SLOVENSKI STANDARD
SIST EN 331:2000/A1:2011

01-junij-2011

Ročne krogelne pipe in zasuni za hišne plinske napeljave - Dopolnilo A1

Manually operated ball valves and closed bottom taper plug valves for gas installations for buildings

Handbetätigte Kugelhähne und Kegelhähne mit geschlossenem Boden für die Gas-Hausinstallation

Robinets a tournant sphérique et robinets a tournant conique a fond plat destinés a etre manoeuvrés manuellement et a être utilisés pour les installations de gaz dans les bâtiments

Ta slovenski standard je istoveten z: **EN 331:1998/A1:2010**

ICS:

23.060.20	Zapirni ventili (kroglasti in pipe)	Ball and plug valves
91.140.40	Sistemi za oskrbo s plinom	Gas supply systems

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EUROPEAN STANDARD

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English Version

Manually operated ball valves and closed bottom taper plug valves for gas installations for buildings

Robinets à tournant sphérique et robinets à tournant conique à fond plat destinés à être manoeuvrés manuellement et à être utilisés pour les installations de gaz dans les bâtiments

Handbetätigte Kugelhähne und Kegelhähne mit geschlossenem Boden für die Gas-Hausinstallation

This amendment A1 modifies the European Standard EN 331:1998; it was approved by CEN on 30 October 2010.

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EUROPEAN COMMITTEE FOR STANDARDIZATION
COMITÉ EUROPÉEN DE NORMALISATION
EUROPÄISCHES KOMITEE FÜR NORMUNG

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Contents

Page

Foreword

This document (EN 331:1998/A1:2010) has been prepared by Technical Committee CEN/TC 236 “Non industrial manually operated shut-off valves for gas and particular combinations valves-other products”, the secretariat of which is held by UNI.

This Amendment to the European Standard EN 331:1998 shall be given the status of a national standard, either by publication of an identical text or by endorsement, at the latest by June 2011, and conflicting national standards shall be withdrawn at the latest by June 2011.

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

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For relationship with EU Directive(s), see informative Annex ZA, which is an integral part of this document.

According to the CEN/CENELEC Internal Regulations, the national standards organizations of the following countries are bound to implement this European Standard: Austria, Belgium, Bulgaria, Croatia, Cyprus, Czech Republic, Denmark, Estonia, Finland, France, Germany, Greece, Hungary, Iceland, Ireland, Italy, Latvia, Lithuania, Luxembourg, Malta, Netherlands, Norway, Poland, Portugal, Romania, Slovakia, Slovenia, Spain, Sweden, Switzerland and the United Kingdom.

General

In the whole text of EN 331:1998 replace:

— "closure member" *with* "obturator",

— "union connection" *with* "joint",

— "flexible connection" *with* "flexible appliance connector",

— "flow restrictor" *with* "pressure limiting device".

Modify the clause numbering in relation to the modifications listed hereafter and correct the cross references in text accordingly:

Old numbering	New numbering
5.1.1	5.1
5.1.1.1	5.1.1
5.1.1.2	5.1.2
5.1.1.3	5.1.3
5.1.1.4	5.1.4
5.1.1.5	9
5.1.1.6	5.1.5
5.1.1.7	5.1.6
5.1.1.8	5.1.8
5.1.2	5.2
5.1.2.1	5.2.1
5.1.2.2	5.2.2
5.1.2.3	5.2.3
5.1.2.4	5.2.4
5.1.2.5	5.2.5
5.1.2.6	5.2.6
5.1.2.6.1	5.2.6.1
5.1.2.6.2	5.2.6.2
5.1.2.7	5.2.7
5.1.3	5.3
5.1.3.1	5.3.1

Old numbering	New numbering
5.1.3.1.1	5.3.1.1
5.1.3.1.2	5.3.1.2
5.1.3.1.3	5.3.1.3
5.1.3.2	5.3.2
5.1.3.3	5.3.3
5.1.3.4	5.3.4
5.1.3.5	5.3.5
5.1.3.6	5.3.6
5.1.4	5.4
5.2	5.5
5.2.1	5.5.1
5.2.2	5.5.2
5.3	5.6
5.4	5.7
6.6	6.7
6.6.1	6.7.1
6.6.2	6.7.2
6.7	6.8
7.6.4	7.6.3
7.6.5	7.6.4

Modifications to the text of EN 331:1998.

