SVENSK STANDARD
SS-EN ISO 25760:2015

Fastställd/Approved: 2015-02-15
Publicerad/Published: 2015-02-16
Utgåva/Edition: 1
Språk/Language: engelska/English
ICS: 23.020.30

Gasflaskor – Instruktioner för säkert avlägsnande av ventiler från gasflaskor (ISO 25760:2009)

Gas cylinders – Operational procedures for the safe removal of valves from gas cylinders (ISO 25760:2009)

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Europastandarden EN ISO 25760:2015 gäller som svensk standard. Detta dokument innehåller den officiella engelska versionen av EN ISO 25760:2015.

Denna standard ersätter SS-ISO 25760:2009, utgåva 1.

The European Standard EN ISO 25760:2015 has the status of a Swedish Standard. This document contains the official version of EN ISO 25760:2015.

This standard supersedes the Swedish Standard SS-ISO 25760:2009, edition 1.

Upplysningar om sakinnehållet i standarden lämnas av SIS, Swedish Standards Institute, telefon 08-555 520 00. Standarder kan beställas hos SIS Förlag AB som även lämnar allmänna upplysningar om svensk och utländsk standard.

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Denna standard är framtagen av kommittén för Gasflaskor, SIS/TK 296.

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EUROPEAN STANDARD

NORME EUROPÉENNE

EUROPÄISCHE NORM

EN ISO 25760

February 2015

ICS 23.020.30

English Version

Gas cylinders - Operational procedures for the safe removal of valves from gas cylinders (ISO 25760:2009)

Bouteilles à gaz - Modes opératoires de dépose en toute sécurité des robinets de bouteilles à gaz (ISO 25760:2009)

Gasflaschen - Verfahren für das sichere Entfernen von Ventilen aus Gasflaschen (ISO 25760:2009)

This European Standard was approved by CEN on 19 January 2015.

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Ref. No. EN ISO 25760:2015 E

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Foreword

The text of ISO 25760:2009 has been prepared by Technical Committee ISO/TC 58 “Gas cylinders” of the International Organization for Standardization (ISO) and has been taken over as EN ISO 25760:2015 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of an identical text or by endorsement, at the latest by August 2015, and conflicting national standards shall be withdrawn at the latest by August 2015.

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Endorsement notice

The text of ISO 25760:2009 has been approved by CEN as EN ISO 25760:2015 without any modification.

Introduction

Cylinders are devalved for many purposes, such as periodic inspection and testing, cylinder cleaning, change of service, replacement of a damaged valve, installation of a new valve, preparation for filling or scrapping.

Occasionally, gas cylinder valves can become blocked by corrosion or foreign material or become inoperable due to external or internal damage. It is an essential safety requirement that such valved cylinders be identified and treated with special care as soon as practicable. The operation of removing a valve should only be carried out if the cylinder is made safe with respect to residual gas and pressure. It is recommended that gas suppliers be prepared with both the proper equipment and trained operators for dealing with such valved cylinders. Practical techniques that have been tried and tested over many years within the gas industry are described.

Valve removal activities can pose hazards to the life and physical safety of the operator, especially if the cylinder is under pressure.

Valves should only be removed after ensuring there is no residual pressure in the cylinder.

Gas cylinders — Operational procedures for the safe removal of valves from gas cylinders

1 Scope

This International Standard is intended for suppliers, operators in testing facilities, operators performing cylinder maintenance and any person authorized to remove valves from gas cylinders. It details procedures for the safe removal of valves from cylinders and includes techniques for the identification of inoperable valves.

Only the risks due to gas and gas mixtures under pressure are addressed; other technical issues relating to the removal of a valve from a cylinder are not covered.

Some specialized equipment and procedures are in use in parts of the gas industry to safely remove cylinder valves from low pressure gas cylinders while under pressure, e.g. liquefied petroleum gas (LPG); these techniques are not included in this International Standard.

2 Normative references

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.

