
Premične plinske jeklenke - Pregled in vzdrževanje ventilov za jeklenke v času periodičnega pregleda jeklenk

Transportable gas cylinders - Inspection and maintenance of cylinder valves at time of periodic inspection of gas cylinders

Ortsbewegliche Gasflaschen - Prüfung und Wartung von Gasflaschenventilen zum Zeitpunkt der wiederkehrenden Prüfung von Gasflaschen

Bouteilles a gaz transportables - Contrôle et maintenance des robinets de bouteille lors du contrôle périodique des bouteilles a gaz

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Ta slovenski standard je istoveten z: EN 14189:2003

ICS:

23.020.30	Tlačne posode, plinske jeklenke	Pressure vessels, gas cylinders
23.060.01	Ventili na splošno	Valves in general

SIST EN 14189:2003**en**

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EUROPEAN STANDARD

EN 14189

NORME EUROPÉENNE

EUROPÄISCHE NORM

June 2003

ICS 23.020.30; 23.060.40

English version

Transportable gas cylinders - Inspection and maintenance of cylinder valves at time of periodic inspection of gas cylinders

Bouteilles à gaz transportables - Contrôle et maintenance des robinets de bouteille lors du contrôle périodique des bouteilles à gaz

Ortsbewegliche Gasflaschen - Prüfung und Wartung von Gasflaschenventilen zum Zeitpunkt der wiederkehrenden Prüfung von Gasflaschen

This European Standard was approved by CEN on 3 April 2003.

CEN members are bound to comply with the CEN/CENELEC Internal Regulations which stipulate the conditions for giving this European Standard the status of a national standard without any alteration. Up-to-date lists and bibliographical references concerning such national standards may be obtained on application to the Management Centre or to any CEN member.

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 the Management Centre has the same status as the official versions.

CEN members are the national standards bodies of Austria, Belgium, Czech Republic, Denmark, Finland, France, Germany, Greece, Hungary, Iceland, Ireland, Italy, Luxembourg, Malta, Netherlands, Norway, Portugal, Slovakia, Spain, Sweden, Switzerland and United Kingdom.

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Foreword

This document (EN 14189:2003) has been prepared by Technical Committee CEN/TC 23 “Transportable gas cylinders”, the secretariat of which is held by BSI.

This European Standard shall be given the status of a national standard, either by publication of an identical text or by endorsement, at the latest by December 2003, and conflicting national standards shall be withdrawn at the latest by December 2003.

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

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EN 14189:2003 (E)

1 Scope

This European Standard defines the requirements for examination and full refurbishment to be fulfilled for valves at time of periodic inspection of gas cylinders, bundles, drums and trailers, hereafter designated by the general term "gas cylinders". This standard may also be applied to cylinder valves at any other time, e.g. at change of gas service (see EN 1795).

2 Normative references

This European Standard incorporates by dated or undated reference, provisions from other publications. These normative references are cited at the appropriate places in the text, and the publications are listed hereafter. For dated references, subsequent amendments to or revisions of any of these publications apply to this European Standard only when incorporated in it by amendment or revision. For undated references the latest edition of the publication referred to applies (including amendments).

EN 720-2, *Transportable gas cylinders — Gases and gas mixtures — Part 2: Determination of flammability and oxidizing ability of gases and gas mixtures.*

ISO 10156, *Gases and gas mixtures - Determination of fire potential and oxidizing ability for the selection of cylinder valve outlets .*

3 Terms and definitions

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For the purposes of this European Standard, the following terms and definitions apply.

3.1 examination

procedure that qualifies a valve for further service without dismantling

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3.2 dismantling

separation of the valve into its component parts

3.3 removal

disconnection of the valve from the gas cylinder

4 General requirements

At the time of the periodic inspection of the gas cylinder the valve shall either be scrapped or submitted to the examination procedure given below.

5 Examination

5.1 General

Where the periodic inspection requirements for the gas cylinder demands the removal of the valve, follow procedure A. Otherwise follow procedure B (see EN 1802, EN 1803, EN 1968 and EN ISO 11623).

5.2 Procedure A

5.2.1 Cleaning

The following actions shall be carried out prior to external examination:

- a) all residual jointing compound shall be removed from the valve stem thread and the valve bore shall be checked for contamination, foreign bodies and corrosion products;
- b) contamination, foreign bodies and corrosion products shall be removed from the valve outlet;
- c) if any cleaning media are used they shall either be completely removed or compatible with the intended service.

