylene (PE), polyethylene of raised temperature resistance (PE-RT), crosslinked polyethylene (PE-X), polypropylene (PP) — Metric series for specifications for components and the system*

ISO 16135, *Industrial valves — Ball valves of thermoplastics materials*

ISO 16136, *Industrial valves — Butterfly valves of thermoplastics materials*

ISO 16138, *Industrial valves — Diaphragm valves of thermoplastics materials*

ISO 16139, *Industrial valves — Gate valves of thermoplastics materials*

ISO 21787, *Industrial valves — Globe valves of thermoplastics materials*

3 Terms and definitions

For the purposes of this document, the terms and definitions given in ISO 161-1 and the following apply.

ISO and IEC maintain terminological databases for use in standardization at the following addresses:

- ISO Online browsing platform: available at <https://www.iso.org/obp>
- IEC Electropedia: available at <http://www.electropedia.org/>

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3.1 nominal pressure
PN
 alphanumeric designation of pressure, used for reference purposes, which is related to the mechanical strength of the valve and that corresponds to the pressure of water at 20 °C, in bars, for which the valve is designed (see also ISO 161-1)

Note 1 to entry: 1 bar = 0,1 MPa = 10⁵ Pa; 1 MPa= 1 N/mm².

3.2 closing torque
 torque exerted to achieve full tightness of the valve at nominal pressure.

3.3 opening torque
 torque exerted initially to open the valve from fully closed position.

Note 1 to entry: opening torque shall be evaluated at the PN for ball, butterfly, gate valves; at the PN and at the minimum pressure difference between upstream and downstream sides for diaphragm and globe valves.

3.4 running torque
 torque required to achieve full opening or closing of the valve at nominal pressure

3.5 nominal size
DN
 alphanumeric designation of size for components of a pipework system, which is used for reference purposes, comprising the letters DN followed by a dimensionless whole number which is indirectly related to the physical size, in millimetres, of the bore or outside diameter of the end connections.

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[SOURCE: ISO 6708:1995]^[3]

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3.6 nominal outside diameter

d_n
 specified outside diameter, assigned to a nominal size DN

Note 1 to entry: The nominal outside diameter d_n of pipes is given in ISO 161-1 and of flange adapters and loose backing flanges in ISO 9624^[4].

4 Test specimen

The test specimen shall be an unused valve, unless otherwise in the specific product standard.

5 Test condition

Water or air at the nominal pressure of the valve (0,6 MPa max. when using air), connected in accordance with ISO 10931 or ISO 15493 or ISO 15494, at 23 ± 2 °C shall be applied to the test specimen as indicated in [clause 7](#).

NOTE If air is used as test medium, it is necessary to take appropriate safety precautions for its use.

The measurement shall not be made less than 24 h after manufacture.

Other test conditions, including the use of other fluids and/or other temperatures, may also be prescribed by specifications for valves for particular applications, such as those for the transport of gaseous fuels.