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**Vgrajeni gasilni sistemi - Sestavni deli sistemov za gašenje s plinom -16. del:  
Zahteve in preskusne metode za naprave za zagotavljanje vonja za nizkotlačne  
sisteme s CO2**

Fixed firefighting systems - Components for gas extinguishing systems - Part 16:  
Requirements and test methods for odorizing devices for CO2 low pressure systems

Ortsfeste Brandbekämpfungsanlagen - Bauteile für Löschanlagen mit gasförmigen  
Löschmitteln - Teil 16: Anforderungen und Prüfverfahren für Odoriergeräte für CO2-  
Niederdruckanlagen

Installations fixes de lutte contre l'incendie - Éléments constitutifs pour installations  
d'extinction a gaz - Partie 16: Exigences et méthodes d'essai pour dispositifs odorisants  
pour installations a CO2 basse pression

**Ta slovenski standard je istoveten z: EN 12094-16:2003**

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EUROPEAN STANDARD  
NORME EUROPÉENNE  
EUROPÄISCHE NORM

**EN 12094-16**

March 2003

ICS 13.220.20

English version

**Fixed firefighting systems - Components for gas extinguishing systems - Part 16: Requirements and test methods for odorizing devices for CO<sub>2</sub> low pressure systems**

Installations fixes de lutte contre l'incendie - Eléments constitutifs pour installations d'extinction à gaz - Partie 16: Exigences et méthodes d'essai pour dispositifs odorisants pour installations à CO<sub>2</sub> basse pression

Ortsfeste Brandbekämpfungsanlagen - Bauteile für Löschanlagen mit gasförmigen Löschmitteln - Teil 16: Anforderungen und Prüfverfahren für Odoriergeräte für CO<sub>2</sub>-Niederdruckanlagen

This European Standard was approved by CEN on 21 November 2002.

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.



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

**Management Centre: rue de Stassart, 36 B-1050 Brussels**

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## Foreword

This document (EN 12094-16:2003) has been prepared by Technical Committee CEN/TC 191 "Fixed firefighting systems", 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 September 2003, and conflicting national standards shall be withdrawn at the latest by September 2003.

This part of EN 12094 is one of a number of European Standards prepared by CEN/TC 191 covering components for gas extinguishing systems.

They are included in a series of European Standards planned to cover:

- gas extinguishing systems (EN 12094)
- sprinkler systems (EN 12259:1999+A1 and EN 12845)
- powder systems (EN 12416)
- explosion protection systems (EN 26184)
- foam systems (EN 13565)
- hose systems (EN 671)
- smoke and heat control systems (EN 12101)
- water spray systems<sup>1)</sup>

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This European Standard has the general title "*Fixed firefighting systems – Components for gas extinguishing systems*" and will consist of the following parts:

- Part 1: *Requirements and test methods for electrical automatic control and delay devices*
- Part 2: *Requirements and test methods for non-electrical automatic control and delay devices*
- Part 3: *Requirements and test methods for manual triggering and stop devices*
- Part 4: *Requirements and test methods for high pressure container valve assemblies and their actuators*
- Part 5: *Requirements and test methods for high and low pressure selector valves and their actuators for CO<sub>2</sub> systems*
- Part 6: *Requirements and test methods for non-electrical disable devices for CO<sub>2</sub> systems*
- Part 7: *Requirements and test methods for nozzles for CO<sub>2</sub> systems*
- Part 8: *Requirements and test methods for flexible connectors for CO<sub>2</sub> systems*
- Part 9: *Requirements and test methods for special fire detectors*

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<sup>1)</sup> Under preparation.

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- Part 10: *Requirements and test methods for pressure gauges and pressure switches*
- Part 11: *Requirements and test methods for mechanical weighing devices*
- Part 12: *Requirements and test methods for pneumatic alarm devices*
- Part 13: *Requirements and test methods for check valves and non-return valves*
- Part 16: *Requirements and test methods for odorizing devices for CO<sub>2</sub> low pressure systems*
- Part 17: *Pipe hangers*
- Part 20: *Requirements and test methods for the compatibility of components*

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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## Introduction

It has been assumed in the preparation of this European Standard that the execution of its provisions is entrusted to appropriately qualified and experienced people.

