



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

GB/T 27748.3-2017

Stationary fuel cell power system -- Part 3: Installation

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Table of Contents

1 Scope	1
2 Normative references	2
3 Terms and definitions	2
4 General safety requirements and strategies	4
5 Site selection considerations	4
6 Ventilation and exhaust	6
7 Fire protection and gas detection	7
8 Field port connection	7
9 Environmental requirements	8
10 Acceptance test	9
11 Maintenance test	9
12 File	9

Preface

GB/T 27748 "Stationary Fuel Cell Power Generation System" is divided into the following 4 parts.

---Part 1.Safety;

---Part 2.Performance test methods;

---Part 3.Installation;

---Part 4.Performance test method of small fuel cell power generation system.

This part is Part 3 of GB/T 27748.

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

This part replaces GB/T 27748.3-2011 "Stationary Fuel Cell Power Generation System Part 3.Installation". With GB/T 27748.3-

Compared with.2011, the main technical changes are as follows.

--- Increase the scope of application of the standard to avoid overlap between IEC 62282-3-100 and IEC 62282-3-300 in terms of safety-related provisions;

---Update reference documents and definitions;

--- Delete the requirements for stationary fuel cell power generation systems, so that the

target of this standard is focused on "installation risk";

---Simplify the requirements of CO level for the situation where small fuel cell power generation system directly emits exhaust gas into the installed and reliable and safe simple shed;

---Modify the requirements for the use of combustible gas detection systems;

---Increase the reference to the gas valve standard ISO 23551-1.

The translation method used in this section is equivalent to IEC 62282-3-300.2012 "Fuel Cell Technology Part 3-300.Stationary Fuel Cell Power Generation System Installation".

The Chinese documents that have consistent correspondence with the international documents cited in this section are as follows.

---GB 3836.14-2014 Explosive atmosphere Part 14.Site classification Explosive gas atmosphere (IEC 60079-10-1.2008, IDT)

---GB/T 5464-2010 Non-combustibility test method of building materials (ISO 1182.2002, IDT)

---GB/T 16856-2015 Machinery Safety Risk Assessment Implementation Guidelines and Examples of Methods (ISO /T R14121-2.2012, MOD)

This part was proposed by China Electrical Equipment Industry Association.

This part is under the jurisdiction of the National Fuel Cell and Flow Battery Standardization Technical Committee (SAC/TC342).

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1 Scope

This part of GB/T 27748 specifies the minimum safety requirements for stationary fuel cell power generation systems installed indoors and outdoors.

The national standard GB/T 27748.1-2017 is applicable to the installation of the following systems.

It is expected to be electrically connected to the main equipment directly or through

easy-to-operate (fast) manual switches and circuit breakers;

Anticipated independent power distribution system;

Expect to provide alternating current or direct current;

With or without recovery of available heat capacity.

This standard only applies to equipment and property that may cause personal injury or cause fuel cell power generation system equipment during the installation process.

The situation of damage.

The safety of stationary fuel cell power generation systems involved in GB/T 27748.1-2017 is not included in this standard.

Moreover, this standard does not include.

--- Fuel supply and/or fuel storage system;

---Supply and treatment of auxiliary media;

---Switch or circuit breaker;

---Portable fuel cell power generation system;

---Driven fuel cell power generation system;

---Auxiliary Power Generation System (APU).

2 Normative references

The following documents are indispensable for the application of this document. For dated reference documents, only the dated version applies to this article

Pieces. For undated references, the latest version (including all amendments) applies to this document.

GB/T 27748.1-2017 Stationary fuel cell power generation system Part 1.Safety (IEC 62282-3-100.2012, IDT)

IEC 60079-10 (all parts) Explosive gas atmosphere Part 10.Area classification

3 Terms and definitions

The following terms and definitions apply to this document.

3.1

Accessible (operator access area)

Under normal operating conditions, an area that meets one of the following factors.

---Entry is allowed without using tools;

---Dedicated channel for operators;

---Regardless of whether tools are needed, guide the operator to enter.

Note. Unless otherwise specified, the terms "access" and "accessible" operator access areas are defined as above.

3.2

Certification

Recognized by professional certification bodies.

3.3

Professional certification agency

Organizations, units or individuals that implement regulations or standards, or are responsible for approving equipment, materials, devices, or procedures.

3.4

Exhaust

Gas that is discharged from the fuel cell power generation system and is no longer used.

3.5

Exhaust system

A gas delivery system that transports gas from the source to the discharge point.

4 General safety requirements and strategies

The fuel cell power generation system and its related equipment, components and controllers should be installed in accordance with the manufacturer's regulations. According to the fuel cell

The amount of fuel and other energy stored in the power generation system (e.g. flammable materials, pressurized media, electrical energy and mechanical energy, etc.) should be as reasonable as possible

Avoid personal hazards or harm to equipment or property other than the fuel cell power generation system. General safety strategy for fuel cell power generation system installation

It should be formulated in the following order.

--- Avoid the possibility of the release of flammable and/or toxic gases, and gases, liquids and solids that can cause pollution;