

Australian Standard[®]

**Performance of household electrical
appliances—Swimming pool pump-units**

**Part 1: Energy consumption and
performance**



This Australian Standard® was prepared by Committee EL-015, Quality and Performance of Household Electrical Appliances. It was approved on behalf of the Council of Standards Australia on 13 October 2009.

This Standard was published on 21 December 2009.

The following are represented on Committee EL-015:

- Australian Industry Group
 - Australian Retailers Association
 - Business New Zealand
 - CHOICE
 - Consumer Electronic Suppliers Association
 - Cooper Development Centre Australia
 - Department of Employment and Industrial Relations (Qld)
 - Department of the Environment, Water, Heritage and the Arts
 - Department of Water and Energy (NSW)
 - Electrical Compliance Testing Association
 - Energy Efficiency and Conservation Authority New Zealand
 - Energy Safe Victoria
 - Institution of Professional Engineers, New Zealand
 - National Appliance and Equipment Energy Efficiency Committee
 - National Association of Testing Authorities Australia
 - Office of the Technical Regulator, South Australia
 - Swimming Pool and Spa Association of NSW
 - Swimming Pool and Spa Association of Victoria
-

This Standard was issued in draft form for comment as DR 09041.

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Standards may also be withdrawn.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

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, or write to Standards Australia, GPO Box 476, Sydney, NSW 2001.

Australian Standard[®]

**Performance of household electrical
appliances—Swimming pool pump-units**

**Part 1: Energy consumption and
performance**

First published as AS 5102.1—2009.

COPYRIGHT

© Standards Australia

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 GPO Box 476, Sydney, NSW 2001, Australia

ISBN 0 7337 9312 6

PREFACE

This Standard was prepared by Standards Australia Committee EL-015, Quality and Performance of Household Electrical Appliances.

The AS 5102—2009 series comprises two parts, as follows:

AS

5102 Performance of household electrical appliances—Swimming pool pump-units

5102.1 Part 1: Energy consumption and performance (this Standard)

5102.2 Part 2: Energy labelling and minimum energy performance standard requirements

The Parts of AS 5102 are defined as follows:

- (a) Part 1 describes the testing required to determine the energy consumption, energy efficiency and sound levels of swimming pool pump-units.
- (b) Part 2 includes algorithms for the calculation of and criteria for energy efficiency rating, star rating, details of the energy label and requirements for the valid application thereof. It also contains the minimum energy performance standards (MEPS) that swimming pool pump-units must attain to comply with this Standard.

Part 2 is published with the approval of the combined state regulatory authorities and is intended to be suitable for reference in energy labelling regulations. It refers to Part 1 for test procedures.

The following statements of intention are used in this Standard:

- (i) Shall—Indicates that a statement is mandatory.
- (ii) Should—Indicates a recommendation.

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

The term 'normative' is used to define the application of the appendix to which it applies. A normative appendix is an integral part of a Standard.

CONTENTS

| | <i>Page</i> |
|--|-------------|
| FOREWORD..... | 5 |
| SECTION 1 SCOPE AND GENERAL | |
| 1.1 SCOPE | 6 |
| 1.2 APPLICATION | 6 |
| 1.3 OBJECTIVE..... | 6 |
| 1.4 REFERENCED DOCUMENTS | 7 |
| 1.5 DEFINITIONS AND NOTATION | 7 |
| SECTION 2 CLASSIFICATION OF PUMP-UNITS | |
| 2.1 SCOPE OF SECTION | 13 |
| 2.2 CLASSIFICATION CRITERIA | 13 |
| SECTION 3 GENERAL TEST ARRANGEMENTS | |
| 3.1 SCOPE OF SECTION | 14 |
| 3.2 CALIBRATION OF TEST EQUIPMENT..... | 14 |
| 3.3 TEST SYSTEM..... | 14 |
| 3.4 PIPE AND FITTING SPECIFICATIONS | 15 |
| 3.5 CHARACTERISTICS OF WATER USED IN TEST | 15 |
| 3.6 ELECTRICAL SUPPLY | 15 |
| 3.7 POWER FACTOR OF PUMP-UNIT MOTOR..... | 15 |
| SECTION 4 MEASUREMENT REQUIREMENTS | |
| 4.1 SCOPE OF SECTION | 16 |
| 4.2 GENERAL REQUIREMENTS | 16 |
| 4.3 MEASUREMENT ERRORS | 16 |
| 4.4 MAXIMUM PERMISSIBLE MEASUREMENT ERROR | 16 |
| 4.5 STABILITY OF OPERATION..... | 18 |
| SECTION 5 MEASUREMENTS | |
| 5.1 SCOPE OF SECTION | 19 |
| 5.2 MEASUREMENT OF FLOW RATE | 19 |
| 5.3 MEASUREMENT OF PUMP-UNIT HEAD | 19 |
| 5.4 MEASUREMENT OF PUMP-UNIT INPUT POWER AND POWER FACTOR..... | 20 |
| 5.5 MEASUREMENT OF SOUND POWER | 20 |
| SECTION 6 TESTS TO BE PERFORMED | |
| 6.1 SCOPE OF SECTION | 22 |
| 6.2 GENERAL | 22 |
| 6.3 TEST ARRANGEMENT—ALL PUMP-UNITS | 22 |
| 6.4 TEST PROCEDURE—SINGLE-SPEED PUMP-UNITS | 22 |
| 6.5 TEST PROCEDURE—TWO-SPEED AND MULTI-SPEED PUMP-UNITS | 23 |
| 6.6 TEST PROCEDURE—VARIABLE SPEED PUMP-UNITS..... | 23 |
| 6.7 TEST RECORDS | 24 |

This is a free preview. Purchase the entire publication at the link below:

[Product Page](#)

-
- [Looking for additional Standards? Visit Intertek Inform Infostore](#)
 - [Learn about LexConnect, All Jurisdictions, Standards referenced in Australian legislation](#)
-