Australian Standard™

Fire sprinkler systems

Part 1.8: Components—Pressure-reducing valves

This Australian Standard was prepared by Committee FP/4, Automatic Fire Sprinkler Systems. It was approved on behalf of the Council of Standards Australia on 29 January 1999 and published on 5 May 1999.

The following interests are represented on Committee FP/4:

Association of Consulting Engineers Australia

Australasian Fire Authorities Council

Australian Building Codes Board

Australian Chamber of Commerce and Industry

Australian Industry Group

Department of Defence (Australia)

FPA Australia

Institution of Engineers Australia

Insurance Council of Australia

Property Council of Australia

Testing interests (Australia)

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PREFACE

This Standard was prepared by the Standards Australia Committee FP/4, Automatic Sprinkler Installations.

The revisions to AS 2118 have included Standards Australia's requirements to keep installation (AS 2118 series) and product (AS 4118 series) Standards separate.

The series to date comprises the following:

AS		
2118	Automatic fire sprinkler systems	
2118.1	Part 1:	Standard
2118.2	Part 2:	Wall wetting sprinklers (drenchers)
2118.3	Part 3:	Deluge
2118.4	Part 4:	Residential
2118.5	Part 5:	Domestic
2118.6	Part 6:	Combined sprinkler and hydrant
2118.8	Part 8:	Minor modifications
2118.9	Part 9:	Piping support and installation
2118.10	Part 10:	Approval documentation
4118	Fire sprinkler systems	
4118.1.1	Part 1.1:	Components—Sprinklers and sprayers
4118.1.2	Part 1.2:	Components—Alarm valves (wet)
4118.1.3	Part 1.3:	Components—Water motor alarms
4118.1.4	Part 1.4:	Components—Valve monitors
4118.1.5	Part 1.5:	Components—Deluge and pre-action valves
4118.1.6	Part 1.6:	Components—Stop valves and non-return valves
4118.1.7	Part 1.7:	Components—Alarm valves
4118.1.8	Part 1.8:	Components—Pressure-reducing valves (this Standard)
4118.2.1	Part 2.1:	Piping—General

ISO 6182 series, *Fire protection—Automatic fire sprinkler systems*, has been drawn on for the development of this Standard and the assistance received is hereby acknowledged.

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FOREWORD

A pressure-reducing valve's function is to maintain a constant outlet pressure, relative to ambient atmospheric pressure, under conditions of varying inlet pressure, which must always be greater than the required outlet pressure.

The valve is usually self-actuating by means of a compression-spring-loaded, or control pressure-loaded, diaphragm connected to the valve disc or plug. Valve outlet pressure is applied to one side of the diaphragm, while the spring force plus atmospheric pressure, or the control pressure, is applied to the other side.

Valve outlet pressure is changed by adjustment of the spring compression or of the control pressure.

STANDARDS AUSTRALIA

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SECTION 1 SCOPE AND GENERAL

1.1 SCOPE

This Standard details the requirements for valves intended for pressure control or pressure reduction purposes in fire protection systems.

1.2 APPLICATION

This Standard applies to all automatic fire sprinkler systems where a pressure-reducing valve is specified.

1.3 OBJECTIVE

The objective of this Standard is to provide designers and manufacturers of sprinkler components with a set of requirements to enable the design, manufacture and testing of pressure-reducing valves suitable for automatic fire sprinkler systems.

1.4 NEW DESIGNS AND INNOVATIONS

Any alternative materials, designs, methods of assembly and procedures that do not comply with the specific requirements of this Standard, or are not mentioned in it but give equivalent results to those specified, are not necessarily prohibited. The specified approval remains the prerogative of an authority having jurisdiction

1.5 APPROVAL AND LISTINGS

Any pressure-reducing valve that has been listed and approved by an internationally recognized test and approval body shall be deemed to satisfy the requirements of this Standard.

NOTE: Examples of test and approval bodies are Factory Mutual (FM), Loss Prevention Council (LPC), Scientific Services Laboratory (SSL) and Underwriters Laboratories (UL).

1.6 REFERENCED DOCUMENTS

The following documents are referred to in this Standard:

AS	
1683	Methods for test of elastomers
1683.11	Part 11: Tension testing of vulcanised rubber
2118	Automatic fire sprinkler systems
2118.1	Part 1: Standard
2345	Dezincification resistance of copper alloys
2484	Fire—Glossary of terms
2484.1	Part 1: Fire tests