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NATIONAL STANDARD OF THE PEOPLE'S REPUBLIC OF CHINA

GB/T 18691.2-2021

Agricultural irrigation equipment - Irrigation valves - Part 2: Isolating valves

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foreword

This document is in accordance with the provisions of GB/T 1:1-2020 "Guidelines for Standardization Work Part 1: Structure and Drafting Rules of Standardization Documents"

drafted:

This document is part 2 of GB/T 18691 "Irrigation Valves for Agricultural Irrigation Equipment": GB/T 18691 has released the following parts:

--- Part 1: General requirements;

--- Part 2: Isolation valve;

--- Part 3: Check valve;

--- Part 4: Intake and exhaust valves;

--- Part 5: Control valve:

This document replaces GB/T 18691:2-2011 "Irrigation Valves for Agricultural Irrigation Equipment - Part 2: Isolation Valves", and GB/T 18691:2-2011

In contrast, except for structural adjustments and editorial changes, the main technical changes are as follows:

--- Changed the requirements for hydraulic characteristics (see 5:4, 5:3 of the:2011 edition);

--- Changed the pressure holding time of the valve durability test (see Appendix D, Appendix D of the:2011 edition);

--- Changed the calibration requirements for the valve durability test instrument (see Appendix D, Appendix D of the:2011 edition):

This document uses the translation method equivalent to ISO 9635-2:2014 "Irrigation Valves for Agricultural Irrigation Equipment - Part 2: Isolation Valves":

The Chinese documents that have a consistent correspondence with the international

documents normatively cited in this document are as follows:

---GB/T 18688-2012 Test method for pressure loss of irrigation valves of agricultural irrigation equipment (ISO 9644:2008, IDT):

The following editorial changes have been made to this document:

--- Replace "bar" with "MPa" conversion:

Please note that some content of this document may be patented: The issuing agency of this document assumes no responsibility for identifying patents:

Introduction

GB/T 18691 "Irrigation Valves for Agricultural Irrigation Equipment" is planned to be composed of the following five parts according to product characteristics:

--- Part 1: General requirements: The purpose is to give general requirements for the design, performance and consistency evaluation of irrigation valves:

--- Part 2: Isolation valve: The purpose is to give the requirements for the design, performance and consistency evaluation of the isolation valve, and to give the unique characteristics of the isolation valve:

technical requirements:

--- Part 3: Check valve: The purpose is to give the design, performance, consistency evaluation and other requirements of the check valve, and to give the unique characteristics of the check valve:

technical requirements:

--- Part 4: Intake and exhaust valves: The purpose is to give the design, performance, consistency evaluation and other requirements of the intake and exhaust valves, and to give the intake and exhaust valves:

Valve-specific technical requirements:

--- Part 5: Control valve: The purpose is to give the design, performance, consistency evaluation and other requirements of the control valve, and to give the unique characteristics of the control valve:

technical requirements:

Among them, GB/T 18691:1 specifies the general requirements for irrigation valves: Except for the common requirements of general requirements, the rest of the standards are based on the general requirements of irrigation valves:

The category specifies the specific technical requirements for this type of irrigation valve:

Based on GB/T 18691:1, GB/T 18691 completely gives four types of agricultural products including isolation valve, check valve, intake and exhaust valve, and control valve:

The technical requirements and evaluation methods of industrial irrigation valves provide a standard basis for the manufacture and product upgrading of agricultural irrigation valves:

Agricultural irrigation equipment irrigation valve

Part 2: Isolation Valves

1 Scope

This document specifies the design requirements, performance requirements, conformity assessment, marking and packaging of isolation valves: The isolation valve is suitable for water temperature not exceeding

above 60°C and the water may contain certain types and concentrations of fertilizers or chemicals commonly used in agriculture:

This document applies to irrigation isolation valves with a nominal size of not less than DN8: The design working states of the isolation valve are fully open and fully closed, but also

It can work for a long time in any intermediate state:

2 Normative references

The contents of the following documents constitute essential provisions of this document through normative references in the text: Among them, dated citations

documents, only the version corresponding to that date applies to this document; for undated references, the latest edition (including all amendments) applies to

this document:

GB/T 18691:1-2021 Irrigation Valves for Agricultural Irrigation Equipment Part 1: General Requirements (ISO 9635-1:2014, IDT)

ISO 9644 Test method for pressure loss of irrigation valves in agricultural irrigation equipment (Agriculturalirrigationequipment-

Pressurelossesinirrigationvalves-Testmethod)

3 Terms and Definitions

The terms and definitions defined in GB/T 18691:1-2021 and the following terms and definitions apply to this document:

3:1

Through valve clearwayvalve

A valve designed with a non-clogging flow path that allows the passage of a sphere with a diameter not smaller than the inner diameter of the end port of the valve body:

[Source: EN736-3]

3:2

flow coefficient flowcoefficient

KV

The flow rate when water at a temperature of 5°C to 50°C passes through the valve and generates a static pressure (hydrostatic head) loss of 0:1MPa:

Note 1: Q=KV deltap

where:

Q---flow, in cubic meters per hour (m3/h);

deltap---pressure drop, the unit is 0:1 MPa (0:1MPa):

Note 2: 1bar=0:1MPa=105Pa; 1MPa=1N/mm2:

[Source: EN736-3, with modifications]

3:3

full bore valve fulborevalve

The valve seat diameter is not less than 90% of the inner diameter of the end port of the valve body:

[Source: EN736-3]