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Interested committees:

Title: Draft BS ISO 24120-3 Agricultural irrigation equipment - Guidelines on the implementation of pressurized irrigation systems.
Part 3: Sprinkler Irrigation.

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Introduction

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For international standards, comments will be reviewed by the relevant UK national committee before sending the consensus UK vote and comments to the international committee, which will then decide appropriate action. If the international standard is approved, it is usual for the text to be published as a British Standard.

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- All comments should be submitted online at <https://standardsdevelopment.bsigroup.com/>. You will need to register in order to comment.

Template for comments and secretariat observations

Date: xx/xx/20xx	Document: ISO/DIS xxxx
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1	2	(3)	4	5	(6)	7
MB	Clause No./ Subclause No./Annex (e.g. 3.1)	Paragraph/ Figure/Table/Note	Type of comment	Comment (justification for change) by the MB	Proposed change by the MB	Secretariat observations on each comment submitted
	3.1	Definition 1	ed	Definition is ambiguous and needs clarifying.	Amend to read '...so that the mains connector to which no connection...'	
	6.4	Paragraph 2	te	The use of the UV photometer as an alternative cannot be supported as serious problems have been encountered in its use in the UK.	Delete reference to UV photometer.	



DRAFT International Standard

ISO/DIS 24120-3

Agricultural irrigation equipment — Guidelines on the implementation of pressurized irrigation systems —

Part 3: Sprinkler Irrigation

ICS: 65.060.35

ISO/TC 23/SC 18

Secretariat: SII

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2025-02-11

Voting terminates on:
2025-05-06

This document is circulated as received from the committee secretariat.

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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.

The procedures used to develop this document and those intended for its further maintenance are described in the ISO/IEC Directives, Part 1. In particular, the different approval criteria needed for the different types of ISO documents should be noted. This document was drafted in accordance with the editorial rules of the ISO/IEC Directives, Part 2 (see www.iso.org/directives).

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For an explanation of the voluntary nature of standards, the meaning of ISO specific terms and expressions related to conformity assessment, as well as information about ISO's adherence to the World Trade Organization (WTO) principles in the Technical Barriers to Trade (TBT), see www.iso.org/iso/foreword.html.

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

A list of all parts in the ISO 24120 series can be found on the ISO website. Part 4 - *Mechanized irrigation* is currently under development.

Any feedback or questions on this document should be directed to the user's national standards body. A complete listing of these bodies can be found at www.iso.org/members.html.

Introduction

Dwindling vital natural resources, such as land and water, and rising world population, pose a constant threat that can develop into a future food and water crisis. Given the limited availability of water and land resources, the amount of food grown today needs to be increased to meet the demands of tomorrow. Reduction of available water for human consumption needs to be addressed. As direct consumption of fresh water by populations cannot be decreased, the amount of water consumed by agricultural uses needs to be reduced and allocated for domestic or industrial use.

Sprinkler irrigation addresses water scarcity and other environmental considerations.

Compared to flood or furrow irrigation systems, sprinkler irrigation can significantly conserve water. Sprinkler systems allow for precise control over the amount and timing of water delivery to crops, thereby enhancing application efficiency and crop yield.

Sprinkler irrigation not only addresses the need to reduce water consumption and increase yield, but also requires less labour and energy for operation, leading to lower costs to farmers due to reduced usage of labour, fertilizers and other chemicals.

Sprinkler irrigation relates to sustainability agriculture issues, and can be used in dry areas, in saline soil with saline water, and in steep-sloped topographies, where other irrigation methods cannot be practiced without using pressure compensated units.

Sprinkler irrigation is easy to manage and operate once installed. It is suitable for automation and remote operation by computer or mobile phone. The system's simplicity makes it easy to install, operate, maintain and repair.

Other than irrigation, the sprinkler irrigation method is used also as a delivery system for fertilizers and other agrochemicals. Sprinkler irrigation's advantage as a delivery system is its ability to optimize fertilizer usage, and distribute it just where it is needed, in the root zone, while minimizing its release to the environment.

Adoption of sprinkler irrigation can help achieve sufficient fresh water availability for domestic use and sufficient food quantity and quality for reasonable pricing, while increasing farmers' income through yield increase and cost reduction, and ensuring food security.

Sprinkler irrigation systems also have limitations, mainly related to investment costs, runoff, and the risk of soil erosion from high water application rates, soil sealing from excessively large droplets, canopy interception of water droplets, water evaporation, and wind drift of small droplets under severe weather conditions. Nevertheless, with proper design and operation, these potential drawbacks can be substantially minimized.

Although there is currently available information and best practices in irrigation, the importance of this standard is that it collects in one single document all relevant information for the entire system, and does not refer only to one specific aspect of the system, for example, the product itself.

The purpose of this document is to provide guidelines on the implementation of sprinkler irrigation.