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

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**Solar thermal electric plants - Part 3-2: Systems and
components - General requirements and test methods for
large-size parabolic-trough collectors**

太阳能热发电站 第3-2部分：系统与部件 大尺寸抛物面槽式集热器通用要求与测试方法

(English Translation)

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Foreword

This document is in accordance with GB/T 1.1-2020 "Guidelines for standardization work Part 1: Structure and drafting rules for standardization documents" Drafting.

This document is equivalent to IEC TS 62862-3-2.:2018 "Solar thermal power plants Part 3-2.Systems and components - Large size General requirements and test methods for surface trough collectors.

1 Scope

This document describes the performance characteristics and test methods for large parabolic trough collectors.

This document covers the optical and thermal performance of parabolic trough collectors and the methods for determining the tracking accuracy of the collector single-axis tracking system.

The test method is only suitable for outdoor testing.

This document applies to trough collectors equipped with matching tracking devices.

The test methods in this document are not applicable to collectors where the working fluid undergoes phase changes under operating conditions.

This document applies to complete collectors.

2 Normative references

The contents of the following documents constitute the essential clauses of this document through normative references in this document.

For referenced documents without a date, only the version corresponding to that date applies to this document; for referenced documents without a date, the latest version (including all amendments) applies to this document.

IEC TS 62862-1-1 Solar thermal electric plants - Part 1-1.Terminology 1.Terminology) Note. GB/T 40104-2021 Terminology of solar thermal power plants (IEC TS 62862-1-1.:2018, IDT) ISO 9488 Solar energy - Vocabulary Note. GB/T 12936-2007 Terminology for solar

thermal utilization (ISO 9488:1999, NEQ) ISO 9806:2017 Solar energy - Solar thermal collectors - Test methods)

3.1 Terms and Definitions

For the purpose of this document, the terms and definitions defined in ISO 9488 and ISO 9806:2017 apply.

3.2 Notation

The following symbols apply to this document.

beta real. Tilt angle (measured by tilt sensor) ($^{\circ}$) rho test. The measured value of the reflectance of the mirror obtained during the test (-) rhonorm. Nominal value of reflectance of the reflector installed in the collector (-) qT. Tilt error of the tracking system ($^{\circ}$) FC. Ratio of the product of the reflectance of the mirror and the transmittance of the glass tube measured during the test to the product of the nominal values of reflectance and transmittance creflector. The ratio between the measured value of the specular reflectance of the reflector and the nominal value of the specular reflectance of the reflector