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

GB/T 27612.1-2023

Replacing GB/T 27612.1-2012

**Agricultural irrigation equipment - Sprinklers - Part 1: Definition
of terms and classification**

农业灌溉设备 喷头 第1部分：术语和分类
(English Translation)

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Foreword

This document complies with the provisions of GB/T 1.1-2020 "Standardization Work Guidelines Part 1: Structure and Drafting Rules of Standardization Documents" Drafting:

This document is Part 1 of GB/T 27612 "Agricultural Irrigation Equipment Sprinkler Heads": GB/T 27612 has released the following parts:

- Part 1: Terminology and classification;
- Part 3: Water distribution characteristics and test methods;
- Part 4: Durability test methods:

This document replaces GB/T 27612.1-2012 "Agricultural Irrigation Equipment Sprinklers Part 1: Terminology and Classification" and is consistent with GB/T 27612.1-Compared with:2012, in addition to structural adjustments and editorial changes, the main technical changes are as follows:

- a) Changed "constant under fixed operating conditions" to "constant flow path nozzle" and changed its definition (see 3.7,:2012 version 2:7);
- b) Change "continuous moving system" to "continuous moving sprinkler" (see 3.9, 2:9 of the:2012 version);
- c) Changed the definitions of "finger spray", "flow change" and "jet equipment", and changed "flow change" to "flow change mechanism" (see 3.15, 3:17, 3:18, 2:15, 2:17, 2:18 of the:2012 version);
- d) Change the "rocker arm rotary nozzle" to "rocker arm", change the "pulse rocker arm rotary nozzle" to "pulse arm", and change its definition:
Righteousness (see 3.21, 3:22, 2:21, 2:22 in the:2012 edition);
- e) Added the term and definition of "mechanically controlled water flow breaking sprinkler" (see 3.26);

f) Change "No change during operation" to "No change in sprinkler system", change "No statistical change during operation" to "No statistical change in sprinkler system":

"Header System" and changed its definition (see 3.29, 3:30, 2:28, 2:29 of the:2012 version);

g) Changed "open grid" to "open vane nozzle" and changed its definition (see 3.34, 2:33 of the:2012 version);

h) Changed the terms and definitions of "opposed (balanced) rotating nozzles (reaction driven)" (see 3.35, 2:34 of the:2012 edition);

i) "Sudden rise" and "sudden drop" were merged into "sudden rise/sudden drop mechanism", and its definition was changed (see 3.36, 2:35 and 2:36 of the:2012 edition);

j) Changed the terminology and definition of "ring (disk) hole" (see 3.37, 2:37 of the:2012 edition);

k) Changed the definition of "rotary nozzle" (see 3.38, 2:38 of the:2012 version);

l) Changed the definition of "'space-filling' cloud spray" (see 3.40, 2:40 of the:2012 version);

m) The term and definition of "'space-filling' combination spraying" has been deleted (see 2.44 of the:2012 edition);

n) Added the term and definition of "'full space' combination nozzle" (see 3.44);

o) Changed "variable rotation speed nozzle" to "variable speed nozzle" and changed its definition (see 3.45, 2:45 of the:2012 version);

p) The definition of "stream change" is deleted (see 2.51 of the:2012 version);

q) Change "injection angle change" to "injection angle change mechanism", and change its definition (see 3.53, 2:54 of the:2012 version);

r) Change "Variation between spraying cycles" to "Variable cycle nozzle" and change "Nozzle changing under fixed operating conditions" to "Variable nozzle" Variable performance nozzles" (see 3.55, 3:58, 2:56, 2:59 of the:2012 edition);

s) Change the "impact type" in the nozzle classification to "impact type" (see 4.4:3:1:1, 3:4:3:1:1 of the:2012 version):

This document is equivalent to ISO 15886-1:2012 "Agricultural Irrigation Equipment Sprinklers Part 1: Terminology and Classification":

This document adds a chapter "Normative References":

Please note that some content in this document may be subject to patents: The publisher of this document assumes no responsibility for identifying patents:

Introduction

GB/T 27612 "Agricultural Irrigation Equipment Sprinklers" is intended to consist of 4 parts:

---Part 1: Terminology and classification: The purpose is to give the terminology and classification of sprinklers:

---Part 2: Design and operation technical requirements: The purpose is to give technical requirements for nozzle design and operation:

---Part 3: Water distribution characteristics and test methods: The purpose is to give the key performance indicators of the sprinkler head, the water volume distribution characteristics and its experiment method:

---Part 4: Durability test methods: The purpose is to provide a test method for the durability of nozzles:

This series of standards completely gives the terms and definitions of nozzles, design and operation technical requirements, water volume distribution characteristics and test methods, resistance to the durability test method provides a basis for the manufacturing and product upgrading of agricultural irrigation equipment sprinkler heads:

Agricultural irrigation equipment sprinkler heads Part 1: Terminology and Classification

1 Scope

This document defines the terminology of sprinklers for agricultural irrigation, based on the sprinkler's physical parameters, spray characteristics, water volume distribution operating mechanism, sealing type Types, applications and additional features of the nozzles are categorized:

This document applies to sprinklers covering all constructions, capabilities and optional uses:

2 Normative reference documents

This document has no normative references:

3 Terms and definitions

The following terms and definitions apply to this document:

accumulator

pressure accumulator Hydraulic equipment used to store liquids under the action of pressure and buffer waves:

Anti-drainvalve

The valve remains closed when the system pressure does not exceed the preset value, and opens automatically when the system pressure is higher than the preset value:

chemical irrigationchemigation the application of chemicals by spraying them through an irrigation system:

Compression-disknozzle A nozzle that deforms the elastic gasket under pressure, thereby changing the hydraulic characteristics:

barrier crossvane Water flow regulating blades used to block suspended matter in the water:

constant-accelerationnozzle the shape of the nozzle changes evenly and can produce constant acceleration in the flow channel:

constant-flow nozzle Under fixed operating conditions, the internal structure does not change and the hydraulic characteristics remain constant:

constricting-flownozzle A nozzle equipped with an elastic bushing that can change hydraulic characteristics when the working pressure changes: