UL 1563

STANDARD FOR SAFETY

Electric Spas, Equipment Assemblies, and Associated Equipment

ULSE INC. COPYRIGHTED MATERIAL – NOT AUTHORIZED FOR FURTHER
REPRODUCTION OR DISTRIBUTION WITHOUT PERMISSION FROM ULSE INC.

UL Standard for Safety for Electric Spas, Equipment Assemblies, and Associated Equipment, UL 1563

Seventh Edition, Dated January 13, 2025

Summary of Topics

This revision of ANSI/UL 1563 dated June 1, 2026 includes the following changes in requirements:

– Addition of Proposed Requirements for Heat Pumps or Chillers that Use Flammable Refrigerants; Section 3, 4.23A, 4.31A, 8.6.1, 8.6.1A, 8.6.1B, 8.6.1C, 8.6.5, Section 8.7, and Annex D.

– Revision to Scope to Explicitly Include Cold Tubs; 1.1

Text that has been changed in any manner or impacted by ULSE's electronic publishing system is marked with a vertical line in the margin.

The new and revised requirements are substantially in accordance with Proposal(s) on this subject dated March 27, 2026.

All rights reserved. No part of this publication may be reproduced, stored in a retrieval system, or transmitted in any form by any means, electronic, mechanical photocopying, recording, or otherwise without prior permission of ULSE Inc. (ULSE).

ULSE provides this Standard "as is" without warranty of any kind, either expressed or implied, including but not limited to, the implied warranties of merchantability or fitness for any purpose.

In no event will ULSE be liable for any special, incidental, consequential, indirect or similar damages, including loss of profits, lost savings, loss of data, or any other damages arising out of the use of or the inability to use this Standard, even if ULSE or an authorized ULSE representative has been advised of the possibility of such damage. In no event shall ULSE's liability for any damage ever exceed the price paid for this Standard, regardless of the form of the claim.

Users of the electronic versions of UL's Standards for Safety agree to defend, indemnify, and hold ULSE harmless from and against any loss, expense, liability, damage, claim, or judgment (including reasonable attorney's fees) resulting from any error or deviation introduced while purchaser is storing an electronic Standard on the purchaser's computer system.

ULSE INC. COPYRIGHTED MATERIAL – NOT AUTHORIZED FOR FURTHER REPRODUCTION OR DISTRIBUTION WITHOUT PERMISSION FROM ULSE INC.

No Text on This Page

ULSE INC. COPYRIGHTED MATERIAL – NOT AUTHORIZED FOR FURTHER REPRODUCTION OR DISTRIBUTION WITHOUT PERMISSION FROM ULSE INC.

JANUARY 13, 2025
(Title Page Reprinted: June 1, 2026)

ANSI/UL 1563-2026

1

UL 1563

Standard for Electric Spas, Equipment Assemblies, and Associated Equipment

First Edition – October, 1981
Second Edition – May, 1986
Third Edition – November, 1992
Fourth Edition – July, 1996
Fifth Edition – March, 2004
Sixth Edition – July, 2009

Seventh Edition

January 13, 2025

This ANSI/UL Standard for Safety consists of the Seventh Edition including revisions through June 1, 2026.

The most recent designation of ANSI/UL 1563 as an American National Standard (ANSI) occurred on June 1, 2026. ANSI approval for a standard does not include the Cover Page, Transmittal Pages, and Title Page.

Comments or proposals for revisions on any part of the Standard may be submitted to ULSE at any time. Proposals should be submitted via a Proposal Request in ULSE's Collaborative Standards Development System (CSDS) at https://csds.ul.com.

Our Standards for Safety are copyrighted by ULSE Inc. Neither a printed nor electronic copy of a Standard should be altered in any way. All of our Standards and all copyrights, ownerships, and rights regarding those Standards shall remain the sole and exclusive property of ULSE Inc.

© 2026 ULSE Inc. All rights reserved.