1 Modification to the Scope

Replace the second paragraph of 1.1 with the following:

"It applies to metallic valves for domestic and commercial not directly buried installations inside or outside of buildings, using gases of the first, second and third family (specified in EN 437) and working up to $0{,}2 \times 10^5$ Pa, $0{,}5 \times 10^5$ Pa and 5×10^5 Pa."

NOTE "Not directly buried" within the context of this standard means that valves below ground are not in direct contact with earth or other materials e.g. that they are in a protected encasement.

2 Modifications to Clause 2, Normative references

Replace the first paragraph with the following:

*"*The following referenced documents are indispensable for the application 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."

Add the references to the following standards in the appropriate order:

"EN 682, *Elastomeric Seals — Materials requirements for seals used in pipes and fittings carrying gas and hydrocarbon fluids*

EN 751-1, *Sealing materials for metallic threaded joints in contact with 1st, 2nd and 3rd family gases and hot water — Part 1: Anaerobic jointing compounds*

EN 751-2, *Sealing materials for metallic threaded joints in contact with 1st, 2nd and 3rd family gases and hot water — Part 2: Non-hardening jointing compounds*

EN 751-3, *Sealing materials for metallic threaded joints in contact with 1st, 2nd and 3rd family gases and hot water — Part 3: Unsintered PTFE tapes*

EN 1092-1, *Flanges and their joints — Circular flanges for pipes, valves, fittings and accessories, PN designated — Part 1: Steel flanges*

EN 1092-2, *Flanges and their joints — Circular flanges for pipes, valves, fittings and accessories, PN designated — Part 2: Cast iron flanges*

EN 1092-3, *Flanges and their joints — Circular flanges for pipes, valves, fittings and accessories, PN designated — Part 3: Copper alloy flanges*"

"EN 1503-1, *Valves — Materials for bodies, bonnets and covers — Part 1: Steels specified in European Standards*

EN 1503-3*, Valves — Materials for bodies, bonnets and covers — Part 3: Cast irons specified in European Standards*

EN 1503-4, *Valves — Materials for bodies, bonnets and covers — Part 4: Copper alloys specified in European Standards*

EN 1555-3, *Plastics piping systems for the supply of gaseous fuels — Polyethylene (PE) — Part 3: Fittings*

EN 1593:1999, *Non-destructive testing — Leak testing — Bubble emission techniques*

EN 1775:2007, *Gas supply — Gas pipework for buildings — Maximum operating pressure less than or equal to 5 bar — Functional recommendations*

EN 10226 (all parts), *Pipe threads where pressure tight joints are made on the threads*

EN 12627, *Industrial valves — Butt welding ends for steel valves*

EN 13501-1, *Fire classification of construction products and building elements — Part 1: Classification using data from reaction to fire tests*

EN 60730-1:2000, *Automatic electrical controls for household and similar use — Part 1: General requirements (IEC 60730-1:1999, modified)*

EN ISO 6708, *Pipework components — Definition and selection of DN (nominal size) (ISO 6708:1995)*

EN ISO 9227, *Corrosion tests in artificial atmospheres — Salt spray tests (ISO 9227:2006)*"

Delete the reference to ISO 228 and replace it with "EN ISO 228-1, *Pipe threads where pressure-tight joints are not made on the threads — Part 1: Dimensions, tolerances and designation (ISO 228-1:2000)*".

Delete the references to ISO 7 and ISO 7005.

Delete the reference to prEN 1254 and replace it with the following:

"EN 1254-1, *Copper and copper alloys — Plumbing fittings — Part 1: Fittings with ends for capillary soldering or capillary brazing to copper tubes*

EN 1254-2, *Copper and copper alloys — Plumbing fittings — Part 2: Fittings with compression ends for use with copper tubes*"

3 Modifications to Clause 3, Definitions

Replace the term "3.3.1 closure member" *with* "3.3.1 obturator".

