



**SLOVENSKI STANDARD**  
**oSIST prEN ISO 8233:2023**

**01-marec-2023**

**Nadomešča:**  
**SIST EN 28233:1997**

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**Plastomerni ventili - Vrtilni moment - Preskusna metoda (ISO/DIS 8233:2023)**

Thermoplastics valves - Torque - Test method (ISO/DIS 8233:2023)

Armaturen aus Thermoplasten - Drehmoment - Prüfverfahren (ISO/DIS 8233:2023)

Robinets en matériaux thermoplastiques - Couple de manoeuvre - Méthode d'essai (ISO/DIS 8233:2023)

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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

**oSIST prEN ISO 8233:2023**

**en,fr,de**



# DRAFT INTERNATIONAL STANDARD

## ISO/DIS 8233

ISO/TC 138/SC 7

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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 8233:2022(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](http://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](http://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](http://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 7, *Valves and auxiliary equipment of plastics materials*, in collaboration with the European Committee for Standardization (CEN) Technical Committee CEN/TC 69, *Industrial valves*, in accordance with the Agreement on technical cooperation between ISO and CEN (Vienna Agreement).

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

The main changes are as follows:

- normative references and terms and definitions clauses have been updated;
- 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](http://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 document specifies a test method for the determination of the opening, closing and running torque of thermoplastics valves.

This document applies to all types of manually operable, with or without actuator, thermoplastics valves intended to be used for the transport of fluids.

NOTE 1 Examples of valve types tested with this method are in ISO 16135, ISO 16136, ISO 16138, ISO 16139, ISO 21787, ISO 4437-4, ISO 16486-4, EN 12201-4, EN 1555-4.

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

## 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*

## 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/>

### 3.1

#### nominal pressure

PN

alphanumerical designation of pressure, used for reference purposes, which is related to the mechanical strength of the valve

Note 1 to entry: Usually nominal pressure (PN), measured in bar, corresponds to water pressure at 20 °C water temperature. See also ISO 161-1.

Note 2 to entry: 1 bar = 0,1 MPa = 10<sup>5</sup> Pa; 1 MPa = 1 N/mm<sup>2</sup>.

### 3.2

#### closing torque

torque exerted to complete the obturator stroke to obtain full tightness of the valve at PN

**ISO/DIS 8233:2022(E)****3.3  
opening torque**

torque exerted initially to open the valve from fully closed position at PN

**3.4  
running torque**

torque required to open or close the obturator during its stroke at PN

**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

[SOURCE: ISO 6708:1995, 2.1, modified — NOTES removed]

**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 that of flange adapters and loose backing flanges is given in ISO 9624.

**3.7  
obturator**

movable component of the valve whose position in the fluid flow path permits, restricts or obstructs the fluid flow

[SOURCE: EN 736-2:2016]

**4 Test specimen**

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

**5 Test condition****5.1 General**

The test is performed at a temperature of  $23 \pm 2$  °C with water or air / nitrogen at the PN of the valve, with the valve assembled to appropriate piping components to permit pressurization.

Safety precautions need to be taken when testing with air or nitrogen. For testing with air or nitrogen a pressure of a maximum of 6 bar shall be used. For PN > 4 bar, testing with water shall be considered, and the test conditions shall be agreed between the manufacturer and end user.

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.

**5.2 Conditioning time**

The torque measurement shall not be made less than 24 h after manufacture. At least 12 h before carrying out the test, open and close the valve ten times to ensure smooth operation.