INTERNATIONAL STANDARD

ISO 15886-3

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Agricultural irrigation equipment — Sprinklers —

Part 3: Characterization of distribution and test methods

Matériel agricole d'irrigation — Asperseurs —

Partie 3: Caractérisation de la distribution et méthodes d'essai

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ISO copyright office
Case postale 56 • CH-1211 Geneva 20
Tel. + 41 22 749 01 11
Fax + 41 22 749 09 47
E-mail copyright@iso.org
Web www.iso.org

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Foreword

ISO (the International Organization for Standardization) is a worldwide federation of national standards bodies (ISO member bodies). The work of preparing International Standards is normally carried out through ISO technical committees. Each member body interested in a subject for which a technical committee has been established has the right to be represented on that committee. International organizations, governmental and non-governmental, in liaison with ISO, also take part in the work. ISO collaborates closely with the International Electrotechnical Commission (IEC) on all matters of electrotechnical standardization.

International Standards are drafted in accordance with the rules given in the ISO/IEC Directives, Part 2.

The main task of technical committees is to prepare International Standards. Draft International Standards adopted by the technical committees are circulated to the member bodies for voting. Publication as an International Standard requires approval by at least 75 % of the member bodies casting a vote.

Attention is drawn to the possibility that some of the elements of this document may be the subject of patent rights. ISO shall not be held responsible for identifying any or all such patent rights.

ISO 15886-3 was prepared by Technical Committee ISO/TC 23, *Tractors and machinery for agriculture and forestry*, Subcommittee SC 18, *Irrigation and drainage equipment and systems*.

This second edition cancels and replaces the first edition (ISO 15886-3:2004), which has been technically revised.

ISO 15886 consists of the following parts, under the general title *Agricultural irrigation equipment — Sprinklers*:

— *Part 1: Definition of terms and classification*

— *Part 3: Characterization of distribution and test methods*

Agricultural irrigation equipment — Sprinklers —

Part 3: Characterization of distribution and test methods

1 Scope

This part of ISO 15886 specifies the conditions and methods used for testing and characterizing the water distribution patterns of irrigation sprinklers. The term sprinkler is used in this standard in a broad generic sense and is meant to cover a wide variety of products as classified by ISO 15886-1. The specific performance measurements addressed include distribution uniformity, wetted radius, and water jet trajectory height. This standard applies to all irrigation sprinkler classifications for which these three performance measurements are required to verify the design objectives as defined by the manufacturer.

This part of ISO 15886 deals both with indoor and outdoor tests and with radial and full grid tests. It is organized so as to deal with conditions common to all tests first and then with conditions unique to indoor testing only and finally with conditions unique to outdoor testing only.

For any given sprinkler, a wide range of nozzle configurations, operating conditions, and adjustments generate at least a theoretical need for a correspondingly large number of tests. Testing agencies and manufacturers may use interpolation techniques to reduce the number of actual test runs provided accuracy standards are still being met.

This part of ISO 15886 does not address the specific performance testing required for sprinklers intended for use in frost protection.

This part of ISO 15886 does not address the topic of drop spectrum measurement and characterization and the related questions of soil compaction, spray drift, evaporative losses, etc., all of which can be considerations in the design of sprinkler irrigation systems.

To apply this part of ISO 15886 for evaluating irrigation coverage, all sprinklers must be identical and arranged in a fixed repeating geometric pattern. This part of the standard does not apply to moving systems.

This part of ISO 15886 applies to part-circle sprinklers provided that the testing agency can satisfy questions of potential anomalies in performance parameters.

Annex A addresses the procedures for the characterization of sprinkler pattern uniformity. Annex B addresses testing part-circle sprinklers.

2 Terms and definitions

For the purpose of this part of ISO 15886, the following terms and definitions apply.

2.1
ambient temperature
temperature of the air surrounding a sprinkler test site

2.2
area of coverage
wetted area from a sprinkler operated as specified in the manufacturer's literature where water is deposited at rates equal to or greater than the effective application rate