Replace term "3.3.4 compression joint" *and the relevant definition with the following:*

"**3.3.4**
mechanical joint
joint in which gas tightness is achieved by compression with or without a seal

NOTE This joint can be easily disassembled and reassembled."

Replace terms "3.3.6 union connection" *and* "3.3.7 flexible connection" *and the relevant definitions with the following:*

"**3.3.6**
joint
means of connecting elements of a gas installation

[EN 1775:2007]

3.3.7
flexible appliance connector
element of flexible pipework to be fitted between the end of fixed pipework and the appliance inlet connection

[EN 1775:2007]"

Replace the definition of 3.5.3 as follows: "maximum pressure at which a valve can be operated continuously under normal operating conditions".

Add the following term and definition:

"**3.10**
DN (nominal size)
see EN ISO 6708"

4 Modifications to Clause 4, Classification

Replace the title of "**4.1 Pressure classes**" *with* "**4.1 Internal pressure classes**".

Replace Table 1 in 4.1 with the following table:

"**Table 1 — Valve pressure classes**

Class	Pressure range	Remark
MOP 0,2	0 to 0,2 x 10^5 Pa	MOP = 0,2 x 10^5 Pa
MOP 0,5	0 to 0,5 x 10^5 Pa	MOP = 0,5 x 10^5 Pa
MOP 5	0 to 5 x 10^5 Pa	MOP = 5 x 10^5 Pa

"

5 Modifications to Clause 5, Construction requirements

Delete the title "5.1 General" *and renumber the subclauses in Clause 5 as indicated in the table in General on page 4 of this Amendment 1*.

Replace 5.1.1.1 with the following:

"**5.1.1** Any part in contact with the gas or the surrounding atmosphere, shall be manufactured from corrosion-resistant materials or shall comply with salt spray test (see 7.6.3), if relevant.

The corrosion protection for springs and other moving parts shall not be impaired by any movement."

Replace 5.1.1.3, 5.1.1.4, 5.1.1.5, 5.1.1.6, 5.1.1.7 and 5.1.1.8 with the following:

"**5.1.3** Material indicated in 5.1.8, b) and c), excluding a), shall be tested in accordance with 7.6.3 (salt spray resistance).

Once the test has been run, no corrosion which could impair the device's operation shall be revealed by visual examination (disregarding possible salt deposits), and the external tightness of the device (connected and disconnected) remains in conformity with the requirement defined in 6.2 (leak-tightness).

5.1.4 Springs and other moving parts manufactured from non-corrosion-resistant materials shall be protected against corrosion and shall retain their protective coating despite any movement resulting from the operation of the valve. After the test of 7.6 these parts shall withstand the test of 7.6.3.

5.1.5 Elastomeric materials shall comply with EN 549 or EN 682 as appropriate to the intended use.

5.1.6 Lubricants shall comply with EN 377.

5.1.7 Anaerobic jointing compounds shall comply with EN 751-1.

5.1.8 The shell, obturator and stem shall be made in one of the following materials:

a) copper alloy excluding Aluminium-bronze[1)];

b) ductile cast iron excluding laminar cast iron[2)];

c) forged steel and cast steel[3)]."

Modify the relevant footnotes as follows:

"[1)] On this subject EN 1503-4 is available."

"[2)] On this subject EN 1503-3 is available."

"[3)] On this subject EN 1503-1 is available."

Replace 5.1.2.2 with the following:

"**5.2.2 Product appearance**

All valve components, when viewed with the naked eye corrected for normal vision, shall be free from sharp edges and corners which could cause damage, injury or incorrect operation."

Replace 5.1.2.3 with the following:

"**5.2.3 Valve maintenance**

All valves shall be designed to be maintenance free for a reasonable economic working life."

Replace the title of "**5.1.3 Connections**" *with* "**5.3 Joints**" *and renumber the subclauses in the former 5.1.3 as indicated in the table in General on page 4 of this Amendment 1.*

Replace 5.1.3.1.1 with the following:

"**5.3.1.1** Threaded inlet and outlet connections for valves with pressure-tight joints made on the threads, shall comply with EN 10226."

