

# Australian Standard<sup>®</sup> 2773—1985

---

## ULTRASONIC CLEANERS FOR HOSPITAL USE



**STANDARDS ASSOCIATION OF AUSTRALIA**  
*Incorporated by Royal Charter*

This Australian standard was prepared by Committee ME/3, Sterilizing Equipment. It was approved on behalf of the Council of the Standards Association of Australia on 28 November 1984 and published on 4 March 1985.

---

The following interests are represented on Committee ME/3:

Allied Building Trades Federation of Australia  
Capital Territory Health Commission  
Confederation of Australian Industry  
Department of Health, N.S.W.  
Department of Health, Qld  
Department of Industrial Relations, N.S.W.  
Health Commission of Victoria  
Health Department, W.A.  
Institute of Hospital Engineers (Australia)  
Metal Trades Industry Association of Australia  
National Biological Standards Laboratory  
Public Works Department, N.S.W.  
Royal College of Pathologists of Australasia  
South Australian Health Commission  
Sterilizer Manufacturers Association of Australia  
Sterilizing Research and Advisory Council of Australia  
Sub-contractors Association of New South Wales Limited

---

*Review of Australian Standards.* To keep abreast of progress in industry, Australian standards are subject to periodic review and are kept up-to-date by the issue of amendments or new editions as necessary. It is important therefore that standards users ensure that they are in possession of the latest edition, and any amendments thereto.

Full details of all SAA publications will be found in the Catalogue of SAA Publications; this information is supplemented each month by SAA's journal 'The Australian Standard', which subscribing members receive, and which gives details of new publications, new editions and amendments, and of withdrawn standards.

Suggestions for improvements to Australian standards, addressed to the head office of the Association, are welcomed. Notification of any inaccuracy or ambiguity found in an Australian standard should be made without delay in order that the matter may be investigated and appropriate action taken.

---

*This standard was issued in draft form for comment as DR 83054.*

AUSTRALIAN STANDARD

# ULTRASONIC CLEANERS FOR HOSPITAL USE

AS 2773—1985

First published.....1985

PUBLISHED BY THE STANDARDS ASSOCIATION OF AUSTRALIA  
STANDARDS HOUSE, 80 ARTHUR ST, NORTH SYDNEY, N.S.W.

ISBN 0 7262 3658 6

## PREFACE

This standard was prepared by the Association's Committee on Sterilizing Equipment. The preparation of this standard was prompted by the need for a nationally acceptable specification covering ultrasonic cleaners for hospital use, which will enable purchasers to specify equipment which will perform effectively. The standard will help to reduce the incidence of infection in hospitals from instruments and other devices.

Other Australian standards dealing with sterilizing and sanitizing are as follows:

- AS 1410 Pre-vacuum Pressure Steam Sterilizers (With Mechanical Air Removal)
- AS 1714 Ethylene Oxide Sterilizers (Using Ethylene Oxide/Dichlorodifluoromethane 12%/88% *m/m* Sterilizing Gas Mixture)
- AS 1862 Aeration Cabinets (For Use with Ethylene Oxide Sterilizers)
- AS 2182 Portable Electrically Heated Steam Sterilizers (Downward Displacement Pressure Steam Type)
- AS 2192 Horizontal Sterilizers (Downward Displacement Pressure Steam Type)
- AS 2437 Flusher/Sanitizers for Bed Pans and Urine Bottles
- AS 2487 Dry Heat Sterilizers (Hot Air Type)
- AS 2514 Drying Cabinets for Medical Equipment
- AS 2711 Washer/Disinfectors for Respiratory Apparatus
- AS 2774 Drying Cabinets for Respiratory Apparatus

It is intended to publish a standard for washer/disinfectors for hospital utensils.

©Copyright — STANDARDS ASSOCIATION OF AUSTRALIA 1985

Users of standards are reminded that copyright subsists in all SAA publications. No part of this publication may be reproduced, stored in a retrieval system in any form or transmitted by any means without prior permission in writing of the Standards Association of Australia.