WARNING — Valves intended for oxygen service, or other powerful oxidants (see EN 720-2), shall be clean for oxygen service (see ISO 10156).

5.2.2 External examination

The valves shall be examined for defects including the following:

- a) bent, deformed, corroded, badly marked and scored bodies or those with cracks;
- b) bent or damaged spindles;
- c) cross-threaded, damaged or stripped valve stem threads;
- d) cross-threaded, damaged or stripped valve outlet threads;
- e) damaged outlet sealing surfaces; [SIST EN 14189:2003](https://standards.iteh.ai/catalog/standards/sist/90cc39d4-76a3-4d7f-ba76-180021669166/sist-en-14189-2003)
- f) any indication of having been subjected to excessive heat or having been in a fire; <https://standards.iteh.ai/catalog/standards/sist/90cc39d4-76a3-4d7f-ba76-180021669166/sist-en-14189-2003>
- g) internal passageways containing foreign matter. These shall be inspected, as far as possible, without dismantling the valve;
- h) where the spindle does not move or is difficult to turn.

5.2.3 Acceptance criteria

Valves with any of the defects listed in 5.2.2 shall either be subject to a full refurbishment in accordance with clause 6 or be scrapped in accordance with clause 10.

5.2.4 Additional requirements

Gland nuts shall be re-torqued to the original manufacturing value if required.

Valves equipped with spring loaded pressure relief devices shall have the relief device replaced by items to the manufacturers original specification and in accordance with their instructions.

Hand wheels shall be assessed for reuse, repair or replacement as appropriate.

5.3 Procedure B

Inspection shall be carried out in accordance with 5.2, but omitting 5.2.1 (a) and 5.2.2 (c).

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6 Full refurbishment

6.1 General

Full refurbishment shall be carried out after decontamination as appropriate. Where replacement parts are used, they shall be in accordance with the valve manufacturer's specification for the intended gas service.

6.2 Valve dismantling

Valves shall be dismantled in accordance with the original manufacturer's specifications, using the correct tools and in a work area specially set aside for this activity.

6.3 Valve examination

The stem thread of each valve body shall be visually examined to assess whether it has been subjected to excessive damage, deformation, wear or "waisting".

The outlet connection threads of each valve body shall be visually examined to confirm freedom from corrosion, damage, or excessive wear.

Internal passageways shall be examined to ensure that they are free of foreign matter.

The valve outlet sealing face shall be examined for damage, wear and corrosion.

NOTE If the design of the valve allows, any of these defects may be corrected, provided the dimensions remain within the originated standard, otherwise the valve should be scrapped in accordance with clause 10.

All component parts of the valve shall be visually inspected to assess suitability for re-use (absence of excessive wear, damage or contamination). In particular, where the valve is capable of being dismantled, all elastomers shall be critically examined as to their suitability for further service and replaced as necessary in accordance with the manufacturer's recommendations.

Valves or components that are unsuitable for further service shall be scrapped in accordance with clause 10.

After all such corrective work, all re-used components of the valve shall be cleaned to the original manufacturer's specification.

WARNING — Valves intended for oxygen service, or other powerful oxidants (see EN 720-2), shall be clean for oxygen service (see ISO 10156).

6.4 Valve re-assembly

Valves shall be reassembled using correct tools and using torques and assembly procedures in accordance with the valve manufacturer's specification. The valve shall be operated "open to closed" to ensure that the operating mechanism is satisfactory. This operation shall be performed at least at the first filling.

7 Return to service

On or before returning to service, all valves shall undergo leakage tests of the gland, seat and cylinder neck connection at operating pressure. This may be carried out during first filling, after being refitted to a gas cylinder (see EN 1919, EN 1920, EN 12754, EN 13365, EN 13385 and EN ISO 13341).

NOTE For more complex valve (e.g. those embodying residual pressure and/or pressure regulation devices), extra checks should be carried out to ensure that the valve functions correctly.

8 Marking

On completion of a full refurbishment (see clause 6), the valve body shall be indelibly marked with at least the 2 last digits of the year and an identification mark of the facility which carried out the work.

9 Packaging

Valves shall be protected during storage and/or transport to prevent damage and ingress of foreign material.

10 Scrapping

Valves and components not suitable for re-use shall be made unfit for further service, e.g. by hammering or by sawing before being scrapped.

NOTE Environmental legislation may apply.

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