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

GB/T 12083-2012

Replacing GB/T 12083-1989

Power supply series for gas laser

气体激光器电源系列

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Foreword

This standard rule according to GB/T 1.1-2009 given draft. This standard replaces GB/T 12083-1989 "gas laser power supply series." The main changes in the standards and GB/T 12083-1989 compared as follows:

- Effect of increasing ignition voltage (3.1.1);
- Increase the compatibility of the following values of current and voltage.
4000V. 0.25A, 0.4A, 0.6A, 1.0A 5000V. 0.25A, 0.4A, 0.6A, 1.0A 7500V. 0.6A, 1.0A 8000V.
0.6A 15000V. 0.4A, 0.6A, 1.0A, 2.5A 20000V. 0.025A, 0.15A, 0.25A, 0.4A, 0.6A, 1.0A, 2.5A
25000V. 0.025A, 0.15A, 0.25A, 0.4A, 0.6A, 1.0A, 2.5A 30000V. 0.025A, 0.15A, 0.25A, 0.4A,
0.6A, 1.0A, 2.5A 40000V. 0.025A, 0.15A, 0.25A, 0.4A, 0.6A, 1.0A, 2.5A;
- Under the regulation limits the scope of the regulator to the rated limit of 10% (see 3.4 1, 1989 Version 3.10)
- Delete "as the gas laser power supply, preferably a current source." (3.11) The standard proposed by the Ministry of Industry and Information Technology of the People's Republic of China. The standard by the China Electronics Standardization Institute. This standard was drafted. Institute of Electronics. The main drafters of this standard. Zhong Yanhong. This standard replaces the standards previously issued as follows:
- GB/T 12083-1989. Gas laser power supply series

1 Scope

GB/T 12083-2012 is the Chinese national standard on power supply series for gas laser, in the field of electronics. 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 5 November 2012 by the General Administration of Quality Supervision, Inspection and Quarantine of the People's Republic of China; Standardization Administration of China, and has been in force since 15 February 2013. Classification: ICS 31.260, CCS L51. 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 standard specifies a series of gas laser power supply output voltage and output current value of continuous operation, the adjustment range and allow the Fluctuation range, and provides compatibility to allow the output voltage and output current. Fixed and DC current source and a DC voltage source is applicable to the continuous operation of the gas laser can be adjusted.

2 Terms and definitions

The following terms and definitions apply to this document.

2.1 Current source currentsource The laser power. It is a limitation of the load resistance of the current generator.

2.2 Voltage source voltagesource The laser power. It is a limitation of the load resistance of the voltage generator.

2.3 Adjustment range adjustablescope A portion of the output parameter adjustment range. Within this range, the power adjustment range to meet the requirements.

3.1 General requirements

3.1.1 gas laser output current and voltage values \u200b\u200bshould consider the impact ignition voltage.

3.1.2 Compatibility gas laser power supply output current and voltage values \u200b\u200bshall conform to Table 1. Compatibility value allowed by the symbol "" indicates.

3.1.3 power supply output current and voltage rating shall comply with the provisions in Table 1 of the series.

3.2 Adjustment range

3.2.1 For the press output current or voltage regulated power supply, output current and voltage ratings are adjustment range upper limit.

3.2.2 The lower limit of the output current range should meet the 50% upper limit of the adjustment range, the current value is not specified for 0.005A adjustment Range Low.

3.2.3 The lower limit of the output voltage adjustment range shall comply with specified in Table 1 in the series closest to the value for 150V voltage value is not specified Adjustment range limit.

3.2.4 For a fixed value and output current value adjustment current source, a voltage corresponding specified in Table 1 is the maximum value.

3.2.5 For fixed values of output current and voltage source adjusted value, specified in Table 1 corresponding to the current value is the maximum.

3.3 Output adjustment range when fixed parameters

3.3.1 has a fixed value of the output parameter in power, should be evenly adjusted within $\pm 10\%$ of specified rating.

3.3.2 has an output parameter values to adjust the power, allowing adjustment range limit coverage for 10% -10% lower limit coverage.

3.4 Special Requirements

3.4.1 The need to adjust the depth of the laser radiation power of medical gas equipment and processing equipment, according to the current output current regulation Source, the lower limit of the adjustment range can be adjusted over a range of 10% rated limit.