

Australian Standard™

Gas appliance regulators

This Australian Standard was prepared by Committee AG-011, Gas Components and Industrial Equipment. It was approved on behalf of the Council of Standards Australia on 8 October 2004.

This Standard was published on 24 November 2004.

The following are represented on Committee AG-011:

AGA (Network Operators)
AGA Certification Services
Appliance and Component Testing
Australian Liquefied Petroleum Gas Association
Gas Appliance Manufacturers Association of Australia
Gas Appliances and Services Association
Gas Technical Regulators Committee
Institution of Engineers Australia
Major Industrial Gas Installations

Keeping Standards up-to-date

Standards are living documents which reflect progress in science, technology and systems. To maintain their currency, Standards are periodically reviewed, and new editions are published. Between editions, amendments may be issued. Standards may also be withdrawn. It is important that readers assure themselves they are using a current Standard, which should include any amendments which may have been published since the Standard was purchased.

Detailed information about Standards can be found by visiting the Standards Web Shop at www.standards.com.au and looking up the relevant Standard in the on-line catalogue.

Alternatively, the printed Catalogue provides information current at 1 January each year, and the monthly magazine, *The Global Standard*, has a full listing of revisions and amendments published each month.

Australian Standards™ and other products and services developed by Standards Australia are published and distributed under contract by SAI Global, which operates the Standards Web Shop.

We also welcome suggestions for improvement in our Standards, and especially encourage readers to notify us immediately of any apparent inaccuracies or ambiguities. Contact us via email at mail@standards.org.au, or write to the Chief Executive, Standards Australia International Ltd, GPO Box 5420, Sydney, NSW 2001.

Australian Standard™

Gas appliance regulators

Original standard AS 4618—1976.
Previous edition 1998.
Republished and designated AS 4618—2004.

COPYRIGHT

© Standards Australia International

All rights are reserved. No part of this work may be reproduced or copied in any form or by any means, electronic or mechanical, including photocopying, without the written permission of the publisher.

Published by Standards Australia International Ltd GPO Box 5420, Sydney, NSW 2001, Australia

ISBN 0 7337 6362 6

PREFACE

This Standard was reviewed by the Standards Australia Committee, AG-011, Gas Components and Industrial Equipment, to supersede AG 202—1998, *Approval requirements for gas appliance regulators*. The Standard is republished without technical alterations.

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 gas appliance regulators.

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.

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.

CONTENTS

	<i>Page</i>
SECTION 1 SCOPE, CLASSIFICATION AND DEFINITIONS	
1.1 SCOPE	4
1.2 CLASSIFICATION	4
1.3 DEFINITIONS	5
SECTION 2 DESIGN AND CONSTRUCTION	
2.1 MATERIALS	7
2.2 CONSTRUCTION	8
2.3 DESIGN	8
2.4 MARKINGS	9
2.5 INSTRUCTIONS	9
SECTION 3 PERFORMANCE REQUIREMENTS	
3.1 GENERAL	11
3.2 LEAKAGE	11
3.3 OPERATING CHARACTERISTICS	11
3.4 MECHANICAL STRENGTH	11
3.5 DURABILITY	11
APPENDICES	
A FIGURES A1—A6	13
B METHODS OF TEST	19
C LIST OF REFERENCED DOCUMENTS	32

STANDARDS AUSTRALIA

Australian Standard
Gas appliance regulators

SECTION 1 SCOPE, CLASSIFICATION AND
DEFINITIONS

1.1 SCOPE

These requirements apply to self-acting gas pressure regulators up to 50 mm size for use on natural gas (NG), simulated natural gas (SNG), town gas (TG), tempered liquefied petroleum gas (TLP) and liquefied petroleum gas (LPG), for inlet gas pressures up to 7 kPa and outlet pressures above 0.25 kPa. They may or may not be of the lock-up type.

Compliance of a regulator with these requirements does not imply that it is acceptable for use without supplemental tests in its intended application.

Requirements for a regulator incorporated in a combination control is published in AG 209 (to be AS 4624).

1.2 CLASSIFICATION

Regulators shall be classified according to type, class, and grade.

1.2.1 Type

Two types of regulator shall be:

- (a) Fixed outlet pressure regulator—A regulator having one non-adjustable nominal outlet pressure (P_n) as specified by the manufacturer.
- (b) Adjustable outlet pressure regulator—A regulator on which the outlet pressure can be adjusted between minimum and maximum nominal outlet pressure $P_n(\text{min})$ and $P_n(\text{max})$ as specified by the manufacturer.

1.2.2 Class

The range of flow rate for which a regulator readjustment is not necessary, as specified by the manufacturer. The classes shall be as listed in Table 1.1

TABLE 1.1
CLASS OF REGULATOR

Class	Range of flow rate
0	$0.006 \text{ m}^3/\text{h} - Q_m$
1	$0.025 Q_m - Q_m$
2	$0.1 Q_m - Q_m$
3	$0.5 Q_m - Q_m$
4	Fixed rate

where Q_m is the maximum flow rate specified by the manufacturer