

INTERNATIONAL
STANDARD

ISO
6182-16

First edition
2020-05

**Fire protection — Automatic sprinkler
systems —**

**Part 16:
Requirements and test methods for
fire pump relief valves**



Reference number
ISO 6182-16:2020(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
1 Scope	1
2 Normative references	1
3 Terms and definitions	1
4 Requirements	2
4.1 Nominal sizes and tolerances	2
4.2 Connections	2
4.3 Rated working pressure	2
4.4 Body and cover	2
4.5 Body strength (see 6.4)	3
4.6 Access for maintenance	3
4.7 Components	3
4.8 Leakage and deformation (see 6.3)	4
4.9 Non-metallic components (excluding gaskets, diaphragms, seals and other elastomeric parts)	4
4.10 Sealing assembly elements (see 6.7)	4
4.11 Clearances	4
4.12 Operation and reseat (see 6.8)	4
4.13 Flow capacity (see 6.9)	4
4.14 Endurance (see 6.10)	5
5 Production testing and quality control	5
6 Tests	5
6.1 Samples	5
6.2 Spring and diaphragm test (see 4.7.6 and 4.7.7)	6
6.3 Leakage and deformation (see 4.8)	6
6.3.1 Body leakage	6
6.3.2 Sealing assembly	6
6.4 Body strength (see 4.5)	6
6.5 Warm-water ageing test for non-metallic components (excluding gaskets, seals and other elastomeric components)	6
6.6 Air ageing test for non-metallic components (excluding gaskets, seals and other elastomeric components)	7
6.7 Sealing element tests (see 4.10)	7
6.8 Operational and reseat (see 4.12)	8
6.9 Flow capacity (see 4.13)	8
6.10 Endurance test (see 4.14)	8
7 Marking	8
8 Manufacturer's installation instructions	9
Annex A (normative) Tolerances	10
Bibliography	11

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*.

A list of all 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.

Fire protection — Automatic sprinkler systems —

Part 16: Requirements and test methods for fire pump relief valves

1 Scope

This document defines performance requirements, methods of testing and marking requirements for fire pump relief valves intended to rapidly relieve the excessive water pressure in the supply piping for standpipe systems or sprinkler systems or both. Performance and test requirements for other auxiliary components or attachments to fire pump relief valves are not covered by this standard.

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 with specified property classes — Coarse thread and fine pitch thread*

ISO 898-2, *Mechanical properties of fasteners made of carbon steel and alloy steel — Part 2: Nuts with specified property classes — Coarse thread and fine pitch 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

corrosion resistant material

bronze, brass, Monel^{®1)} metal, austenitic stainless steel, or equivalent, or plastic material conforming with the requirements of this document

3.2

main valve

part of the valve assembly that controls the flow of water

3.3

maximum set pressure rating

maximum pressure at which the valve is intended to be set to relieve pressure from a water supply system

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.