

Australian Standard™

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

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OF

AS 4603—1999

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

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NOTES

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First published as AS 4603—1999.

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
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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.