# INTERNATIONAL STANDARD

ISO 13457

First edition 2000-05-01

# Agricultural irrigation equipment — Water-driven chemical injector pumps

agric njection c Matériel agricole d'irrigation — Pompes doseuses à moteur hydraulique



Reference number ISO 13457:2000(E)

#### **PDF** disclaimer

This PDF file may contain embedded typefaces. In accordance with Adobe's licensing policy, this file may be printed or viewed but shall not be edited unless the typefaces which are embedded are licensed to and installed on the computer performing the editing. In downloading this file, parties accept therein the responsibility of not infringing Adobe's licensing policy. The ISO Central Secretariat accepts no liability in this area.

Adobe is a trademark of Adobe Systems Incorporated.

stems
a used to
printing. Ever,
elating to it is fou. Details of the software products used to create this PDF file can be found in the General Info relative to the file; the PDF-creation parameters were optimized for printing. Every care has been taken to ensure that the file is suitable for use by ISO member bodies. In the unlikely event that a problem relating to it is found, please inform the Central Secretariat at the address given below.

#### © ISO 2000

All rights reserved. Unless otherwise specified, no part of this publication may be reproduced or utilized in any form or by any means, electronic or mechanical, including photocopying and microfilm, without permission in writing from either ISO at the address below or ISO's member body in the country of the requester.

ISO copyright office Case postale 56 • CH-1211 Geneva 20 Tel. + 41 22 749 01 11 Fax + 41 22 734 10 79 E-mail copyright@iso.ch Web www.iso.ch

Printed in Switzerland

# **Contents**

Page

Forew	vord	iv
1	Scope	1
2	Normative references	1
3	Terms and definitions	1
4 4.1 4.2	ClassificationClassification according to installation type	5
5	Marking	5
6 6.1 6.2 6.3	Technical characteristics  General  Materials  Connection of a water-driven injector pump to an irrigation system	6 6
7 7.1 7.2 7.3 7.4 7.5 7.6 7.7 7.8 7.9 7.10	Mechanical and function tests  General  Sampling and acceptance requirements  Test of resistance to pressure  Test of watertightness of check valves  Test of range of working pressure  Test of resistance to draining  Test of injection rate  Drive water ratio test  Test of injection rate for proportional water-driven injector pump  Test of head loss for in-line water-driven injector pump.	7 8 9 10 10
8 9		
	Information to be supplied by the manufacturer	12

## **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.

International Standards are drafted in accordance with the rules given in the ISO/IEC Directives, Part 3.

Draft International Standards adopted by the technical committees are circulated to the member bodies for voting. Publication as an International Standard requires approval by at least 75 % of the member bodies casting a vote.

Attention is drawn to the possibility that some of the elements of this International Standard may be the subject of patent rights. ISO shall not be held responsible for identifying any or all such patent rights.

Te ation a. International Standard ISO 13457 was prepared by Technical Committee ISO/TC 23, Tractors and machinery for agriculture and forestry, Subcommittee SC 18, Irrigation and drainage equipment and systems.

# Agricultural irrigation equipment — Water-driven chemical injector pumps

### 1 Scope

This International Standard specifies construction and operational requirements and test methods for water-driven chemical injector pumps, referred to hereinafter as water-driven injector pumps. These water-driven injector pumps are used to inject chemicals into irrigation systems. The chemicals include liquid fertilisers and solutions of fertilisers and other soluble agricultural chemicals such as acids, pesticides and herbicides.

This International Standard is applicable to water-driven injector pumps which are intended to operate at water temperatures of up to 50 °C and with the types and concentrations of chemicals routinely applied in irrigation. It is not applicable to backflow prevention devices (which are not an integral part of a water-driven injector pump), nor to Venturi-principle water-driven devices for injecting chemicals into an irrigation system.

#### 2 Normative references

The following normative documents contain provisions which, through reference in this text, constitute provisions of this International Standard. For dated references, subsequent amendments to, or revisions of, any of these publications do not apply. However, parties to agreements based on this International Standard are encouraged to investigate the possibility of applying the most recent editions of the normative documents indicated below. For undated references, the latest edition of the normative document referred to applies. Members of ISO and IEC maintain registers of currently valid International Standards.

ISO 7-1:1994, Pipe threads where pressure-tight joints are made on the threads — Part 1: Dimensions, tolerances and designation.

ISO 2859-1:1999, Sampling procedures for inspection by attributes — Part 1: Sampling schemes indexed by acceptance quality limit (AQL) for lot-by-lot inspection.

ISO 7005-1:1992, Metallic flanges — Part 1: Steel flanges.

ISO 7005-2:1988, Metallic flanges — Part 2: Cast iron flanges.

ISO 7714:—1), Agricultural irrigation equipment — Volumetric valves — General requirements and test methods.

### 3 Terms and definitions

For the purposes of this International Standard, the following terms and definitions apply.

© ISO 2000 – All rights reserved

<sup>1)</sup> To be published. (Revision of ISO 7714:1995)