ULSE INC. COPYRIGHTED MATERIAL – NOT AUTHORIZED FOR FURTHER REPRODUCTION OR DISTRIBUTION WITHOUT PERMISSION FROM ULSE INC.

No Text on This Page

ULSE INC. COPYRIGHTED MATERIAL – NOT AUTHORIZED FOR FURTHER REPRODUCTION OR DISTRIBUTION WITHOUT PERMISSION FROM ULSE INC.

CONTENTS

INTRODUCTION

1 Scope 9
2 Units of Measurement 9
3 Referenced Publications 9
4 Glossary 14
5 Accessories 20
6 Safety Critical Functions 20

CONSTRUCTION

7 General 21
8 Component Specifications 21
8.1 General 21
8.2 Quick-connect wire connectors 22
8.3 Terminal blocks 22
8.4 Wire connectors 22
8.5 Heaters 22
8.6 Heat pump 23
8.7 Spa compartments housing flammable refrigerants 23
9 Frame and Enclosure 24
9.1 General 24
9.2 Metal enclosures 24
9.3 Nonmetallic enclosures 25
9.4 Drainage 26
9.5 Mounting pads or holes 26
9.6 Barriers 27
9.7 Ventilating openings 29
10 Mechanical Assembly 29
11 Securement with Adhesives 30
12 General Accessibility Requirements 30
13 Accessibility Requirements for Spas 37
14 Resistance to Corrosion 38
15 Power Supply Connections – Cord-Connected and Convertible Spas and Equipment Assemblies 40
16 Power Supply Connections – Permanently Connected Units 41
16.1 General 41
16.2 Terminal compartments for supply connection 42
16.3 Wiring terminals and leads 43
17 Grounding 46
18 Bonding 48
19 Leakage Current Collectors 48
20 Live Parts 49
21 Wiring 49
21.1 General 49
21.2 Splices and connections 50
21.3 Wiring between component enclosures 50
22 Heating Elements 51
23 Separation of Circuits 51
24 Electrical Insulation 52
25 Printed-Wiring Boards 52
26 Spacings 53
26.1 General 53

ULSE INC. COPYRIGHTED MATERIAL – NOT AUTHORIZED FOR FURTHER REPRODUCTION OR DISTRIBUTION WITHOUT PERMISSION FROM ULSE INC.

26.2 Field wiring terminals 53
26.3 Spacings at other than field wiring terminals or on printed wiring boards 53
26.4 Spacings on printed wiring boards 54
26.5 Spacings within motors 54
26.6 Clearance and creepage distances 55
27 Internal Bushings 55
28 Gaskets 56
29 Thermal Insulation 56
30 Motors 56
30.1 General 56
30.2 Motor circuit overload protection 57
31 Overcurrent, Thermal, or Overload Protective Devices 58
32 Transformers and Power Supplies 61
33 Switches and Controllers 62
34 Capacitors 64
35 Lampholders and Receptacles 64
36 Temperature Sensing, Thermistor Devices 65
37 Temperature-Regulating Controls 65
37.1 General 65
37.2 User controls – standard settings 65
37.3 User controls – special temperature settings 65
37.4 Water temperature indication 66
37.5 Construction 66
38 Temperature-Limiting Controls 67
39 Temperature Controls 69
40 Reduction of Risk of Injury to Persons 70
40.1 General 70
40.2 Stability 71
40.3 Risk of scald injury 71
40.4 Heater protection 71
40.5 Water backflow 72
40.6 Safety controls and safety circuits 73
40.7 Reliability 73
40.8 Ozone generators 74
40.9 Button batteries or coin cell batteries 74
40.10 Suction openings 74
40.11 Suction openings for cold tubs 78
41 Circulation Systems and Filters 78
41.1 Circulation systems 78
41.2 Filters 79
42 Ground-Fault Circuit-Interrupters 79
43 Pump Shut-Off Devices 80
44 Audio/Video Components 80

