

~~LOAN COPY~~  
~~INFORMATION CENTRE~~  
~~STANDARDS AUSTRALIA~~

AS 2123—1978

UDC 683.97 : 621.365.4 : 637:131

# Australian Standard 2123—1978

WITHDRAWN:

19980701

---

## SLOW DELIVERY TYPE AUTOMATIC ELECTRIC STORAGE WATER HEATERS FOR DAIRIES

[Title allocated by Defence Cataloguing Authority:  
HEATERS, WATER, ELECTRIC  
(Slow Delivery Automatic Type for Dairies)]



**STANDARDS ASSOCIATION OF AUSTRALIA**

*Incorporated by Royal Charter*

THE FOLLOWING SCIENTIFIC, INDUSTRIAL, GOVERNMENTAL AND CONSUMER organizations and departments were officially represented on the committee entrusted with the preparation of this standard:

Associated Chambers of Manufactures of Australia

Australian Consumers Association

Australian Electrical Manufacturers Association

Australian Water and Sewerage Authorities

Electrical Contractors Associations of Australia

Electricity Authority of N.S.W.

Electricity Supply Association of Australia

Dairy Industry Authority of N.S.W.

Department of Agriculture, Victoria

Department of Primary Industry

---

This standard, prepared by Committee EL/20, Electric Water Heating Appliances, was approved on behalf of the Council of the Standards Association of Australia on 12 January 1978, and was published on 1 April 1978.

To keep abreast of progress in industry, Australian Standards are regularly reviewed. Suggestions for improvement to published standards, addressed to the head office of the Association, are welcomed.

---

*This standard was issued in draft form for public review as DR 77028.*

**AUSTRALIAN STANDARD SPECIFICATION**

**SLOW DELIVERY TYPE  
AUTOMATIC ELECTRIC  
STORAGE WATER HEATERS  
FOR DAIRIES**

**AS 2123 — 1978**

**, First published .... 1978**

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

**ISBN 0 7262 1411 6**

## P R E F A C E

This standard was prepared by the Association's Committee on Electric Water Heating Appliances. The standard sets out requirements for slow delivery water heaters only, i.e. those delivering hot water at a temperature not less than 94°C and at a flow rate not exceeding 30 litres/min.

This standard has been based on AS 1056, Automatic Electric Storage Water Heaters with Hot Water Deliveries Ranging from 25 litres to 630 litres, with several changes which reflect the special requirements of a dairy. The main changes are as follows:

- The heaters must be of the vented type.
- Only single shell type construction is allowed.
- The rated daily hot water delivery is in the range of 80-630 litres.
- A booster heater may be required if the rated daily hot water delivery is above 160 litres.
- The hot water delivery test has been modified to reflect actual operating needs of a dairy.

In the application of this standard, reference may be necessary to the following standards:

- AS 1056 Automatic Electric Storage Water Heaters with Hot Water Deliveries Ranging from 25 litres to 630 litres
- AS 1308 Thermostats and Over-temperature Energy Cutouts for Automatic Electric Water Heaters
- AS 1432 Copper Tubes for Water, Gas and Sanitation
- AS 1529 Code of Practice for Installation of Household Type Hot Water Supply Systems
- AS 1566 Copper and Copper Alloy Plate, Rolled Bar, Sheet, Strip and Foil for General Engineering Purposes
- AS 1590 Copper Alloy Screwed Pipe Fittings for Use in Water Supply and Hot Water Services
- AS 1645 Copper and Copper Alloy Compression Fittings for Use in Water Supply and Hot Water Services
- AS 3000 Part 1 SAA Wiring Rules
- AS 3142 Approval and Test Specification for Electric Water Heaters
- AS C161 Approval and Test Specification for Thermostats and Energy Regulators

© Copyright — STANDARDS ASSOCIATION OF AUSTRALIA 1978

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	4
1.2 Application	4
1.3 Compliance with Other Specifications	4
1.4 Definitions	4
<b>SECTION 2. DESIGN AND CONSTRUCTION</b>	
2.1 General	7
2.2 Hot Water Delivery	8
2.3 Heating Unit	9
2.4 Thermostats	12
2.5 Integral Feed Tank	12
2.6 Water Connections	14
2.7 Water Pipes	14
2.8 Drainage Facilities	15
<b>SECTION 3. MARKING AND INSTRUCTIONS</b>	
3.1 Marking	16
3.2 Installation Instructions	16
<b>SECTION 4. PERFORMANCE TESTING</b>	
4.1 General	17
4.2 Heat Loss Test	17
4.3 Hot Water Delivery Test	18
4.4 Overflow Test	20
4.5 Over-pressure Test	20
4.6 Torque Test	21
<b>APPENDIX A. APPLIANCE SPECIFICATION</b>	22

# STANDARDS ASSOCIATION OF AUSTRALIA

---

## Australian Standard Specification for SLOW DELIVERY TYPE AUTOMATIC ELECTRIC STORAGE WATER HEATERS FOR DAIRIES

---

### SECTION 1. SCOPE AND GENERAL

**1.1 SCOPE.** This specification applies to vented automatic electric storage water heaters used in dairies and designed to deliver water at a temperature not less than 94°C and at a flow rate not exceeding 30 litres/min.

**1.2 APPLICATION.** This specification is intended to provide the technical conditions of design, manufacture, and testing of water heaters used in dairies to facilitate their purchase by users or by electricity supply or other authorities acting on behalf of users.

The purchaser, when ordering, should specify such details as container materials, type of heater, rated daily hot water delivery, and wattage loading required, in addition to any special constructional features required to meet service conditions (e.g. integral feed tank).

### 1.3 COMPLIANCE WITH OTHER SPECIFICATIONS.

**1.3.1 Electrical Safety Requirements.** This specification does not include safety requirements which must be observed to secure approval for connection to supply authorities mains. Water heaters shall, therefore, in addition to complying with this specification, comply with the requirements of AS 3142\* with the exception of Clause 2.1.2 (c) of AS 3142.

NOTE: See also Clause 2.4.4 herein.

**1.3.2 Requirements of Water Supply and other Statutory Authorities.** In addition to the requirements of this specification, the water heater shall comply with the applicable requirements of the Statutory Authorities concerned.

**1.4 DEFINITIONS.** For the purpose of this specification, the following definitions apply (see also Fig. 1):

**1.4.1 Automatic electric storage water heater** (hereinafter referred to as a 'water heater')—a water heater which incorporates a thermally-insulated water storage container in which the water is electrically heated and its temperature automatically controlled.

---

\* AS 3142, Approval and Test Specification for Electric Water Heaters.