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

GB/T 11748-2023

Replacing GB 11748-2005

Laser therapeutic equipment - Carbon dioxide laser equipment

激光治疗设备 二氧化碳激光治疗机

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Foreword

This document is in accordance with the provisions of GB/T 1:1-2020 "Guidelines for Standardization Work Part 1: Structure and Drafting Rules for Standardization Documents" drafting: This document replaces GB 11748-2005 "Carbon dioxide laser therapy machine": Compared with GB 11748-2005, except for structural adjustment and editing In addition to sexual changes, the main technical changes are as follows:

- Changed the scope of application of the standard (see Chapter 1, Chapter 1 of the:2005 edition);
- Changed the terms and definitions (see Chapter 3, Chapter 3 of the:2005 edition);
- Changed the structural composition and product classification (see Chapter 4, Chapter 4 of the:2005 edition);
- Deleted "treatment machine working conditions" (see 5:1 of the:2005 edition);
- Changed the "laser wavelength" (see 5:1:1, 5:2:1 of the:2005 edition);
- Changed the "laser mode" (see 5:1:2, 5:2:2 of the:2005 edition);
- Added "laser output mode and its time characteristics" (see 5:1:3);
- Changed the "terminal output laser power or energy" (see 5:1:4, 5:3 of the:2005 edition);
- Changed the "laser terminal output power/energy instability" (see 5:1:5, 5:4 of the:2005 edition);
- Changed the "laser terminal output power/energy reproducibility" (see 5:1:6, 5:5 of the:2005 edition);
- Changed the "facula parameters of the treatment surface" (see 5:1:7, 5:2:3 of the:2005 edition);
- Changed the "aiming system" and "transmission system" (see 5:2, 5:3, 5:6 of the:2005 edition);

--- Deleted "laser power supply and control device requirements" (see 5:7 of the:2005 edition);

1 Scope

GB/T 11748-2023 is the Chinese national standard on laser therapeutic equipment - carbon dioxide laser equipment, in the field of health care technology. The /T suffix marks it as a recommended standard: it is not compulsory by itself, but it becomes binding as soon as a contract, a tender or a customer specification calls it up - which in practice is how most foreign buyers meet it. It was issued on 23 May 2023 by the State Administration for Market Regulation; Standardization Administration of China, and has been in force since 1 June 2024. Classification: ICS 11.040.60, CCS C41. This page is published from the official record of the standard held by the Chinese standards administration: the identification, the dates, the classification and the issuing body are taken from there. The clause text, the tables and the numeric limits are in the document itself, which is delivered complete in English translation.

This document specifies the terms and definitions, structural composition, product classification, requirements and test methods of carbon dioxide laser therapy machines: This document is applicable to carbon dioxide laser treatment machines with an output wavelength of 9 μm to 11 μm (hereinafter referred to as treatment machines):

2 Normative references

The contents of the following documents constitute the essential provisions of this document through normative references in the text: Among them, dated references For documents, only the version corresponding to the date is applicable to this document; for undated reference documents, the latest version (including all amendments) is applicable to this document: GB 7247:

1 Safety of Laser Products Part 1: Equipment Classification and Requirements GB 9706:

1 Medical Electrical Equipment Part 1: General Requirements for Basic Safety and Essential Performance

GB 9706:222 Medical electrical equipment Part 2-22: Basic safety and fundamentals of surgical, orthopedic, therapeutic and diagnostic laser equipment Specific requirements for this performance

GB/T 14710 Environmental requirements and test methods for medical electrical appliances

YY/T 0758 General Requirements for Medical Laser Optical Fibers

YY/T 1057 General Technical Specifications for Medical Foot Switches

YY9706:102 Medical Electrical Equipment Part 1-2: General Requirements for Basic Safety and Essential Performance Collateral Standard: Electromagnetic Compatibility Content requirements and tests

3 Terms and Definitions

The following terms and definitions apply to this document: 3:1 50% pulse width 50%-pulseduration tau

50 The time interval between a laser pulse rising and falling to its 50% peak power point, see Figure 1: 3:2 10% pulse width 10%-pulseduration tau

10 The time interval between a laser pulse rising and falling to its 10% peak power point, see Figure 1: