SLOVENSKI STANDARD
SIST EN 28233:1997

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Plastomerni ventili - Vrtilni moment - Preskusna metoda (ISO 8233:1988)

Thermoplastics valves - Torque - Test method (ISO 8233:1988)

Armaturen aus Thermoplasten - Drehmoment - Prüfmethode (ISO 8233:1988)

Robinets en matériaux thermoplastiques - Couple de manoeuvre - Méthode d'essai (ISO 8233:1988)

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English version

Thermoplastics valves - Torque - Test method (ISO 8233:1988)

Robinets en matériaux thermoplastiques - Couple de manoeuvre - Méthode d'essai (ISO 8233:1988)

Armaturen aus Thermoplasten - Drehmoment - Prüfmethode (ISO 8233:1988)

This European Standard was accepted by CEN on 1990-11-08 and is identical to the ISO standard as referred to.
CEN members are bound to comply with the requirements of the CEN/CENELEC Common Rules which stipulate the conditions for giving this European Standard the status of a national standard without any alteration.

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This European Standard exists in three official versions (English, French, German). A version in any other language made by translation under the responsibility of a CEN member into its own language and notified to CEN Central Secretariat has the same status as the official versions.

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CEN

European Committee for Standardization
Comité Européen de Normalisation
Europäisches Komitee für Normung

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FOREWORD

Based on the positive result of the Formal Vote procedure, the International Standard

ISO 8233:1988 "Thermoplastics valves - Torque - Test method"

is adopted as a European Standard.

In accordance with the Common CEN/CENELEC Rules, the following countries are bound to implement this standard:

Austria, Belgium, Denmark, Finland, France, Germany, Greece, Iceland, Ireland, Italy, Luxembourg, Netherlands, Norway, Portugal, Spain, Sweden, Switzerland and United Kingdom.

ENDORSEMENT NOTICE

The text of the International Standard ISO 8233, edition 1988 was approved by CEN as a European Standard without any modification.

INTERNATIONAL STANDARD

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МЕЖДУНАРОДНАЯ ОРГАНИЗАЦИЯ ПО СТАНДАРТИЗАЦИИ

Thermoplastics valves — Torque — Test method

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

Reference number
ISO 8233 : 1988 (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.

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. They are approved in accordance with ISO procedures requiring at least 75 % approval by the member bodies voting.

International Standard ISO 8233 was prepared by Technical Committee ISO/TC 138, *Plastics pipes, fittings and valves for the transport of fluids*.

Users should note that all International Standards undergo revision from time to time and that any reference made herein to any other International Standard implies its latest edition, unless otherwise stated.

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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.

2 Field of application

This International Standard applies to all types of thermoplastics valves intended to be used for the transport of fluids.

3 References

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

ISO 6708, *Pipe components — Definition of nominal size.*

ISO 7349, *Thermoplastics valves — Connection references.*

4 Definitions

For the purposes of this International Standard, the definition of the nominal diameter (DN) given in ISO 6708 and the following definitions apply.

4.1 closing torque: Torque exerted over the full closing operation to achieve full tightness of the valve at nominal pressure.

4.2 opening torque: Torque exerted initially to open the valve from fully closed or over the full opening operation.

4.3 nominal pressure (PN): Alphanumeric designation, used for reference purposes, related to the mechanical strength of a valve. Usually it corresponds to the service pressure, in bar[1)], with water at 20 °C, for which the valve is designed (see ISO 161-1).

5 Test specimen

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

1) 1 bar = 10^5 Pa

6 Test conditions

6.1 Water or air at the nominal pressure of the valve (0,6 MPa max. when using air), connected in accordance with ISO 7349, at 23 ± 2 °C shall be applied to the test specimen as indicated in clause 8.

6.2 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.

7 Apparatus

NOTE — If air is used as the test medium, it is necessary to take appropriate safety precautions for the use of compressed gases.

7.1 Pump, capable of delivering a pressure at least equivalent to the nominal pressure of the valve under test.

7.2 Device, capable of supplying the required torque with an accuracy of ± 2 %.

7.3 Measuring instrument, between the torque device and the valve, which shall permit the continuous reading of the torque with the required accuracy of ± 2 %, and the recording of its maximum value.

8 Procedure

8.1 Torque test before conditioning

At least 12 h before carrying out this test, open and close the valve ten times to ensure smooth operation.

8.1.1 With the valve closed, raise the pressure gradually over 60 s to the nominal pressure of the valve and maintain it for 5 min.

8.1.2 Connect the valve handle to the torque device and measuring instrument and apply a torque, increasing it gradually until the opening torque is reached. Complete the opening of the valve in accordance with the requirements specified in the table.

Table

Type	Nominal size [1] DN	Operating time [1), 2)] s	Operating speed r/min
Quarter-turn valves	DN ⩽ 50	2	—
	DN > 50	$\frac{DN}{30}$	—
Multiple-turn valves	DN ⩽ 50	—	≈ 20
	DN > 50	—	≈ 10

1) For valves for piping systems sized on the basis of e.g. ISO 161-1, the value of the nominal outside diameter, expressed in millimetres, of the corresponding pipe is used in place of the value given for DN.

2) If calculated, the operating time shall be rounded up to the nearest whole second.

8.1.3 Record the opening torque of the valve, if possible during the whole operation.

8.1.4 Close the valve to full tightness at nominal pressure and record the closing torque, if possible during the whole operation.

8.1.5 The measured test results shall meet the test requirements in the relevant product standard.

8.2 Torque test after conditioning

8.2.1 Condition the test valve by maintaining it closed at the nominal internal pressure for the time required by the specific product standard.

8.2.2 Repeat the test described in 8.1.1 to 8.1.4. The valve shall also meet the requirements of 8.1.5.

8.2.3 Bidirectional valves shall be tested according to this procedure in both directions.

9 Test report

A test report shall be provided for every valve tested and shall contain the following information:

a) reference to this International Standard and test designation (clause 8);

b) complete identification of the valve type:

— material of the valve body and seals,

— nominal size (DN), socket diameter (D_1) or spigot diameter (nominal outside diameter) [1],

— nominal pressure (PN) of the valve,

— manufacturer's name or trade-mark,

— if necessary, flow direction;

c) date of test;

d) recorded values of the opening and closing torque, before and after conditioning.

1) In accordance with ISO 161-1.

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