Product certification: Users of this European Standard are advised to consider the desirability of independent certification of product conformity with this European Standard based on testing and continuing surveillance, which may be combined with an assessment of the manufacturer's quality management system in accordance with EN ISO 9001.

All pressure data in this European Standard are given as gauge pressures in bar, unless otherwise stated.

NOTE 1 bar =  $10^5$  N m<sup>-2</sup> = 100 kPa.

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**EN 12094-16:2003 (E)****1 Scope**

This European Standard specifies requirements and describes test methods for odorizing devices for CO<sub>2</sub> low pressure systems which release an odorizing substance into the extinguishant during discharge.

This European Standard is applicable to odorizing devices for CO<sub>2</sub> low pressure systems, which are not pressurized before discharge.

**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).

ISO 7-1, *Pipe threads where pressure-tight joints are made on the threads - Part 1: Dimensions, tolerances and designation.*

ISO 228-1, *Pipe threads where pressure-tight joints are not made on the threads - Part 1: Dimensions, tolerances and designation.*

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**3 Terms and definitions**

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

**3.1****CO<sub>2</sub>-low-pressure installation**

fire extinguishing installation in which the CO<sub>2</sub> is stored at low temperature, normally –19 °C to –21 °C

**3.2****odorizing device**

component which release an odorizing substance into the extinguishant during discharge

**3.3****working pressure**

pressure at which the component is used in the system

**4 Requirements****4.1 General design**

The component except seals shall be made of metal. Metal parts of the component shall be made of corrosion resistant materials, e.g. stainless steel, copper, copper alloy or corrosion-protected steel (e.g. galvanized steel, cadmium-plated steel).

The component shall be designed not to restrict flow of the extinguishant.

The component shall be specified by the manufacturer for a working pressure of at least 25 bar.

The manufacturer shall specify the minimum velocity of the CO<sub>2</sub> flow which is necessary for effective operation.



## 4.2 Connection threads

Connection threads shall conform to International Standards or European Standards for threads, e.g. ISO 7-1 or ISO 228-1.

## 4.3 Resistance to internal pressure and leakage

The housing of the component shall not leak when pressurized at 37,5 bar in accordance with 5.4.

## 4.4 Function

The component shall operate and release the odorizing substance into the extinguishant when tested in accordance with 5.5.

## 4.5 Documentation

**4.5.1** The manufacturer shall prepare and maintain documentation.

**4.5.2** The manufacturer shall prepare installation and user documentation, which shall be submitted to the testing authority together with the sample(s). This documentation shall comprise at least the following:

- a) a general description of the component, including a list of its features and functions;
- b) a technical specification including:
  - 1) the information mentioned in 4.1;
  - 2) sufficient information to permit an assessment of the compatibility with other components of the system (if applicable e.g. mechanical, electric or software compatibility);
- c) installation instructions including mounting instructions;
- d) operating instructions;
- e) maintenance instructions;
- f) routine testing instructions, if appropriate.

**4.5.3** The manufacturer shall prepare design documentation, which shall be submitted to the testing authority together with the sample(s). This documentation shall include drawings, parts lists, block diagrams (if applicable), circuit diagrams (if applicable) and a functional description to such an extent that compliance with this European Standard may be checked and that a general assessment of the design is possible.

## 5 Test methods

### 5.1 Test conditions

The components shall be tested assembled as recommended for installation by the manufacturer. The tests shall be carried out at a temperature of  $(25 \pm 10)$  °C, except when otherwise stated.

The tolerance for all test parameters is 5 %, unless otherwise stated.

### 5.2 Test samples and order of tests

For the test three samples are required. The order of tests is shown in Table 1.