

BS ISO 15886-1:2012



BSI Standards Publication

Agricultural irrigation equipment — Sprinklers

Part 1: Definition of terms and classification

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National foreword

This British Standard is the UK implementation of ISO 15886-1:2012. It supersedes BS ISO 15886-1:2004 which is withdrawn.

The UK participation in its preparation was entrusted to Technical Committee AGE/30, Irrigation and drainage equipment.

A list of organizations represented on this committee can be obtained on request to its secretary.

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Agricultural irrigation equipment — Sprinklers —

Part 1: Definition of terms and classification

Matériel agricole d'irrigation — Asperseurs —

Partie 1: Définition des termes et classification



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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.

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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 15886-1 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 15886-1:2004), 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: Characterizing of distribution and test methods*

Agricultural irrigation equipment — Sprinklers —

Part 1: Definition of terms and classification

1 Scope

This part of ISO 15886 defines terms related to irrigation sprinklers and specifies the classification of sprinklers according to the following categories: physical factors; characteristics of the water spray; the mechanism for operation and water distribution; the mechanism for sealing; the intended use; additional functions incorporated into the sprinkler. The scope is intentionally broad to cover the widest possible range of sprinkler construction, performance, and intended-use alternatives.

2 Terms and definitions

For the purposes of this document, the following terms and definitions apply.

2.1

accumulator

pressure accumulator

hydraulic device that stores fluid under pressure and cushions shock waves

2.2

anti-drain valve

valve designed to remain closed whenever the system pressure does not exceed a pre-set value and to open for higher pressures

2.3

chemigation

application of chemicals through irrigation systems

2.4

compression-disk nozzle

nozzle fitted with an elastic disk that flexes under pressure so as to alter the hydraulic properties of the nozzle

2.5

cross vane

flow conditioning vanes, the design of which tends to trap waterborne contaminants

2.6

constant-acceleration nozzle

nozzle, the shape of which changes gradually and smoothly so as to cause a constant rate of acceleration in the flow passages

2.7

constant-flow nozzle

nozzle, the internal geometry of which does not vary under fixed operating conditions thus maintaining constant hydraulic properties

2.8

constricting-flow nozzle

nozzle fitted with elastic sleeves that alter the hydraulic properties of the nozzle in response to changes in operating pressure

2.9

continuous-move irrigation machine

irrigation machine in which the position of sprinklers is fixed on a supply line which moves continuously in a particular direction

EXAMPLES Centre pivot irrigation machine, moving lateral irrigation machine, traveller irrigation machine.

2.10

controlled-acceleration nozzle

nozzle, the shape of which changes gradually and smoothly so as to cause a specific rate or rates of acceleration in the flow passages

2.11

customized nozzle

nozzle, the design of which meets specified hydraulic criteria for acceleration, turbulence and separation

2.12

element parallel to water flow

upstream flow conditioning component, the centreline of which is parallel to the nozzle centreline

2.13

element not parallel to water flow

upstream flow conditioning component, the centreline of which is at an angle to the nozzle centreline

2.14

spray elevation

height to which a spray rises above a horizontal plane passing through the elevation of the nozzle

2.15

finger spray

stream of water directed either as a cohesive or continuous jet or as a concentration of individual drops

2.16

flexing-orifice nozzle

nozzle fabricated from elastic materials that flex under pressure so as to alter the hydraulic properties of the nozzle

2.17

flow-rate change mechanism

mechanism provided that automatically changes hydraulic properties during operation

2.18

fluidic device

device (such as an amplifier or control) that depends for operation on the pressures and flows of a fluid in precisely shaped channels

NOTE Definition based on that for “fluidic” from the Free Merriam-Webster Dictionary, accessed on 2012-01-24. [Available from: <http://www.merriam-webster.com/dictionary/fluidic>.]

2.19

gradual-acceleration nozzle

nozzle, the shape of which changes gradually and smoothly so as to cause a gradual, usually linear, acceleration in the flow passages

2.20

groove along flow passages

rifling along flow passages

flow conditioning element designed to modify hydraulic properties of the flow passage thus increasing flow passage turbulence