

AS 3814 — 2002  
AG 501 — 2002

Australian Standard™

**Industrial and commercial  
gas-fired appliances**



Standards Australia



The Australian  
Gas Association

This Standard was prepared by the Industrial Gas Equipment Standards Committee (AG/5) of The Australian Gas Association. As an accredited Standards Development Organisation, The Australian Gas Association develops and publishes Australian Standards. The Standard was approved on behalf of the Gas Technical Standards Council on 8 March 2002, and published in April 2002.

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The following interests are represented on AG/5:

AGA (The Australian Gas Association)  
ALPGA (Australian Liquefied Petroleum Gas Association Ltd)  
Appliance and Component Testing Bodies  
GAEC (Gas Appliance and Equipment Committee)  
GAMAA (Gas Appliance Manufacturers Association of Australia)  
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**Industrial and commercial  
gas-fired appliances**

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## PREFACE

The Industrial Gas Equipment Standards Committee of The Australian Gas Association (AGA) has prepared this Standard. It is a revision of the 2000 edition and incorporates both technical and editorial amendments.

The Standard is intended to provide uniform minimum requirements for the safe operation of gas-fired industrial appliances, and other large appliances used for commercial applications, which are not covered by any other AGA Standard.

This Standard should not be regarded as a design specification or as an instruction manual; it has been prepared with due regard for gas rules and regulations now in force. In its preparation, consideration has been given to:

- continuity of satisfactory operation of appliances and equipment;
- the prevention of fire hazards, and explosions;
- the prevention of injury to persons or property; and
- the provision of satisfactory permanent access for service.

Explosions are the main hazard on the firing side of the equipment covered by the Standard, the basic cause being ignition of a combustible mixture in the combustion chamber or associated ductwork. The magnitude and intensity of the explosion will depend on both the quantity of combustibles present and the proportion of air with which the combustibles are mixed.

Explosions may be the result of one or more of the following:

- improper design of equipment or control systems
- equipment or control system malfunction, including valve leakage;
- interruption and restoration of gas or air supply causing loss of flame followed by delayed ignition of the resultant accumulation of a combustible mixture; or
- flame failure on a burner and subsequent ignition of the resultant accumulation of a combustible mixture.

The presence of a well-trained, reliable and competent operator provides a major contribution to safety.

The Standard will be subject to periodic review and suggestions for improvement are welcomed. These should be forwarded to:

Manager, Standardisation Policy and Services  
The Australian Gas Association  
PO Box 122 Braeside VIC 3195  
E-mail: standards@melbourne.gas.asn.au

The Australian Gas Association does not accept responsibility for any inadequacies in this Standard, and compliance with this Standard does not in any way remove the responsibility from any installation, commissioning or maintenance personnel for ensuring that the appliance is in a safe condition at all times.

This Standard has no legal authority in its own right, but may acquire legal standing in one or more of the following circumstances:

- adoption by a government or other authority having jurisdiction over relevant installations;

- adoption by a purchaser as the required standard of construction when placing a contract for a relevant installation; or
- adoption where a contractor states that an installation is in accordance with the Standard.

Terms or words that are indicated by italics in the text are defined terms or words. However, defined terms or words are not italicised in the Preface or in headings or figures. Section 1 contains the definitions of such terms or words as they apply to the Standard.

Matters of an advisory nature are indicated in the following manner:

- the word NOTE(S) followed by a statement(s);
- by the inclusion of them in an informative appendix.

The terms “normative” and “informative” have been used in this Standard to define the application of the appendix to which they apply. A “normative” appendix is an integral part of a Standard, whereas an “informative” appendix is only for information and guidance.

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## SECTION 1 SCOPE, APPLICATION AND DEFINITIONS

### 1.1 SCOPE

#### 1.1.1 General

This Standard provides minimum requirements for the design, construction and safe operation of *Type B appliances* which use *Town Gas, Natural Gas, Simulated Natural Gas, Liquefied Petroleum Gas, Tempered Liquefied Petroleum Gas* or any combination of these *gases* either together or with other fuels.

Construction requirements given relate only to matters affecting *gas-firing* or to any interconnection between the *gas-firing* system and the safety requirements of the *appliance*.

NOTE: Additional information regarding safety principles for industrial appliances is given in AS 1375.

The Standard does not cover all the requirements for the safety of the process carried out in the *appliance*. Other statutory and regulatory requirements may be applicable to the *appliances* and/or installations that fall within the scope of this Standard. It is the installer/manufacture's responsibility to ensure that *appliances* and/or installations comply with these requirements.

Installation requirements for *appliances* covered by this Standard are detailed in AS 5601 / AG 601.

#### 1.1.2 Exclusions from Standard

The following *appliances* are excluded from this Standard:

- (a) Manually operated bunsen type *burners*.
- (b) Simple *atmospheric burners* that are not fitted into a combustion chamber and burn in an open ventilated space under the control of an operator.
- (c) Engines other than stationary engines.

### 1.2 APPLICATION

#### 1.2.1 General

The requirements of this Standard shall be used in conjunction with, but do not take precedence over, the requirements of the *technical regulator*. The *technical regulator* may determine the extent of application of this Standard.

This Standard applies to:

- (a) the *appliance*; and
- (b) the component parts of the *appliance* whether supplied with the *appliance* or separately.
- (c) *Type B* appliance approvals commenced after its publication date.

NOTES:

- 1 "Commenced", for the purpose of this Clause, means the point at which Type B acceptance has begun.
- 2 Appliances should comply with requirements of all Authorities before being placed into service (eg. electrical, water, environmental, occupational health and safety etc).