Replace 5.1.3.1.2 with the following:

"**5.3.1.2** Pressure-tight joints shall comply with either EN 10226-1, ISO 261 or, EN ISO 228-1."

Change the title of "5.1.3.2 Flanges" *to* "5.3.2 Bolted flange joint".

In the first paragraph of the old 5.1.3.2 (new 5.3.2) replace "ISO 7005" *with* "EN 1092-1, EN 1092-2 and EN 1092-3".

Replace 5.1.3.3 with the following:

"**5.3.3 Capillary soldered or capillary brazed joints**

The dimensions of connections for capillary soldered and capillary brazed joints shall comply with EN 1254-1."

Replace 5.1.3.5 with the following:

"**5.3.5 Compression joints**

The dimensions of the construction of the compression joints shall comply with EN 1254-2."

Replace the old 5.1.3.6 (new 5.3.6) with the following:

"Butt welded ends for steel valves shall comply with EN 12627."

Add the following new subclause:

"**5.3.7 Valves with polyethylene joints**

Polyethylene joints shall be in accordance with EN 1555-3."

Replace 5.1.4 with the following:

"5.4 Seals

Sealing on the obturator shall be constructed so that tightness is achieved by mechanical means. This shall exclude the use for this purpose of all sealing materials such as liquids, pastes and tapes.

The tightness between the different parts of the body shall be assured by mechanical means. Additional products, like glues, pastes, tapes, split pins, … may be used in order to maintain the mechanical tightness. If glues, pastes, tapes are used, they shall comply with EN 751-1, EN 751-2 and EN 751-3."

Replace 5.3 with the following:

"5.6 Stops

On valves the end positions "open" and "closed" shall be limited by fixed, non adjustable stops.

The manual actuator shall be designed so that it is:

— at right angles to the direction of the flow for the closed position;

— parallel with the direction of the flow for the open position.

Each part of the operating mechanism that can rotate shall be marked in an unambiguous way of understanding whether it is in closed or open position. The valve shall be operated only by means of the operating mechanism provided with the original valve by the manufacturer.

If any parts of the operating mechanism are dismounted, they shall be reassembled in the correct way assuring the correct operation.

The valve may include a locking system which allows the valve to be blocked and sealed in the shut-off position."

Replace 5.4 with the following:

"**5.7 Resistance to high temperature (for internal networks)**

The manually operated ball valves and closed bottom taper plug valves shall comply with the high temperature resistance requirements of EN 1775:2007, Annex A, procedure B."

6 Modifications to Clause 6, Performance requirements

In 6.2 delete the second sentence in the first paragraph ("Valves which may be … closure parts"*).*

Modify the beginning of the second paragraph of 6.2 as follows: "Leak-tightness for all the leak-tightness and strength tests (bending and torque) shall be …"

Replace the title of "**6.3 Rated flow rate**" *with* "**6.3 Effectiveness – Rated flow rate**" and the title of "**6.4 Operating torque**" *with* "**6.4. Mechanical strength of the operating torque**".

In 6.4 replace the second sentence in the first paragraph with the following: "The operating torque at low temperature shall be measured and recorded for use in accordance with 6.7 and 7.8."

Replace Table 4 in 6.4 with the following:

"**Table 4 — Operating torque**

DN	Torque (N · m) at ambient temperature max.
< 15	4
15 20 25	7
32 40 50	14

"

Replace the title of "**6.5 Torque and bending resistance**" *with* "**6.5 Torque and bending mechanical strength**".

Add the following new sub-clause:

"**6.6 Reaction to fire**

Manually operated ball valves and closed bottom taper plug valves in compliance with this standard are classified as belonging to Class A1 "No contribution to fire" when made of materials included in Commission Decision 96/603/EC (OJEU L267 of 19.10.1996), as amended by EC Decision 2000/605/EC (OJEU L258 of 12.10.2000) and Decision 2003/424/EC (OJEU L144 of 12.6.2003).

Products which are subject to a coating containing more than 1,0 % by weight or volume (whichever is the lower) of homogeneously distributed synthetic material shall be tested and classified according to EN 13501-1."