PERFORMANCE

45 General 83
46 Leakage Current Test 84
47 Available Current Test 87
48 Insulation Resistance Test 88
49 Starting Current Test 88
50 Power Input Test 88
51 Leakage Current Test or Insulation Resistance Test Following Humidity Conditioning 88
52 Dielectric Voltage-Withstand Test 88
53 Temperature Test 89
54 Water Temperature Test 93

ULSE INC. COPYRIGHTED MATERIAL – NOT AUTHORIZED FOR FURTHER REPRODUCTION OR DISTRIBUTION WITHOUT PERMISSION FROM ULSE INC.

55 Abnormal Water Temperature Tests 94
55.1 Temperature-limiting control test 94
55.2 Kinetic heating test 94
56 Motor Protector Test 94
56.1 General 94
56.2 Temperature 94
56.3 Locked rotor protection 95
56.4 Endurance 95
56.5 Limited short circuit 96
57 Water Exposure Test 96
57.1 General 96
57.2 Splashing 96
57.3 Seal test 96
57.4 Simulated rain 97
58 Leakage Current Test in Water 100
59 Test for Resistance to Impact 103
60 Ozone Offgas Test 103
61 Abnormal Operation Tests 104
61.1 Low water and no water test 104
61.2 Interrupted power 105
61.3 Water flow interruption 105
61.4 Water back flow 105
61.5 Reverse hydrostatic pressure 105
61.6 Electrolytic capacitor test 106
61.7 Transformer test 106
61.8 Electronic component test 106
62 Flow Rate Test 106
63 Strain-Relief Test 107
64 Metallic Coating Thickness Test 107
65 Structural Integrity Tests 108
65.1 General 108
65.2 Static loading test 109
65.3 Impact load test 109

MANUFACTURING AND PRODUCTION-LINE TESTS

66 Grounding Continuity Test 109
67 Dielectric Voltage-Withstand Test 110

RATINGS

68 Cord-Connected Products 110
69 Permanently-Connected Products 110
70 Convertible Products 111
71 Supply Conductor Ampacity and Rating of Overcurrent Protection 111

MARKINGS

72 General 111
73 Wiring Diagram 111
74 Temporary Markings for Spas 113
75 Additional Markings 115
75.1 General 115
75.2 Spas 115
75.3 Equipment assemblies 116

ULSE INC. COPYRIGHTED MATERIAL – NOT AUTHORIZED FOR FURTHER REPRODUCTION OR DISTRIBUTION WITHOUT PERMISSION FROM ULSE INC.

75.4 Blowers 117
75.5 Controls 118
75.6 Audio/video components 118
75.7 Double-insulated pumps and blowers 118

INSTRUCTIONS

76 General 118
77 Important Safety Instructions 121
77.1 General 121
77.2 For all units 121
77.3 Spas 122
77.4 Equipment assemblies 123
77.5 Blowers 124
77.6 Audio/video components 124

ANNEX A (Normative) – SUPPLEMENTAL REQUIREMENTS FOR ENCLOSURES OF PRODUCTS CONSTRUCTED FOR DIRECT CONDUIT CONNECTION TO A WET-NICHE OR NO-NICHE LUMINAIRE

A1 Scope 126
A2 Construction 126
A3 Performance – Strain Relief Test 126
A4 Markings 126

ANNEX B (Normative) – REQUIREMENTS FOR THE EVALUATION OF ELECTRONIC CIRCUITS

INTRODUCTION

B1 Scope 128
B2 General 128
B3 Glossary 128

CONSTRUCTION

B4 Components 129
B4.1 Capacitors 129
B4.2 Isolation devices 129
B4.3 Printed wiring boards 129
B4.4 Switch Mode Power Supplies 130
B5 Identification of Safety Critical Circuit Functions 130
B5.1 General 130
B6 Evaluation of the Different Types of Electronic Circuits 130
B7 Circuits that Provide Safety Critical Functions 131

PERFORMANCE

B8 General Conditions for the Tests 131
B8.1 Details 131
B8.2 Intentionally weak parts 131
B8.3 Test results determined by overcurrent protection operation 132
B9 Low-Power Circuit Determination 132
B10 Abnormal Operation and Fault Tests 133
B11 Transformer Overload Test 135

ULSE INC. COPYRIGHTED MATERIAL – NOT AUTHORIZED FOR FURTHER REPRODUCTION OR DISTRIBUTION WITHOUT PERMISSION FROM ULSE INC.