ISO 11114-1, *Transportable gas cylinders — Compatibility of cylinder and valve materials with gas contents — Part 1: Metallic materials*

ISO 11114-2, *Transportable gas cylinders — Compatibility of cylinder and valve materials with gas contents — Part 2: Non-metallic materials*

3 Terms and definitions

For the purposes of this document, the following terms and definitions apply:

3.1
gas cylinder
pressure receptacle including individual cylinder, tube, pressure drum or manifold combination of these

3.2
valve
device that allows gas to enter or exit a gas cylinder and retains the pressure in the cylinder when in the closed position

NOTE This also includes the fittings of cylinders in bundles and battery vehicles.

3.3
inoperable valve
valve that is blocked, broken or malfunctioning or that in any way prevents gas from entering or exiting the gas cylinder

NOTE See Annex A.

3.4
operable valve
device that allows gas to enter or exit a gas cylinder

3.5
residual pressure valve
RPV
type of valve that prevents the gas cylinder from being totally depressurized by holding back a specific amount of residual pressure

NOTE 1 Requirements for this type of valve are specified in ISO 15996.

NOTE 2 This valve type is very often associated with a non-return function.

3.6
valve with integrated pressure regulator
VIPR
device intended to be permanently fitted to a gas cylinder connection and comprising a shut-off valve system and pressure reduction system

NOTE 1 Adapted from ISO 22435:2007, definition 3.3.

NOTE 2 Requirements for this type of valve are specified in ISO 15996.

3.7
pressure relief device
PRD
device that is fitted to the cylinder or cylinder valve and designed to relieve gas pressure in the event of abnormal conditions resulting in the development of excessive pressure inside the cylinder or when the cylinder is subjected to high temperatures

NOTE 1 This might be a pressure relief valve, a non-reclosing PRD or a non-reclosing PRD in combination with a pressure relief valve.

NOTE 2 The expression “pressure relief” is synonymous with “safety relief”, as used in various applicable regulations, codes, standards or specifications.

3.8
quick connect valve
clip-on valve
valve that does not contain an operating device, such as a handwheel

3.9
low pressure gas cylinder
gas cylinder with test pressures no higher than 60 bar[1)]

3.10
compressed gas
gas which, when packaged under pressure for transport, is entirely gaseous at all temperatures above − 50 °C

NOTE This category includes all gases with a critical temperature less than or equal to − 50 °C.

1) 1 bar = 100 kPa (exactly)

4 General requirements

4.1 Application

This clause gives general information to be considered. Clause 5 gives a choice of methods for inoperable valves. Procedures to be followed are given in Clause 6.

4.2 Hazards

Especially if the cylinder is under pressure, valve removal methods pose certain hazards to the operator, such as:

— stored energy from residual pressure (particularly important if the cylinder is not in a vertical position);

— residual gas hazards, including

  — fire resulting from flammable gas ignitions

    NOTE Oxidizing gases in the presence of contamination can also cause severe ignition.

  — asphyxiation,

  — oxidation,

  — toxicity/corrosivity,

  — projection of pieces under pressure,

  — cold burns due to vaporization of liquefied gases; and

— operating devalving machinery and equipment, such as pinch points, rotation and powered machines.

4.3 Operator safety and protection

When an operator is removing a blocked or inoperable valve, other individuals should be on site and able to respond in case of an emergency.

A risk assessment shall be performed in order to avoid the exposure of the operator and other persons who could be affected by hazards. The minimum hazards to take into account for this risk analysis are listed in 4.2.

After the risk assessment is completed, risks shall be eliminated or minimized as far as reasonably practicable by engineering or process changes, such as shields or bunkers. The required or appropriate personnel protective equipment shall be chosen.

4.4 Operator qualifications

4.4.1 General

All operators shall have

— appropriate training,

— understanding of the cylinder content, when known, and the precautions which might be necessary to prevent the release or exposure to the gas (see 4.2, 4.3 and 5.2), and

— good practical understanding of the cylinder valve and the method of fitment to the cylinder.