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

GB/T 19792-2025

Replacing GB/T 19792-2012

**Agricultural irrigation equipment - Water-driven chemical
injector pumps**

农业灌溉设备 水动化肥-农药注入泵

(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 supersedes GB/T 19792-2012 "Agricultural Irrigation Equipment - Water-Powered Fertilizer and Pesticide Injection Pumps" and is consistent with GB/T 19792-2012.

In comparison, aside from structural adjustments and editorial changes, the main technical changes are as follows.

a) The terms "nominal size", "minimum operating pressure", "maximum operating pressure", "irrigation water flow rate", and "tandem water injection pump" have been changed.

The definition of "parallel-connected hydrodynamic injection pump" (see 3.2~3.4, 3.10, 3.18, 3.19; 3.2~3.4, 3.8, 3.16, 3.17 of the 2012 edition);

b) The terms and definitions for "driving water flow rate", "driving water flow rate range", and "maximum suction head" have been added (see 3.7, 3.9, and 3.21);

c) Material requirements have been changed (see 6.2, 2012 edition);

d) The general requirements for mechanical and functional property testing have been revised (see 7.1, 2012 edition of 7.1);

e) The durability testing method has been changed (see 8.1, 2012 edition of 8.1).

This document is equivalent to ISO 13457:2021 "Agricultural irrigation equipment - Water-powered fertilizer - Pesticide injection pumps".

Please note that some content in this document may involve patents. The issuing organization of this document assumes no responsibility for identifying patents.

This document was proposed by the China Machinery Industry Federation.

This document is under the jurisdiction of the National Technical Committee on Standardization of Agricultural Machinery (SAC/TC201).

1 Scope

This document specifies the structure, technical requirements, and test methods for a water-powered fertilizer-pesticide injection pump (hereinafter referred to as a water-powered injection pump).

Injection pumps are used to inject fertilizers and pesticides into irrigation systems. Fertilizers and pesticides include liquid fertilizers, fertilizer solutions, acids, insecticides, and pesticides.

Soluble pesticides such as herbicides.

This document applies to operations in water containing fertilizers and pesticides of the types and concentrations commonly used in irrigation systems, at temperatures not exceeding 50°C.

Water-driven injection pump.

This document does not apply to backflow prevention devices, nor to Venturi-type hydraulic devices for injecting fertilizers and pesticides into irrigation systems.

2 Normative references

The contents of the following documents, through normative references within the text, constitute essential provisions of this document. Dated citations are not included.

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

This document.

Note: GB/T 7306.1-2000 55° Sealing Pipe Threads - Part 1: Cylindrical Internal Threads and Tapered External Threads (eqv ISO 7-1:1994) GB/T 7306.2-2000 55° Sealing Pipe Threads - Part 2: Tapered Internal and External Threads (eqv ISO 7-1:1994) ISO 7005-1 Pipe flanges - Part 1: Steel flanges for industrial and general purpose piping systems Note. GB/T 9124.1-2019 Steel pipe flanges - Part 1: PN series (ISO 7005-1:2011, NEQ) GB/T 9124.2-2019 Steel pipe flanges - Part 2: Class series (ISO 7005-1:2011, NEQ) GB/T 13402-2019 Large-diameter steel pipe flanges (ISO 7005-1:2011, NEQ) ISO 7005-2 Metal flanges - Part 2: Cast iron flanges

3 Terms and Definitions

The following terms and definitions apply to this document.

water-driven injector pump A hydraulic pump that uses only the energy of irrigation water to

drive hydraulic devices such as pistons and turbines to inject fertilizers and pesticides (3.12) into the irrigation system.

nominal size

Numerical dimensions used to define the nominal dimensions of the interface of a hydraulic injection pump (3.1) connected to an irrigation system via threads, flanges, or other connections.

mark.

p_{min}

The manufacturer declares the minimum pressure at the upstream inlet of the water injection pump (3.1) during continuous operation and specific functions.