

Australian Standard<sup>®</sup>

**LP Gas mobile industrial direct fired air  
heaters**



This Australian Standard® was prepared by Committee AG-001, Gas Appliances. It was approved on behalf of the Council of Standards Australia on 12 January 2011. This Standard was published on 26 May 2011.

---

The following are represented on Committee AG-001:

- Appliance and Component Testing
  - Australian Gas Association
  - Australian Greenhouse Office, Department of the Environment and Water Resources
  - Consumers' Federation of Australia
  - Energy Networks Association
  - Gas Appliance Manufacturers Association of Australia
  - Gas Technical Regulators Committee
  - LPG Australia
- 

This Standard was issued in draft form for comment as DR AS 5262.

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.

---

### **Keeping Standards up-to-date**

Australian Standards® are living documents that reflect progress in science, technology and systems. To maintain their currency, all 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Standards may also be withdrawn.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 that may have been published since the Standard was published.

Detailed information about Australian Standards, drafts, amendments and new projects can be found by visiting [www.standards.org.au](http://www.standards.org.au)

Standards Australia welcomes suggestions for improvements, and encourages readers to notify us immediately of any apparent inaccuracies or ambiguities. Contact us via email at [mail@standards.org.au](mailto:mail@standards.org.au), or write to Standards Australia, GPO Box 476, Sydney, NSW 2001.

---

Australian Standard<sup>®</sup>

**LP Gas mobile industrial direct fired air  
heaters**

Originated as AG 404—1988.  
Revised and redesignated as AS 5262—2011.

**COPYRIGHT**

© Standards Australia Limited

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, unless otherwise permitted under the Copyright Act 1968.

Published by SAI Global Limited under licence from Standards Australia Limited, GPO Box 476, Sydney, NSW 2001, Australia

ISBN 978 0 7337 9856 6

## PREFACE

This Standard was prepared by the Australian members of Joint Standards Australia/Standards New Zealand Committee AG-001, Gas Appliances, to supersede AG 404—1988, *Approval requirements for LPG mobile industrial direct fired air heaters*.

After consultation with stakeholders in both countries, Standards Australia and Standards New Zealand decided to develop this Standard as an Australian Standard rather than an Australian/New Zealand Standard.

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 LP Gas mobile industrial direct fired air heaters.

AS/NZS 5601.1, *Gas installations, Part 1: General installation*, provides essential requirements and basic standards for gas installations.

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

Minimal changes have been made to AG 404—1998 in this revision in anticipation of the re-structuring and updating of all gas appliance 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.

## CONTENTS

	<i>Page</i>
SECTION 1 SCOPE AND GENERAL	
1.1 SCOPE .....	5
1.2 REFERENCED DOCUMENTS .....	5
1.3 DEFINITIONS .....	5
SECTION 2 DESIGN AND CONSTRUCTION	
2.1 GENERAL .....	13
2.2 MATERIALS AND STANDARDS .....	15
2.3 ELECTRICAL SYSTEMS .....	16
2.4 INSTALLATION REQUIREMENTS .....	16
2.5 MAINTENANCE REQUIREMENTS .....	16
2.6 PRESSURE REGULATORS .....	18
2.7 GAS CONTROLS AND FLAME SAFEGUARDS .....	18
2.8 COMBUSTION AIR SUPPLY AND CONTROLS .....	19
2.9 IGNITION, PILOTS AND MAIN BURNERS .....	20
2.10 MARKINGS .....	21
2.11 INSTRUCTIONS .....	22
SECTION 3 PRELIMINARY TESTS	
3.1 GENERAL REQUIREMENTS .....	24
3.2 PREPARATION FOR TESTING .....	24
3.3 GAS LEAKAGE .....	25
3.4 GAS CONSUMPTION—TOLERANCE ON DETERMINED GAS CONSUMPTION .....	25
3.5 LOW GAS PRESSURE DETECTORS .....	25
3.6 IGNITION AND SAFETY SHUT-OFF SYSTEMS .....	26
SECTION 4 COMBUSTION TESTS	
4.1 INTRODUCTION .....	28
4.2 SATISFACTORY COMBUSTION .....	28
4.3 TESTING AT MANUFACTURER’S RATED AIR THROUGHPUT .....	28
4.4 TESTING AT AIR FLOW JUST IN EXCESS OF SETTING ON AIR FLOW DEVICE .....	28
4.5 COMBUSTION PRODUCTS LIMITS .....	29
SECTION 5 PERFORMANCE TESTS	
5.1 AIR DISCHARGE TEMPERATURE .....	30
5.2 COMBUSTION AIR SUPPLY .....	30
5.3 INTERLOCK SYSTEMS .....	30
5.4 SHUT-DOWN .....	31
5.5 TEMPERATURE HAZARDS .....	31
5.6 HEAT RESISTANCE .....	32
5.7 SPECIFICATIONS .....	32

## APPENDICES

A	FIGURES A1 TO A3.....	33
B	METHODS OF TEST.....	36
C	MAINTENANCE SCHEDULE AND SERVICING INSTRUCTIONS.....	56
D	DETERMINATION OF FORMALDEHYDE CONCENTRATION IN DISCHARGE PRODUCTS .....	61
E	AIR DISCHARGE SAMPLING AND TEMPERATURE MEASUREMENT .....	63
F	APPLIANCE TEST REPORT .....	66

**STANDARDS AUSTRALIA****Australian Standard**  
**LP Gas mobile industrial direct fired air heaters****SECTION 1 SCOPE AND GENERAL****1.1 SCOPE**

This Standard specifies requirements for new mobile industrial direct fired air heaters, constructed entirely from new materials and components and intended for use with liquefied petroleum gas (LP Gas) with gas consumption greater than 50 MJ/h and not exceeding 500 MJ/h.

NOTE: For direct fired air heaters up to and including 50 MJ/h, refer to AS 4553.

Figures for this Standard are set out in Appendix A. Methods of test are set out in Appendix B.

**1.2 REFERENCED DOCUMENTS**

The documents referred to in this Standard are as follows:

**AS**

- 1319 Safety signs for the occupational environment
- 1881 Zinc alloys—Casting ingots and castings—Quality requirements
- 4553 Gas space heating appliance
- 4617 Manual shut-off gas valves
- 4625 Electronic flame safeguards and flame detectors
- 4646 Gas appliance standards—Definitions and calculations

**AS/NZS**

- 3000 Electrical installations (known as the Australian/New Zealand Wiring Rules)
- 3100 Approval and test specification—General requirements for electrical equipment
- 5601 Gas installations
- 5601.1 Part 1: General installations
- 60335 Household and similar electrical appliances—Safety
- 60335.1 Part 1: General requirements (IEC 60335-1 Ed.4.2, MOD)

**ISO**

- 6976 Natural gas—Calculation of calorific values, density, relative density and Wobbe index from composition

**EN**

- 298 Automatic gas burner control systems for gas burners and gas burning appliances with or without fans

**1.3 DEFINITIONS**

For the purpose of this Standard the definitions below apply.