B12 Switch Mode Power Supply Overload Test 135
B13 Programmable Component Reduced Supply Voltage Test 135
B14 Electromagnetic Compatibility (EMC) Requirements – Immunity 135

ANNEX C (Normative) – REQUIREMENTS FOR ELECTRONIC CONTROLS EVALUATED TO UL 873

C1 General 137

ANNEX D (Informative) – COMPLIANCE GUIDANCE CHART FOR SPA HEAT PUMPS AND CHILLERS USING FLAMMABLE AND NON-FLAMMABLE REFRIGERANTS

ULSE INC. COPYRIGHTED MATERIAL – NOT AUTHORIZED FOR FURTHER REPRODUCTION OR DISTRIBUTION WITHOUT PERMISSION FROM ULSE INC.

No Text on This Page

ULSE INC. COPYRIGHTED MATERIAL – NOT AUTHORIZED FOR FURTHER REPRODUCTION OR DISTRIBUTION WITHOUT PERMISSION FROM ULSE INC.

INTRODUCTION

1 Scope

1.1 These requirements apply to self-contained spas, including hot tubs and cold tubs. They also apply to field-installed equipment assemblies, blowers, and controls for use with field-installed hot and cold tubs, swimming pools, non-self-contained spas, and exercise spas. These products are for household or commercial use, indoors, outdoors, or both. All equipment is intended for installation and use in accordance with Article 680 of the National Electrical Code, NFPA 70.

1.2 These requirements do not apply to products covered by the following UL Standards:

a) Underwater Luminaires and Submersible Junction Boxes, UL 676;

b) Swimming Pool Pumps, Filters, and Chlorinators, UL 1081;

c) Electric Water Heaters for Pools and Tubs, UL 1261;

d) Personal Hygiene and Health Care Appliances, UL 1431 (professional hydrotherapy equipment – whirlpool bathtubs); and

e) Hydromassage Bathtubs, UL 1795.

2 Units of Measurement

2.1 Values stated without parentheses are the requirement. Values in parentheses are explanatory or approximate information.

2.2 Unless indicated otherwise, all voltage and current values mentioned in this Standard are root-mean-square (rms).

3 Referenced Publications

3.1 Any undated reference to a code or standard appearing in the requirements of this Standard shall be interpreted as referring to the latest edition of that code or standard.

3.2 The following publications are referenced in this Standard:

ASHRAE 34, *Designation and Safety Classification of Refrigerants*

APSP-16, *Standard for Suction Fittings for Use in Swimming Pools, Wading Pools, Spas, and Hot Tubs*

APSP/ICC-6 2013, *Standard for Residential Portable Spas and Swim Spas*

ASME B1.20.1, *Pipe Threads, General Purpose (Inch)*

ASTM B209/B209M, *Standard Specification for Aluminum and Aluminum-Alloy Sheet and Plate*

ASTM E230/E230M, *Standard Specification for Temperature-Electromotive Force (emf) Tables for Standardized Thermocouples*

ASTM A653/653M, *Standard Specification for Steel Sheet, Zinc-Coated (Galvanized) or Zinc-Iron Alloy-Coated (Galvannealed) by the Hot-Dip Process*

ULSE INC. COPYRIGHTED MATERIAL – NOT AUTHORIZED FOR FURTHER REPRODUCTION OR DISTRIBUTION WITHOUT PERMISSION FROM ULSE INC.