



UL 61010-2-040

STANDARD FOR SAFETY

Safety Requirements for Electrical Equipment for Measurement, Control, and Laboratory Use – Part 2-040: Particular Requirements for Sterilizers and Washer-Disinfectors Used to Treat Medical Materials

ULNORM.COM: Click to view the full PDF of UL 61010-2-040 2021

[ULNORM.COM](https://www.ulnorm.com) : Click to view the full PDF of UL 61010-2-040 2021

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

UL Standard for Safety Requirements for Electrical Equipment for Measurement, Control, and Laboratory Use – Part 2-040: Particular Requirements for Sterilizers and Washer-Disinfectors Used to Treat Medical Materials, UL 61010-2-040

Third Edition, Dated February 17, 2021

Summary of Topics

Adoption of IEC 61010-2-040, Safety Requirements for Electrical Equipment for Measurement, Control, and Laboratory Use – Part 2-040: Particular Requirements for Sterilizers and Washer-Disinfectors Used to Treat Medical Materials, (third edition, issued by IEC May 2020) as a new IEC-based UL standard, UL 61010-2-040 with No US Differences.

The new requirements are substantially in accordance with Proposal(s) on this subject dated October 23, 2020.

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 UL.

UL 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 UL 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 UL or an authorized UL representative has been advised of the possibility of such damage. In no event shall UL'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 UL 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.

No Text on This Page

ULNORM.COM : Click to view the full PDF of UL 61010-2-040 2021



ANSI/UL 61010-2-040-2021

1

UL 61010-2-040

**Standard for Safety Requirements for Electrical Equipment for
Measurement, Control, and Laboratory Use – Part 2-040: Particular
Requirements for Sterilizers and Washer-Disinfectors Used to Treat Medical
Materials**

Second Edition – January, 2016

Third Edition

February 17, 2021

This ANSI/UL Standard for Safety consists of the Third Edition.

The most recent designation of ANSI/UL 61010-2-040 as an American National Standard (ANSI) occurred on February 17, 2021. ANSI approval for a standard does not include the Cover Page, Transmittal Pages, Title Page, Preface or the IEC Foreword.

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

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

COPYRIGHT © 2021 UNDERWRITERS LABORATORIES INC.

No Text on This Page

[ULNORM.COM](https://www.ulnorm.com) : Click to view the full PDF of UL 61010-2-040 2021

CONTENTS

Preface (UL).....	5
FOREWORD	7
1 Scope and object	9
1.1.1 Equipment included in scope	9
1.1.2 Equipment excluded from scope	9
1.2.1 Aspects included in scope	10
1.2.2 Aspects excluded from scope	10
2 Normative references	10
3 Terms and definitions.....	11
3.2 Parts and accessories.....	11
3.5 Safety terms.....	11
4 Tests	12
4.3.2.4 Covers and removable parts	12
4.3.2.12 Duty cycle.....	12
4.3.2.101 Non-electrical supplies and services	12
4.4.2.1 General.....	12
4.4.2.5 Motors.....	12
4.4.2.13 Interlocks.....	13
4.4.2.101 Pressure controllers	13
4.4.2.102 Failure, or partial failure, of the MAINS supply.....	13
4.4.2.103 Failure, or partial failure, of other supplies and services	13
5 Marking and documentation	13
5.1.2 Identification.....	13
5.1.101 Overpressure protective device	14
5.1.102 PRESSURE VESSELS and shell boilers.....	14
5.2 Warning markings.....	14
5.4.1 General.....	14
5.4.2 Equipment RATINGS	15
5.4.3 Equipment installation	15
5.4.3.101 Special systems	16
5.4.4 Equipment operation.....	17
5.4.5 Equipment maintenance and service	18
5.4.101 OPERATOR training	19
6 Protection against electric shock	19
6.2.2 Examination	20
6.8.3.1 The a.c. voltage test	20
6.9.2 Insulating materials	20
7 Protection against mechanical HAZARDS and against HAZARDS related to mechanical functions	20
7.1 General	20
7.4 Stability.....	20
7.5 Provisions for lifting and carrying	21
7.101 Doors, conveyors, etc.....	21
7.102 Access to the CHAMBER.....	22
7.103 Prevention of entry of gases, steam or liquids.....	22
7.104 Prevention of new OPERATING CYCLE	22
7.105 Pressure-retaining parts of a door	23
7.106 Doors of equipment for use with fluids in containers.....	23
7.107 Double-ended equipment	23
7.108 Transport and packaging	24
7.109 Guards and panelling	24
7.110 Emergency shutdown device	24

