

Australian Standard<sup>®</sup>

**Radiant gas heaters for outdoor and  
non-residential indoor use**



This Australian Standard® was prepared by Committee AG-001, Gas Appliances. It was approved on behalf of the Council of Standards Australia on 25 May 2004. This Standard was published on 10 August 2004.

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  - Committee AG-001-03
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  - Gas Appliance Manufacturers Association of Australia
  - Gas Technical Regulators Committee
- 

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Standards Australia wishes to acknowledge the participation of the expert individuals that contributed to the development of this Standard through their representation on the Committee and through the public comment period.

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**STANDARDS AUSTRALIA**

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**RECONFIRMATION**

**OF**

**AS 4565—2004**

**Radiant gas heaters for outdoor and non-residential indoor use**

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Technical Committee AG-001 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.

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## NOTES

Australian Standard<sup>®</sup>

## **Radiant gas heaters for outdoor and non-residential indoor use**

Originated as AS 4565/AG 405—2001.  
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Incorporating Amendment No. 1 (February 2011).

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## PREFACE

This Standard was prepared by the Standards Australia Working Group AG-001-00-06, Patio heaters, under the responsibility of Standards Australia Committee AG-001, Gas Appliances to supersede AS 4565/AG 405—2001, *Outdoor radiant gas heaters*.

*This Standard incorporates Amendment No. 1 (February 2011). The changes required by the Amendment are indicated in the text by a marginal bar and amendment number against the clause, note, table, figure or part thereof affected.*

The objective of this Standard is to provide manufacturers, designers, regulatory authorities, testing laboratories and similar organizations with uniform minimum requirements for the safety, performance and use of radiant gas heaters for outdoor and non-residential indoor use.

This Standard should not be regarded as a design specification or as an instruction manual.

In its preparation, consideration has been given to—

- (a) continuity of satisfactory operation;
- (b) the prevention of fire hazards, and explosions;
- (c) the prevention of injury to persons or property;
- (d) gas rules and regulations now in force; and
- (e) relevant International Standards.

AS 5601/AG 601, *Gas Installations* provides essential requirements and basic standards for gas installations.

The principal differences between this edition and AS 4565/AG 405—2001, are:

- (i) Addition of requirements for tabletop appliances.
- (ii) Addition of requirements for appliances for non-residential indoor use.
- (iii) Revision of sections related to outdoor areas.
- (iv) Changes to requirements for guarding.
- (v) Changes to temperature hazard requirements.
- (vi) Changes to cylinder ventilation requirements.
- (vii) Additional requirements for testing on propylene gas.

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.

Statements expressed in mandatory terms in notes to tables and figures are deemed to be requirements of this Standard.

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## STANDARDS AUSTRALIA

### Australian Standard

## Radiant gas heaters for outdoor and non-residential indoor use

### SECTION 1 SCOPE AND DEFINITIONS

#### 1.1 SCOPE

These requirements apply to flueless portable and fixed radiant gas heating appliances intended for use in outdoor areas and non-residential indoor areas and for use with natural gas, town gas, liquefied petroleum gas (LPG) or tempered liquefied petroleum gas (TLP) with gas consumption not exceeding 70 MJ/h.

Appliances may be portable or fixed, free standing, mounted or suspended overhead, floor mounted, attached to, or built into, furniture or fixtures.

Appliances may be connected to a fixed piping system, or to a separate or integral refillable LPG cylinder.

#### NOTES:

- 1 AS 2658 covers various types of portable appliances not exceeding 12 MJ/h (250 g/h): with vapourized LP gas to the inlet at the vapour pressure within the gas container (vapour pressure appliance), AG 403 covers radiant tube heaters.
- 2 Other statutory and regulatory requirements may be applicable to the product(s) that fall within the scope of this Standard. It is the manufacturer's, importer's or distributor's responsibility (as appropriate) to ensure that products comply with such requirements.

#### 1.2 DEFINITIONS

For the purposes of this Standard, the following definitions apply:

##### 1.2.1 Appliance regulator

A device fitted to an appliance to control the gas pressure or gas volume delivered to that appliance.

##### 1.2.2 Authority

Means the authority having jurisdiction or such authority as delegated, i.e. Technical Regulator.

##### 1.2.3 Automatic burner

A burner system that on starting follows a self-acting sequence that has been manually or automatically initiated, to provide gas and ignition to the burner without any intermediate manual operation.

##### 1.2.4 Automatic ignition

The lighting of gas at a burner without a manual operation whenever gas flows from the burner.

##### 1.2.5 Automatic operation

The use of a sequence of operations, which once initiated, does not require any intermediate manual operation.

**1.2.6 Available gas (line gas)**

Readily available gas with similar characteristics to the reference test gas.

**1.2.7 Certified**

Assessed by a certifying body, and having a certificate number to demonstrate compliance with a Standard.

**1.2.8 Certifying body**

A body acceptable to the Technical Regulator that provides assurance of compliance of appliances and components with nominated standards or other accepted safety criteria.

**1.2.9 Combination gas control**

An assembly of two or more different control functions in a single body.

**1.2.10 Combustible materials**

Materials made of or surfaced with wood, compressed paper, plant fibres or other materials that will ignite and burn.

**1.2.11 Combustion products**

Constituents resulting from the combustion of a fuel with oxygen, including the inerts associated with the fuel and the oxygen but excluding any other diluent or contaminant.

**1.2.12 Cross lighting**

Lighting of one burner from another either directly or by means of an intermediate flame.

**1.2.13 Determined gas consumption**

Gas consumption rate, measured in megajoules per hour, using reference gas at specified test pressures and with ambient conditions corrected to standard temperature and pressure.

**1.2.14 Dome**

The component fitted above the emitter of a patio heater, usually circular, serving the dual purpose of heat reflection and protection of the burner / emitter from the effects of rain.

**1.2.15 Flame abnormality**

A flame condition that results in lifting, floating, lighting back, carbon deposition or objectionable odour.

**1.2.16 Flame detector**

A device that is sensitive to flame properties and initiates a signal when flame is detected.

**1.2.17 Flame establishment period**

The period that begins when the fuel valve is energized and ends when the flame supervision system is first required to supervise that flame.

**1.2.18 Flame failure response time**

The time taken for the flame safeguard to detect loss of flame and de-energize the shut off valve.

**1.2.19 Flame proving period**

The supervised period following the flame establishment period and before any further operation other than shutdown is permitted.

**1.2.20 Flame safeguard**

A safety device that automatically cuts off the gas supply if the actuating flame is extinguished.