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

GB/T 18691.1-2021

**Agricultural irrigation equipment - Irrigation valves - Part 1:
General requirements**

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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 1 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 18691:1-2011 "Irrigation Valves for Agricultural Irrigation Equipment Part 1: General Requirements", and GB/T 18691:1

-Compared with:2011, except for structural adjustment and editorial changes, the main technical changes are as follows:

- a) changed the scope (see Chapter 1, Chapter 1 of the:2011 edition);
- b) Changed the temperature requirements for valve design (see 4:4, 4:4 of the:2011 edition);
- c) Changed the pressure loss requirements (see 5:4:1, 5:3:1 of the:2011 edition);
- d) Changed the pressure duration of the internal pressure resistance performance test (see A:1:1, A:1:1 of the:2011 edition):

This document uses the translation method equivalent to ISO 9635-1:2014 "Irrigation Valves for Agricultural Irrigation Equipment - Part 1: General Requirements":

The Chinese documents that have a consistent correspondence with the international

documents normatively cited in this document are as follows:

---GB/T 1047-2019 Definition and selection of nominal dimensions of piping components (ISO 6708:1995, NEQ)

---GB/T 10125-2012 Artificial atmosphere corrosion test salt spray test (ISO 9227:2006, IDT)

---GB/T 12220-2015 Industrial valve marking (ISO 5209:1977, MOD)

---GB/T 12221-2005 Metal valve structure length (ISO 5752:1982, MOD)

---GB/T 18252-2020 Determination of long-term hydrostatic properties of thermoplastic materials in the form of pipes by extrapolation for plastic piping systems

Compressive strength (ISO 9080:2012, IDT)

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

---GB/T 18689-2009 Small manual plastic valve for agricultural irrigation equipment (ISO 9911:2006, MOD)

---GB/T 21873-2008 Specification for the material of interface seals for rubber seals for water supply, drainage and sewage pipes (ISO 4633:2002, MOD)

The following editorial changes have been made to this document:

--- Replace "bar" with "MPa" conversion;

--- Change "ISO 6708:1995" in Chapter 2 to "ISO 6708", which is consistent with the text:

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, this document specifies the general requirements for irrigation valves: Except for the common requirements of general requirements, the rest of the standards are specified according to the types of irrigation valves:

The specific technical requirements of this kind of irrigation valve are specified:

Based on this document, GB/T 18691 provides a complete set of four types of agricultural irrigation valves, including isolation valves, check valves, intake and exhaust valves, and control valves:

The technical requirements and evaluation methods of this paper provide a standard basis for the manufacture and product upgrade of agricultural irrigation valves:

Agricultural irrigation equipment irrigation valve

Part 1: General Requirements

1 Scope

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

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

This document applies to irrigation valves with a nominal size of not less than 8mm: The valve is designed to be fully open and fully closed, but it can also be used in any

The intermediate state works for a long time:

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 18691.2-2021 Irrigation Valves for Agricultural Irrigation Equipment Part 2: Isolation Valves (ISO 9635-2:2014, IDT)

GB/T 18691.5-2021 Irrigation Valves for Agricultural Irrigation Equipment Part 5: Control Valves (ISO 9635-5:2014, IDT)

ISO 4633 Specification for rubber seals for joint sealing ring materials for water supply, drainage and sewage pipes (Rubberseals-Joint ringsforwatersupply, drainageandseweragepipelines-Specificationformaterials)

ISO 5209 General purpose valve marking (Generalpurposeindustrialvalves-Marking)

ISO 5752 Flanged piping systems for metal valve end-to-end and end-to-center dimensions (Metal valves for use in flanged pipesystems-Face-to-faceandcentre-to-facedimensions)

Definition and selection of DN (nominal size) of ISO 6708 piping components [Pipeworkcomponents-DefinitionandselectionofDN(nominalsize)]

ISO 7005-1 Pipe flanges Part 1: Steel flanges for industrial and general piping systems (Pipeflanges-Part 1: Steel flangesforindustrialandgeneralservicepipingsystems)

ISO 7005-2 Metallic flanges Part 2: Cast iron flanges (Metalicflanges-Part 2: Castironflanges)

ISO 7005-3 Metallic flanges-Part 3: Copper alloys and composite flanges (Metalicflanges-Part 3: Copperalloy andcompositeflanges)

ISO 9080 Plastics piping and piping systems Determination of long-term hydrostatic strength of thermoplastic pipes by extrapolation (Plastics pipingandductingsystems-Determinationofthelong-termhydrostaticstrengthofthermoplastics)