8	Resistance to mechanical stresses	25
9	Protection against the spread of fire	25
	9.1 General	25
	9.5 Requirements for equipment containing or using flammable liquids	25
10	Equipment temperature limits and resistance to heat.....	26
	10.1 Surface temperature limits for protection against burns.....	26
	10.3 Other temperature measurements	26
	10.5 Resistance to heat	26
11	Protection against HAZARDS from fluids and solid foreign objects	27
	11.1 General.....	27
	11.7.2 Leakage and rupture at high pressure.....	27
	11.7.4 Overpressure protective device	27
	11.101 Discharge to atmosphere	28
	11.102 Instruments and indicating devices	29
	11.103 Protection of hot and cold water services	29
	11.104 Equipment with inflatable or pressure-activated seals	29
12	Protection against radiation, including laser sources, and against sonic and ultrasonic pressure	30
	12.5 Sonic and ultrasonic pressure.....	30
13	Protection against liberated gases, substances, explosion and implosion	31
	13.1 Poisonous and injurious gases and substances	31
	13.2 Explosion and implosion.....	34
	13.101 Other HAZARDS arising from the use of toxic sterilants.....	35
	13.102 Chemical dosing systems	37
14	Components and subassemblies	37
	14.101 PRESSURE VESSELS and shell boilers	37
	14.102 Access ports.....	37
	14.103 Control systems	38
	14.104 Microprocessors	38
	14.105 Asbestos	39
15	Protection by interlocks.....	39
	15.1 General.....	39
16	HAZARDS resulting from application.....	39
17	RISK assessment	39

Annexes

Annex G (informative) Leakage and rupture from fluids under pressure

Annex L (informative) Index of defined terms

Bibliography

Preface (UL)

This UL Standard is based on IEC Publication 61010-2-040: third edition Safety requirements for electrical equipment for measurement, control, and laboratory use – Part 2-040: Particular requirements for sterilizers and washer-disinfectors used to treat medical materials. IEC publication 61010-2-040 is copyrighted by the IEC.

Efforts have been made to synchronize the UL edition number with that of the corresponding IEC standard with which this standard is harmonized. As a result, one or more UL edition numbers have been skipped to match that of the IEC edition number.

This UL Standard 61010-2-040 Standard for Safety Requirements for Electrical Equipment for Measurement, Control, and Laboratory Use – Part 2-040: Particular Requirements for Sterilizers and Washer-Disinfectors Used to Treat Medical Materials, is to be used in conjunction with the third edition of UL 61010-1. The safety requirements for electrical equipment intended for sterilization, washing, and disinfection of medical materials are contained in this Part 2 Standard and UL 61010-1.

Requirements of this Part 2 Standard, where stated, amend the requirements of UL 61010-1.

Where a particular subclause of UL 61010-1 is not mentioned in UL 61010-2-040, the UL 61010-1 subclause applies.

These materials are subject to copyright claims of IEC and UL. No part of this publication may be reproduced in any form, including an electronic retrieval system, without the prior written permission of UL. All requests pertaining to the Safety Requirements for Electrical Equipment for Measurement, Control, and Laboratory Use – Part 2-040: Particular Requirements for Sterilizers and Washer-Disinfectors Used to Treat Medical Materials UL 61010-2-040 Standard should be submitted to UL.

Note – Although the intended primary application of this Standard is stated in its Scope, it is important to note that it remains the responsibility of the users of the Standard to judge its suitability for their particular purpose.

ULNORM.COM : Click to view the PDF of UL 61010-2-040:2021