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

GB/T 23751.3-2024

Replacing GB/Z 23751.3-2013

**Micro fuel cell power systems - Part 3: Fuel cartridge
interchangeability**

微型燃料电池发电系统 第3部分：燃料容器互换性

(English Translation)

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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 is part 3 of GB/T 23751 Micro fuel cell power generation system. GB/T 23751 has been published in the following parts.

- Part 1: Safety;
- Part 2: Performance test methods;
- Part 3: Interchangeability of fuel containers.

This document replaces GB/Z 23751.3-2013 "Micro fuel cell power generation system Part 3: Fuel container interchangeability".

Compared with GB/Z 23751.3-2013, in addition to structural adjustments and editorial changes, the main technical changes are as follows.

- Changed the interchangeable connector from type A to type D (see 4.3.2 to 4.3.5, 4.3.2 to 4.3.5 of the 2013 edition);
- Added E-type interchangeable connector (see 4.3.6);
- Changed the procedures, standards and graphics for the interchangeable connector type test to ensure accuracy and consistency (see Figure 42~

Figure 54, Figures 42 to 54 of the 2013 edition);

--- Changed the fuel quality requirements and the test procedures for residues and impurities (see 5.5, 5.5 of the 2013 edition).

This document is equivalent to IEC 62282-6-300:2012 "Fuel Cell Technology Part 6-300.Micro Fuel Cell Power Generation System Interchangeability of fuel containers.

The following minimal editorial changes were made to this document.

--- In order to coordinate with the existing standards, the name of the standard is modified to "Micro fuel cell power generation system Part 3: Interchangeability of fuel containers".

Introduction

GB/T 23751 "Micro fuel cell power generation system" is formulated based on the IEC 62282-6 series of international standards, focusing on micro fuel cell power generation systems.

Safety, performance, fuel containers, etc. of battery power generation systems.

GB/T 23751 is intended to consist of the following parts.

--- Part 1: Safety. The purpose is to provide material and structural requirements for micro fuel cell power generation systems, and to specify abnormal operation and failure Test and design requirements under fault conditions.

--- Part 2: Performance test method. The purpose is to give the power characteristics, fuel consumption and mechanical properties of the micro fuel cell power generation system.

General performance test methods such as durability.

--- Part 3: Interchangeability of fuel containers. The purpose is to provide fuel types that are compatible with various micro fuel cells.

Requirements on fuel type, fuel concentration and fuel quality.

Micro fuel cell power generation system Part 3: Interchangeability of fuel containers

1 Scope

This document specifies the interchangeability of micro fuel cell fuel containers, with the aim of ensuring the safety and this document specifies the fuel container and its connector.

This document specifies methods to avoid misconnection of incompatible fuel containers.

Methods of testing to verify that fuels and fuel containers meet interchangeability requirements.

IEC 62282-6-100 and IEC 62282-6-200 do not cover fuel containers and fuels delivered

from fuel containers. This document describes the performance test methods of the fuel container, the fuel output of the fuel container, and the markings to achieve the interchangeability of the fuel container.

Influences such as fuel quality can affect the performance of the micro fuel cell power generation unit and the available fuel volume output by the fuel container.

The block diagram of the micro fuel cell power generation system is shown in Figure 1. The micro fuel cell power generation system and micro fuel cell power generation unit refer to Wearable or easily handheld equipment with an output DC voltage not exceeding 60V and an output power not exceeding 240W.

The main body of this document contains the fuel container of the micro fuel cell power generation unit and the mechanical connector between the fuel container and the micro fuel cell power generation unit.

Appendix A provides the determination of the application of the pre-

Appendix B gives an example of the design of the test fixture used for the type test of fuel connectors and fuel containers.

Note: Liquid fuel refers to the fuel that is delivered from the container to the micro fuel cell power generation unit in liquid form; gaseous fuel refers to the fuel that is delivered from the container in gaseous form.

is transported to the power generation unit.

Figure 1 Block diagram of micro fuel cell power generation system