# Paiksed tulekustutussüsteemid. Gaasikustutussüsteemide komponendid. Osa 4: Korpuse klapi ning aktivaatorite kokkupaneku nõuded ja katsemeetodid

Fixed firefighting systems - Components for gas extinguishing systems - Part 4: Requirements and test methods for container valve assemblies and their actuators



# **EESTI STANDARDI EESSÕNA**

# **NATIONAL FOREWORD**

Käesolev Eesti standard EVS-EN 12094-
4:2004 sisaldab Euroopa standardi EN
12094-4:2004 ingliskeelset teksti.

Käesolev dokument on jõustatud 26.10.2004 ja selle kohta on avaldatud teade Eesti standardiorganisatsiooni ametlikus väljaandes.

Standard on kättesaadav Eesti standardiorganisatsioonist.

This Estonian standard EVS-EN 12094-4:2004 consists of the English text of the European standard EN 12094-4:2004.

This document is endorsed on 26.10.2004 with the notification being published in the official publication of the Estonian national standardisation organisation.

The standard is available from Estonian standardisation organisation.

## Käsitlusala:

This document specifies requirements and describes test methods for container valve assemblies for CO2- high-pressure-, Inert Gas- or Halocarbon Gas-fire extinguishing systems, which include a container valve, an actuator and possibly a diptube

# Scope:

This document specifies requirements and describes test methods for container valve assemblies for CO2- high-pressure-, Inert Gas- or Halocarbon Gas-fire extinguishing systems, which include a container valve, an actuator and possibly a diptube

ICS 13.220.20

**Võtmesõnad:** carbon dioxide, definitions, fire extinguishers, fire extinguishers (built-in), fire fighting, firefighting, firefighting equipment, fixed extinguishers, high pressure, releasing devices, specification (approval), specifications, testing, valve device stacks

# EUROPEAN STANDARD NORME EUROPÉENNE

**EUROPÄISCHE NORM** 

EN 12094-4

July 2004

ICS 13,220,20

### **English version**

Fixed firefighting systems - Components for gas extinguishing systems - Part 4: Requirements and test methods for container valve assemblies and their actuators

Installations fixes de lutte contre l'incendie - Eléments constitutifs pour installations d'extinction à gaz - Partie 4: Exigences et méthodes d'essai pour les vannes de réservoir et leurs déclencheurs Ortsfeste Brandbekämpfungsanlagen - Bauteile für Löschanlagen mit gasförmigen Löschmitteln - Teil 4: Anforderungen und Prüfverfahren für Behälterventilbaugruppen und zugehörige Auslöseeinrichtungen

This European Standard was approved by CEN on 6 May 2004.

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 Central Secretariat 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 Central Secretariat has the same status as the official versions.

CEN members are the national standards bodies of Austria, Belgium, Cyprus, Czech Republic, Denmark, Estonia, Finland, France, Germany, Greece, Hungary, Iceland, Ireland, Italy, Latvia, Lithuania, Luxembourg, Malta, Netherlands, Norway, Poland, Portugal, Slovakia, Slovenia, 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

# **Contents**

		page
Forew	ord	3
Introd	uction	5
1	Scope	6
2	Normative references	
3	Terms and definitions	7
4	Requirements	
<del>-</del> 4.1	Compliance	
4.2	General design	
4.3	Connection threads	
4.4	Function and ambient temperature	
4.5	Resistance to internal pressure	
4.6	Strength	
4.7	Leakage	
4.8	Operational reliability	
4.9	Flow characteristics	
4.10	Corrosion	
4.11	Stress corrosion	
<del>4</del> .12	Vibration resistance	
4.12 4.13	Diptube	
4.13 4.14	Operating force	
4.1 <del>4</del> 4.15	Functional reliability	
4.15 4.16	Manual powered actuators	
4.10 4.17	Documentation	12 12
_	Test methods	40
5 5.1		
5.1 5.2	Test conditions	
5.2 5.3	Test samples and order of tests	
5.3 5.4	Compliance	
5.4 5.5	Function	
	Internal pressure	
5.6	Strength	
5.7	Leakage test for valves	
5.8	Operational reliability	
5.9	TemperatureFlow characteristics	1 <i>1</i>
5.10		
5.11	Corrosion	
5.12	Stress corrosion	
5.13	Vibration	
5.14	Diptube	
5.15	Operating force and functional reliability	
6	Marking and data	22
6.1	General	
6.2	Valve assemblies	
7	Evaluation of conformity	
7.1	General	
7.2	Initial type testing	
7.3	Factory production control (FPC)	24
Annex	ZA (informative) Clauses of this European Standard addressing essential	
	requirements or other provisions of EU Directives	28
	·	
Biblio	graphygraphy	32

# **Foreword**

This document (EN 12094-4:2004) 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 January 2005, and conflicting national standards shall be withdrawn at the latest by July 2007.

This document has been prepared under a mandate given to CEN by the European Commission and the European Free Trade Association, and supports essential requirements of EU Directive 89/106/EEC.

For relationship with EU Directive, see informative annex ZA, which is an integral part of this document.

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)
- 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 (prEN 14816)

The following parts of this European Standard are planned:

- 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<sup>1</sup>): Requirements and test methods for container valve assemblies and actuators
- Part 5: Requirements and test methods for high and low pressure selector valves and their actuators for CO2 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

\_

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

## EN 12094-4:2004 (E)

- 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
- 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<sup>1)</sup>: Pipe hangers
- Part 20<sup>1)</sup>: Requirements and test methods for 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, Cyprus, Czech Republic, Denmark, Estonia, Finland, France, Germany, Greece, Hungary, Iceland, Ireland, Italy, Latvia, Tai Jm. Lithuania, Luxembourg, Malta, Netherlands, Norway, Poland, Portugal, Slovakia, Slovenia, Spain, Sweden, Switzerland and United Kingdom.

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

# Introduction

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

this

10° Nm² =

No. 20 Nm² = All pressure data in this document are given as gauge pressures in bar, unless otherwise stated.

NOTE

# 1 Scope

This document specifies requirements and describes test methods for container valve assemblies for CO<sub>2</sub>-high-pressure-, Inert Gas- or Halocarbon Gas-fire extinguishing systems, which include a container valve, an actuator and possibly a diptube.

This document specifies requirements and describes test methods for features of the component relevant only for its use in fire extinguishing installations.

Diptubes not assembled to the container valves are not covered by this standard.

NOTE Valve assemblies can be equipped with additional components (e.g. gauges and switches).

# 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.

EN 849, Transportable gas cylinders - Cylinder valves - Specification and type testing.

EN 60529, Degrees of protection provided by enclosures (IP-Codes) (IEC 60529:1989).

EN 60068-2-6, Environmental testing- Part 2: Tests - Test Fc: Vibration (sinusoidal) (IEC 60068-2-6:1995 + Corrigendum 1995).

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).

EN ISO 4126-2, Safety devices for protection against excessive pressure - Part 2: Bursting disc safety devices (ISO 4126-2:2003).

EN ISO 9001:2000, Quality management systems – Requirements (ISO 9001:2000).

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