

ISO 6182-6:2020



NBN ISO 6182-6:2021



**Fire protection – Automatic sprinkler systems – Part 6:
Requirements and test methods for check valves (ISO 6182-
6:2020)**

Valid from 25-02-2021

ICS: 13.020.20

INTERNATIONAL STANDARD

ISO 6182-6

Second edition
2020-03

Fire protection — Automatic sprinkler systems —

Part 6: Requirements and test methods for check valves

*Protection contre l'incendie — Systèmes d'extinction automatiques du
type sprinkler —*

Partie 6: Exigences et méthodes d'essai des postes de contrôle



Reference number
ISO 6182-6:2020(E)

© ISO 2020

**COPYRIGHT PROTECTED DOCUMENT**

© ISO 2020

All rights reserved. Unless otherwise specified, or required in the context of its implementation, no part of this publication may be reproduced or utilized otherwise in any form or by any means, electronic or mechanical, including photocopying, or posting on the internet or an intranet, without prior written permission. Permission can be requested from either ISO at the address below or ISO's member body in the country of the requester.

ISO copyright office
CP 401 • Ch. de Blandonnet 8
CH-1214 Vernier, Geneva
Phone: +41 22 749 01 11
Fax: +41 22 749 09 47
Email: copyright@iso.org
Website: www.iso.org

Published in Switzerland

Contents

	Page
Foreword	iv
Introduction	v
1 Scope	1
2 Normative references	1
3 Terms and definitions	1
4 Requirements	2
4.1 Nominal sizes.....	2
4.2 Connections.....	2
4.3 Rated working pressure.....	2
4.4 Bodies and covers.....	2
4.5 Strength (see 6.3).....	3
4.6 Access for maintenance.....	3
4.7 Components.....	3
4.8 Leakage (see 6.4).....	4
4.9 Non-metallic components (excluding gaskets, seals and other elastomeric parts) (see 6.5 and 6.6).....	4
4.10 Sealing assembly elements (see 6.7).....	4
4.11 Clearances.....	4
4.12 Hydraulic friction loss (see 6.8).....	6
4.13 Endurance (see 6.9).....	6
5 Production testing and quality control	6
6 Tests	7
6.1 Samples.....	7
6.2 Spring test.....	7
6.3 Body strength test (see 4.5).....	7
6.4 Valve leakage and deformation tests (see 4.8).....	7
6.4.1 Body leakage test.....	7
6.4.2 Valve leakage and deformation test.....	7
6.5 Warm water aging test for non-metallic components (excluding gaskets and seals and other elastomeric parts) (see 4.9).....	8
6.6 Air aging test for non-metallic components (excluding gaskets and seals and other elastomeric parts) (see 4.9).....	8
6.7 Sealing element tests (see 4.10).....	9
6.7.1 Release test.....	9
6.8 Hydraulic friction loss test (see 4.12).....	9
6.9 Endurance test (see 4.13).....	9
6.10 Salt mist corrosion test (See 4.11).....	10
6.10.1 Reagents.....	10
6.10.2 Apparatus.....	10
6.10.3 Procedure.....	10
7 Marking	10
8 Manufacturer's installation instructions	11
Annex A (normative) Tolerances	12

ISO 6182-6:2020(E)**Foreword**

ISO (the International Organization for Standardization) is a worldwide federation of national standards bodies (ISO member bodies). The work of preparing International Standards is normally carried out through ISO technical committees. Each member body interested in a subject for which a technical committee has been established has the right to be represented on that committee. International organizations, governmental and non-governmental, in liaison with ISO, also take part in the work. ISO collaborates closely with the International Electrotechnical Commission (IEC) on all matters of electrotechnical standardization.

The procedures used to develop this document and those intended for its further maintenance are described in the ISO/IEC Directives, Part 1. In particular, the different approval criteria needed for the different types of ISO documents should be noted. This document was drafted in accordance with the editorial rules of the ISO/IEC Directives, Part 2 (see www.iso.org/directives).

Attention is drawn to the possibility that some of the elements of this document may be the subject of patent rights. ISO shall not be held responsible for identifying any or all such patent rights. Details of any patent rights identified during the development of the document will be in the Introduction and/or on the ISO list of patent declarations received (see www.iso.org/patents).

Any trade name used in this document is information given for the convenience of users and does not constitute an endorsement.

For an explanation of the voluntary nature of standards, the meaning of ISO specific terms and expressions related to conformity assessment, as well as information about ISO's adherence to the World Trade Organization (WTO) principles in the Technical Barriers to Trade (TBT), see www.iso.org/iso/foreword.html.

This document was prepared by Technical Committee ISO/TC 21, *Equipment for fire protection and fire fighting*, Subcommittee SC 5, *Fixed firefighting systems using water*.

This second edition cancels and replaces the first edition (ISO 6182-6:2006), which has been technically revised.

A list of all the parts in the ISO 6182 series can be found on the ISO website.

Any feedback or questions on this document should be directed to the user's national standards body. A complete listing of these bodies can be found at www.iso.org/members.html.

Introduction

This document is part of the ISO 6182 series of standards covering requirements and test methods for check valves in the main water way to a sprinkler installation. Check valves are used to prevent the backflow of water and may be installed in several locations within a sprinkler system, e.g. if the sprinkler system is fed from multiple pumps or if sprinkler installations are provided with multiple flow switches for better fire localization.

Fire protection — Automatic sprinkler systems —

Part 6: Requirements and test methods for check valves

1 Scope

This document specifies performance, requirements, test methods and marking requirements, for check valves used to supply water in automatic fire protection systems.

It is not applicable to trim valves.

2 Normative references

The following documents are referred to in the text in such a way that some or all of their content constitutes requirements 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 898-1, *Mechanical properties of fasteners made of carbon steel and alloy steel — Part 1: Bolts, screws and studs*

ISO 898-2, *Mechanical properties of fasteners — Part 2: Nuts with specified proof load values — Coarse thread*

3 Terms and definitions

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

ISO and IEC maintain terminological databases for use in standardization at the following addresses:

- ISO Online browsing platform: available at <https://www.iso.org/obp>
- IEC Electropedia: available at <http://www.electropedia.org/>

3.1 check valve

valve that allows fluid flow in one direction only

3.2 clapper

type of sealing element

Note 1 to entry: See also *sealing assembly* (3.7).

3.3 corrosion-resistant material

bronze, brass, Monel¹⁾ metal, austenitic stainless steel, or equivalent metallic or plastic material conforming with the requirements of this document

1) Monel[®] is a trademark of Special Metals Corporation and is an example of a suitable product available commercially. This information is given for the convenience of users of this document and does not constitute an endorsement by ISO of this product. Equivalent products may be used if they can be shown to lead to the same results.