INTERNATIONAL STANDARD

ISO 7749-1

Second edition
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Agricultural irrigation equipment — Rotating sprinklers —

Part 1:
Design and operational requirements

Matériel agricole d'irrigation — Asperseurs rotatifs —
Partie 1: Exigences de conception et de fonctionnement

Reference number
ISO 7749-1:1995(E)

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.

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.

International Standard ISO 7749-1 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 7749-1:1986), of which it constitutes a technical revision.

ISO 7749 consists of the following parts, under the general title *Agricultural irrigation equipment — Rotating sprinklers*:

— *Part 1: Design and operational requirements*

— *Part 2: Uniformity of distribution and test methods*

NOTE — Future parts will also cover part-circle sprinklers and pop-up sprinklers.

Annex A forms an integral part of this part of ISO 7749.

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Agricultural irrigation equipment — Rotating sprinklers —

Part 1:
Design and operational requirements

1 Scope

This part of ISO 7749 specifies the design and operational requirements of rotating sprinklers and sprinkler nozzles for agricultural irrigation equipment and their test methods. It applies to sprinklers intended for assembly in pipeline networks for irrigation and operation at the pressures recommended by the manufacturer.

2 Normative references

The following standards contain provisions which, through reference in this text, constitute provisions of this part of ISO 7749. At the time of publication, the editions indicated were valid. All standards are subject to revision, and parties to agreements based on this part of ISO 7749 are encouraged to investigate the possibility of applying the most recent editions of the standards indicated below. Members of IEC and ISO maintain registers of currently valid International Standards.

ISO 7-1:1994, *Pipe threads where pressure-tight joints are made on the threads — Part 1: Dimensions, tolerances and designation.*

ISO 2859-1:1989, *Sampling procedures for inspection by attributes — Part 1: Sampling plans indexed by acceptable quality level (AQL) for lot-by-lot inspection.*

ISO 3951:1989, *Sampling procedures and charts for inspection by variables for percent nonconforming.*

ISO 7749-2:1990, *Irrigation equipment — Rotating sprinklers — Part 2: Uniformity of distribution and test methods.*

3 Definitions

For the purposes of this part of ISO 7749, the following definitions apply.

3.1 rotating sprinkler: Device which by its rotating motion around its vertical axis distributes water over a circular area or part of a circular area.

3.2 nozzle: Aperture or adjutage of the sprinkler through which the water is discharged.

NOTE 1 A sprinkler may contain one or several cylindrical nozzles, or nozzles of other shapes. It may refer to either a single nozzle, or to a combination of nozzles in a multi-nozzled sprinkler.

3.3 equivalent nozzle diameter: Theoretical nozzle outlet diameter, calculated on the basis of nozzle pressure and flowrate.

NOTE 2 The calculation is described in annex A.

3.4 minimum effective pressure, p_{min}: Lowest working pressure declared by the manufacturer, measured near the base of the sprinkler, at a point situated about 0,2 m below the main nozzle of the sprinkler, but with the pressure gauge situated in the same plane as the main nozzle. (See figure 1.)

3.5 maximum effective pressure p_{max}: Highest working pressure declared by the manufacturer, measured near the base of the sprinkler, at a point