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**NATIONAL STANDARD OF THE
PEOPLE'S REPUBLIC OF CHINA**

GB 4793.4-2019

**Safety requirements for electrical equipment for measurement, control
and laboratory use -- Part 4: Particular requirements for sterilizers and
washer-disinfectors used to treat medical materials**

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Introduction

1 Scope and purpose

Foreword

All technical contents of this standard are mandatory.

GB 4793 Safety Requirements for Electrical Equipment for Measurement, Control, and Laboratory is currently divided into 9 parts.

--- Part 1. General requirements (IEC 61010-1);

--- Part 2. Particular requirements for handheld and hand-operated current sensors for electrical measurement and testing (IEC 61010-2-032);

--- Part 3. Special requirements for laboratory mixing and stirring equipment (IEC 61010-2-051);

--- Part 4. Special requirements for sterilizers and washer-disinfectors for handling medical materials (IEC 61010-2-040);

--- Part 5. Safety requirements for handheld probe assemblies for electrical measurement and testing (IEC 61010-031);

--- Part 6. Particular requirements for laboratory heating equipment (IEC 61010-2-010);

--- Part 7. special requirements for laboratory centrifuges (IEC 61010-2-020);

--- Part 9. Particular requirements for automatic and semi-automatic equipment for analytical and other purposes in laboratories (IEC 61010-2-081);

--- Part 10. Special requirements for test and measurement circuits (IEC 61010-2-030).

This part is Part 4 of GB 4793.

This section is drafted in accordance with the rules given in GB/T 1.1-2009.

This section replaces GB 4793.4-2001 "Measurement, control and laboratory electrical equipment for safety laboratory processing of medical materials

Special requirements for autoclaves "and GB 4793.8-2008" Safety requirements for electrical equipment for measurement, control and laboratory use-Part 2-042.

Specific requirements for the use of toxic gases for the treatment of medical materials and

for autoclaves and sterilizers for laboratory use. This section starts with GB 4793.4-
Mainly.2001, integrated the content of GB 4793.8-2008.

Compared with GB 4793.4-2001, the main technical changes in this section are as follows.

- Amended the scope of application (see Chapter 1, Chapter 1 of GB 4793.4-2001);
- Added terms and definitions of "dangerous" (see 3.5.2);
- Deleted the term and definition of "autoclave" (see 3.1.101 of GB 4793.4-2001);
- Modified the terms and definitions of "cavity" and "operation cycle" (see 3.2.101, 3.2.105, 3.2.101 of GB 4793.4-2001, 3.1.102);
- Added requirements for covers and removable parts (see 4.3.2.3);
- Increased work cycle requirements (see 4.3.2.11);
- Removed the requirements for pressure vessel marking (see 5.1.2 of GB 4793.4-2001);
- Removed the requirement of voltage indication mark (see 5.1.3 of GB 4793.4-2001);
- Deleted the requirement to change the control indicating device (see 5.1.6 in GB 4793.4-2001);
- Removed the requirements for pressure vessels (see 5.1.102 in GB 4793.4-2001);
- Increased the requirements for the non-electrical supply in the instructions for the rated range of pressure and flow (see 5.4.2);
- Increased the installation instructions for special systems in the manual (see 5.4.3.101);
- Increased the requirements for operator training in the instructions (see 5.4.101);
- Increased the requirement for anti-shock by adding 13.0 regarding electrical in hazardous gas environments generated by potentially flammable and explosive sterilants Requirements (see 6.1.1);
- Increased the test requirements when checking the bottom of accessible parts (see 6.2.1);
- Added requirements for installation instructions for special systems (see 5.4.3.101);
- Removed the requirements for bell-shaped pressure vessels (see 7.2.102 of GB 4793.4-2001);
- Increased the stability requirements of the door (see 7.3);
- Increased the requirements and test methods of the handle or handle in the lifting and handling device (see 7.4);

- Removed the requirements for resistance to mechanical shock and collision (see Chapter 8 of GB 4793.4-2001);
- Removed the requirements for over-temperature protection devices (see GB 4793.4-2001 9.5);
- Increased equipment temperature limits and heat resistance requirements (see Chapter 10);
- Increased the requirement to prevent liquid overflow (see 11.4);
- Increased requirements for safe emissions (see 11.101);
- Increased overview of released gases, pathogenic substances, explosion and implosion protection (see 13.0);
- Increased requirements for toxic and harmful gases (see 13.1);
- Added requirements for explosions and implosions (see 13.2);
- Added requirements for other hazards caused by the use of toxic sterilants (see 13.101);
- Added requirements for stoichiometric systems (see 13.102);
- Removed the requirement to approach the port (see 14.103 in GB 4793.4-2001);
- Increased the requirement to prevent opening of access (see 14.102).

Compared with GB 4793.8-2008, the main technical changes in this section are as follows.

- Amended the scope of application (see Chapter 1, Chapter 1 of GB 4793.8-2008);
- Added terms and definitions of "dangerous" (see 3.5.2);
- Deleted the term and definition of "pressure sterilizer" (see 3.1.101 of GB 4793.8-2008);
- Deleted the term and definition of "automatic controller" (see 3.2.101 in GB 4793.8-2008);
- Deleted the term and definition of "ventilation" (see 3.2.105 in GB 4793.8-2008);
- Modified the terms and definitions of "cavity" and "running cycle" (see 3.2.101, 3.2.105, 3.2.102 of GB 4793.8-2008, 3.1.102);
- Added requirements for covers and removable parts (see 4.3.2.3);
- Increased work cycle requirements (see 4.3.2.11);
- Removed the requirement for pressure vessel marking (see 5.1.2 of GB 4793.8-2008);
- Removed the requirement of network power (see 5.1.3 of GB 4793.8-2008);

- Removed the requirements for terminals and operating devices (see 5.1.6 in GB 4793.8-2008);
- Removed the requirements for pressure vessels (see 5.1.102 of GB 4793.8-2008);
- Increased the requirements for the non-electrical supply in the instructions for the rated range of pressure and flow (see 5.4.2);
- Increased the installation instructions for special systems in the manual (see 5.4.3.101);
- Increased the requirements for operator training in the instructions (see 5.4.101);
- Increased the requirement for anti-shock by adding 13.0 regarding electrical in hazardous gas environments generated by potentially flammable and explosive sterilants Requirements (see 6.1.1);
- Increased the test requirements when checking the bottom of accessible parts (see 6.2.1);
- Added requirements for installation instructions for special systems (see 5.4.3.101);
- Increased the stability requirements of the door (see 7.3);
- Increased the requirements and test methods of the handle or handle in the lifting and handling device (see 7.4);
- Removed the requirements for resistance to mechanical shock and collision (see Chapter 8 of GB 4793.8-2008);
- Removed the requirements for over-temperature protection devices (see GB 4793.8-2008 9.5);
- Increased equipment temperature limits and heat resistance requirements (see Chapter 10);
- Increased the requirement to prevent liquid overflow (see 11.4);
- Increased requirements for safe emissions (see 11.101);
- Increased overview of released gases, pathogenic substances, explosion and implosion protection (see 13.0);
- Added requirements for other hazards caused by the use of toxic sterilants (see 13.101);
- Added requirements for stoichiometric systems (see 13.102);
- Increased the requirement to prevent opening of access (see 14.102).

This section uses the translation method equivalent to IEC 61010-2-040..2005, Safety requirements for electrical equipment for measurement, control, and laboratory use Part 2-040. Particular requirements for sterilizers and washer-disinfectors for handling