

Australian Standard™

**Dry heat sterilizers**



**S t a n d a r d s** Australia

This Australian Standard was prepared by Committee ME-003, Sterilizing Equipment. It was approved on behalf of the Council of Standards Australia on 26 October 2001 and published on 4 January 2002.

---

The following interests are represented on Committee ME-003:

Australian Chamber of Commerce and Industry  
Australian Dental Association  
Australian Dental Industry Association  
Australian Health Industry  
Australian Industry Group  
Australian Stainless Steel Development Association  
Commonwealth Department of Health and Aged Care  
Department of Human Services (Victoria)  
Health Department of Western Australia  
Institute of Hospital Engineering Australia  
Medical Industry Association of Australia  
New South Wales Health Department  
Queensland Health  
Royal College of Pathologists of Australasia  
South Australian Health Commission  
Sterilizing Research and Advisory Council of Australia (N.S.W. Branch)

---

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

Standards are living documents which 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 Standards may also be withdrawn.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 which may have been published since the Standard was purchased.

Detailed information about Standards can be found by visiting the Standards Australia web site at [www.standards.com.au](http://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 Australian Standard*, has a full listing of revisions and amendments published each month.

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.com.au](mailto:mail@standards.com.au), or write to the Chief Executive, Standards Australia International Ltd, GPO Box 5420, Sydney, NSW 2001.

---

Australian Standard™

## Dry heat sterilizers

Originated as AS 2487—1981.  
Second edition 2002.

### **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 4224 6

## PREFACE

This Standard was prepared by the Standards Australia Committee ME-003, Sterilizing Equipment, to supersede AS 2487—1981, *Dry heat sterilizers (hot air type)*.

The objective of this Standard is to increase safety and standardize requirements for dry heat sterilizers.

This edition is a general revision, and includes the following significant changes:

- (a) Innovations are acknowledged (see Clause 1.2).
- (b) The requirements for cabinet supports have been amended (see Clauses 2.2 and 3.2).
- (c) The requirements for dimensions have been simplified (see Clause 3.1).
- (d) The timer is required to automatically reset to zero in the event of a failure of a cycle (see Clause 3.12(c)).

## CONTENTS

	<i>Page</i>
<b>SECTION 1 SCOPE</b>	
1.1 SCOPE.....	4
1.2 INNOVATION .....	4
1.3 REFERENCED DOCUMENTS.....	4
1.4 DEFINITIONS.....	5
<b>SECTION 2 MATERIALS</b>	
2.1 PANELS, CHAMBERS, DUCTWORK AND SHELVES .....	6
2.2 FRAMEWORK.....	6
2.3 FAN IMPELLER .....	6
2.4 DOOR GASKETS .....	6
<b>SECTION 3 DESIGN AND CONSTRUCTION</b>	
3.1 DIMENSIONS.....	7
3.2 CABINET SUPPORTS.....	7
3.3 EXTERNAL PANELS.....	7
3.4 DOORS.....	7
3.5 SHELF SUPPORTS.....	8
3.6 THERMAL INSULATION.....	8
3.7 HEATING .....	8
3.8 AIR-HANDLING SYSTEM.....	8
3.9 ELECTRICAL .....	8
3.10 TIMER.....	8
3.11 TEMPERATURE .....	9
3.12 CONTROLS .....	9
3.13 PANEL-MOUNTED EQUIPMENT .....	10
3.14 STAGE INDICATION .....	10
3.15 PROCESS RECORDER .....	10
<b>SECTION 4 OPERATION</b>	
4.1 GENERAL.....	11
4.2 ADDITIONAL REQUIREMENTS FOR STERILIZERS WITH DOORS AT BOTH ENDS .....	11
<b>SECTION 5 MARKING AND INFORMATION</b>	
5.1 MARKING .....	12
5.2 TECHNICAL MANUAL.....	12
<b>SECTION 6 TESTING</b>	
6.1 GENERAL.....	13
6.2 PERFORMANCE TEST .....	13
<b>APPENDIX A INFORMATION TO BE SUPPLIED WITH ENQUIRIES AND ORDERS.....</b>	
	14

## STANDARDS AUSTRALIA

**Australian Standard**  
**Dry heat sterilizers**

## SECTION 1 SCOPE

**1.1 SCOPE**

This Standard specifies requirements for dry heat sterilizers of the hot air type intended for use in hospitals, hospital laboratories, office-based health care facilities and similar situations for the sterilization of instruments, metalware, glassware and oils.

This Standard does not apply to machines that sterilize—

- (a) liquids, oils and greases that have a boiling point less than the selected sterilizing temperature; or
- (b) fluids in non-vented bottles.

## NOTES:

- 1 The Standard applies to sterilizers that utilize circulated electrically heated air to maintain uniform sterilizing temperatures throughout the chamber.
- 2 The sterilizers maintain a sterilizing temperature of not less than 160°C and an automatically controlled and recorded sterilizing cycle, to achieve the sterilizing function.
- 3 The operating temperature and other details need to be discussed at the time of enquiry or order. Attention is drawn to the need to verify that the material to be sterilized can satisfactorily withstand the sterilizing temperature, which is not less than 160°C. For special purposes, a set temperature of 200°C may be required.
- 4 Dry heat sterilization is used for anhydrous items and items sealed within impermeable containers that cannot be sterilized by steam under pressure but can withstand a temperature of 160°C for a minimum holding time of 120 min plus the penetration time.
- 5 While sterilizing oils or greases, flammable vapours may be produced, which could be hazardous.
- 6 Where oils to be sterilized are intended for use in eye drops or injections, additional equipment (e.g., a simulated load probe and recorder) is required to reduce hazards to public health.

**1.2 INNOVATION**

Any use of new or unusual materials or methods to achieve the intent of this Standard is encouraged. Manufacturers employing innovative materials or methods shall show documented third-party proof that the innovation is not inferior to that of the intent of this Standard.

**1.3 REFERENCED DOCUMENTS**

The following documents are referred to in this Standard:

AS

- |        |  |
|--------|--|
| 1449   | Wrought alloy steels—Stainless and heat-resisting steel plate, sheet and strip |
| 1627   | Metal finishing—Preparation and pretreatment of surfaces                       |
| 1627.5 | Part 5: Pickling, descaling and oxide removal                                  |