## CONTENTS

	<i>Page</i>
<b>SECTION 1. SCOPE AND GENERAL</b>	
1.1 Scope .....	5
1.2 Innovation .....	5
1.3 Referenced Documents.....	5
1.4 Definition .....	5
<b>SECTION 2. MATERIALS</b>	
2.1 General .....	5
2.2 Framework .....	5
2.3 External Panels, Tanks and Loading Equipment .....	5
2.4 Nozzles and Tank Fittings .....	5
2.5 Pipework and Pipe Fittings .....	5
<b>SECTION 3. DESIGN AND CONSTRUCTION</b>	
3.1 Accessibility .....	6
3.2 Supports .....	6
3.3 External Panels .....	6
3.4 Bench Tops.....	6
3.5 Lids .....	6
3.6 Hinges .....	6
3.7 Tanks.....	6
3.8 Surface Finishing.....	6
3.9 Equipment Containers .....	6
3.10 Handling of Equipment Containers .....	6
3.11 Detergent Dispenser .....	6
3.12 Water Connection .....	7
3.13 Pipework and Pipe Fittings .....	7
3.14 Nozzles .....	7
3.15 Pump .....	7
3.16 Overflow .....	7
3.17 Drains .....	7
3.18 Acoustic Insulation .....	7
3.19 Ultrasonic Generators .....	7
3.20 Ultrasonic Transducers .....	7
3.21 Air Filters .....	7
3.22 Electrical .....	7
<b>SECTION 4. CONTROL EQUIPMENT</b>	
4.1 Location .....	8
4.2 Controllers .....	8
4.3 Ultrasonic Generators .....	8
4.4 Cycle Indicators .....	8
<b>SECTION 5. MARKING AND INFORMATION</b>	
5.1 Language .....	9
5.2 External Nameplates .....	9
5.3 Information on Nameplates .....	9
5.4 Electrical .....	9
5.5 Controlling and Indicating Equipment .....	9
5.6 Technical Manual .....	9
<b>SECTION 6. PERFORMANCE TESTING</b>	
6.1 Adequacy .....	9
6.2 Optional Tests .....	9

	<i>Page</i>
APPENDICES	
A Information to be Supplied with Enquiries and Orders .... ..	10
B Use of Ultrasonic Cleaners .... ..	11

STANDARDS ASSOCIATION OF AUSTRALIA

---

**Australian Standard**  
for  
**ULTRASONIC CLEANERS FOR HOSPITAL USE**

SECTION 1. SCOPE AND GENERAL

**1.1 SCOPE.** This standard specifies requirements for the larger sized ultrasonic cleaners, of the fixed console types and of the mobile types, which are intended to clean surgical equipment and medical equipment in hospitals and similar situations.

NOTE: Guidance on information to be supplied with enquiries and orders and on use of ultrasonic cleaners is given in Appendices A and B respectively.

**1.2 INNOVATION.** It is not intended that the standard impose unnecessary restrictions on the use of new or unusual materials or methods.

**1.3 REFERENCED DOCUMENTS.** The following standards are referred to in this standard:

AS 1192 Electroplated Coatings—Nickel and Chromium

AS 1259 Sound Level Meters  
AS 1449 Wrought Alloy Steels—Stainless and Heat-resisting Steel Plate, Sheet and Strip  
AS 2243 Safety in Laboratories Part 5—Non-ionizing Radiations  
AS 3100 Approval and Test Specification for Definitions and General Requirements for Electrical Materials and Equipment

**1.4 DEFINITION.** For the purposes of this standard, the following definition applies:

*Shall and should*—‘shall’ is taken to be mandatory, ‘should’ is taken to be advisory.

---

SECTION 2. MATERIALS

**2.1 GENERAL.** Unless otherwise specified herein, materials and equipment shall comply with the relevant Australian standards and shall be suitable for continuous use under every intended operating condition.

**2.2 FRAMEWORK.** Fixed frames, including any support legs, shall be of stainless steel or hot-dip galvanized carbon steel.

**2.3 EXTERNAL PANELS, TANKS AND LOADING EQUIPMENT.** External panels, work surfaces, lids, rinsing tanks and metal parts of loading equipment shall be of stainless steel having corrosion resistance not less than that of Grade AS 1449/304. (See also Clause 3.8 for surface finish requirements.) Cleaning tanks shall be of stainless steel having corrosion resistance not less than that of Grade AS 1449/316.

The thickness of sheet metal shall be as follows:

(a) For external panels, rinsing tanks and lids . . . . . not less than 0.9 mm.

(b) For walls and non-radiating surfaces of cleaning tanks . . . . . not less than 1.2 mm.  
(c) For radiating surfaces of cleaning tanks . . . . . not less than 2.0 mm.

**2.4 NOZZLES AND TANK FITTINGS.** In sonation tanks, nozzles and any other fittings shall be of stainless steel.

In rinse tanks, nozzles shall be of stainless steel or chromium-plated brass.

**2.5 PIPEWORK AND PIPE FITTINGS.** Pipe-work and pipe fittings which are visible and external to the unit shall be chromium-plated and cuprous metals shall be nickel-plated before being chromium-plated. Chromium plating shall be at least to Service Condition 3 as specified by AS 1192.

**2.6 VALVES.** Valves shall be of non-ferrous metal, stainless steel or suitable plastics material.