AS 4603—1999
Reconfirmed 2016

Australian Standard™

Flashback arresters—Safety devices for use with fuel gases and oxygen or compressed air

This Australian Standard was prepared by Committee ME/2, Gas Cylinders. It was approved on behalf of the Council of Standards Australia on 31 July 1999 and published on 5 September 1999.

The following interests are represented on Committee ME/2:

A.C.T. WorkCover

Airconditioning and Refrigeration Wholesalers Association

Australian Association of Certification Bodies

Australian Chamber of Commerce and Industry

Australian Gas Association

Australian Institute of Pressure Equipment Engineers

Australian Liquefied Petroleum Gas Association

Boiler and Pressure Vessel Manufacturers Association of Australia

Department for Administration and Information Services, S.A.

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Department of Training and Industrial Relations, Qld

Fire Protection Association of Australia

Institute of Metals and Materials Australasia

Institution of Engineers Australia

Victorian WorkCover Authority

Welding Technology Institute of Australia

Work Health Authority, N.T.

WorkCover New South Wales

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STANDARDS AUSTRALIA

RECONFIRMATION

OF
AS 4603—1999
Flashback arresters—Safety devices for use with fuel gases and oxygen or compressed air

RECONFIRMATION NOTICE

Technical Committee ME-002 has reviewed the content of this publication and in accordance with Standards Australia procedures for reconfirmation, it has been determined that the publication is still valid and does not require change.

Certain documents referenced in the publication may have been amended since the original date of publication. Users are advised to ensure that they are using the latest versions of such documents as appropriate, unless advised otherwise in this Reconfirmation Notice.

Approved for reconfirmation in accordance with Standards Australia procedures for reconfirmation on 21 July 2016.

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Australia New Zealand Industrial Gas Association
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The Australian Gas Association
Welding Technology Institute of Australia
Worksafe New Zealand
WorkSafe Victoria

NOTES

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PREFACE

This Standard was prepared by the Joint Standards Australia/New Zealand Standards Committee ME/2, Gas Cylinders.

By consensus, the Committee agreed that the Standard be an Australian Standard.

In the preparation of this draft reference has been made to BS EN 730 :1995, *Gas welding equipment—Equipment used in gas welding, cutting and allied processes, safety devices for fuel gas and oxygen or compressed air—General specifications, requirements and tests*.

A flashback arrester is a safety device designed to stop a flashback and is for use on equipment where fuel gas and oxygen/compressed air are being used in combination.

The testing of flashback arresters in use is also covered in this Standard. It is important for the manufacturer, testing facilities and the user of the safety devices to appreciate that the devices are only effective for their designed purpose if they continue to perform within their design specifications. Flashback arresters that operate outside these parameters can in fact be the cause of problems and it is imperative that testing be carried out on the specified basis.

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STANDARDS AUSTRALIA

Australian Standard

Flashback arresters—Safety devices for use with fuel gases and oxygen or compressed air

SECTION 1 SCOPE AND GENERAL

1.1 SCOPE This Standard gives the general specification, requirements and tests for flashback arresters for fuel gases and oxygen or compressed air used downstream of cylinder regulators and of pipeline outlet points, and upstream of blowpipes for welding, cutting and allied processes.

The location of and the possible combination of these devices in an installation is not given in this Standard.

1.2 REFERENCED DOCUMENTS The following documents are referred to in this Standard.

AS	
1335	Hose and hose assemblies for welding, cutting and allied processes
2473	Valves for compressed gas cylinders (threaded outlet)
4267	Pressure regulators for use with industrial compressed gas cylinders
BS EN	
730	Gas welding equipment—Equipment used in gas welding, cutting and allied processes, safety devices for fuel gases and oxygen or compressed air—General specifications, requirements and tests
UL	
1357	Underwriters laboratories, oxygen—Fuel gas combination flashback arrester and back-pressure check valve

1.3 DEFINITIONS For the purposes of this Standard, the definitions given in AS 2473 and AS 4267 and those below apply.

1.3.1 Excess flow cut-off valve—a device which closes in the event of flow exceeding a predetermined value.

1.3.2 Flame arrester—a device which quenches a flame front (flashback or decomposition). Depending on design, devices are effective in one or both directions.

1.3.3 Flashback—the sustained retrogression of the flame back into the mixing chamber resulting in a squealing sound and a characteristic smoky, sharp-pointed flame.

1.3.4 Multifunctional device—a device which incorporates two or more of the safety functions given in Clauses 1.3.1, 1.3.2 and 1.3.5 to 1.3.8.

1.3.5 Non-return valve—a device which prevents passage of gas in the direction opposite normal flow.

1.3.6 Pressure-relief valve—a device which automatically vents gas to the atmosphere when the pressure exceeds some predetermined value and seals again when the pressure returns to within specified limits of that value.

1.3.7 Pressure-sensitive cut-off valve—a device which closes in the event of a back-pressure wave from the downstream side of the cut-off valve.