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Agricultural irrigation equipment — Manually and hydraulically operated plastics valves

Matériel agricole d'irrigation — Vannes en matière plastique à commande manuelle par des actionneurs hydrauliques

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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.

The procedures used to develop this document and those intended for its further maintenance are described in the ISO/IEC Directives, Part 1. In particular, the different approval criteria needed for the different types of ISO documents should be noted. This document was drafted in accordance with the editorial rules of the ISO/IEC Directives, Part 2 (see www.iso.org/directives).

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For an explanation of the voluntary nature of standards, the meaning of ISO specific terms and expressions related to conformity assessment, as well as information about ISO's adherence to the World Trade Organization (WTO) principles in the Technical Barriers to Trade (TBT), see www.iso.org/iso/foreword.html.

This document was prepared by Technical Committee ISO/TC 23, *Tractors and machinery for agriculture and forestry*, Subcommittee SC 18, *Irrigation and drainage equipment and systems*.

This first edition of ISO 24649 cancels and replaces ISO 9911:2006, which has been technically revised.

The main changes are as follows:

— the scope was extended to include hydraulically operated plastics valves in addition to operated plastics valves.

Any feedback or questions on this document should be directed to the user’s national standards body. A complete listing of these bodies can be found at www.iso.org/members.html.

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Agricultural irrigation equipment — Manually and hydraulically operated plastics valves

1 Scope

This document specifies the general requirements and test methods for manually operated and hydraulically operated plastics valves intended for use in agricultural irrigation systems.

It is applicable to manually operated and hydraulically operated plastics valves (as indicated in Table A.2) of nominal sizes DN 8 (1/4") to DN 200 (8").

2 Normative references

The following documents are referred to in the text in such a way that some or all of their content constitutes requirements of this document. For dated references, only the edition cited applies. For undated references, the latest edition of the referenced document (including any amendments) applies.

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

ISO 48-2, *Rubber, vulcanized or thermoplastic — Determination of hardness — Part 2: Hardness between 10 IRHD and 100 IRHD*

ISO 188, *Rubber, vulcanized or thermoplastic — Accelerated ageing and heat resistance tests*

ISO 815-1, *Rubber, vulcanized or thermoplastic — Determination of compression set — Part 1: At ambient or elevated temperatures*

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 5752, *Metal valves for use in flanged pipe systems — Face-to-face and centre-to-face dimensions*

ISO 7005-1, *Pipe flanges — Part 1: Steel flanges for industrial and general service piping systems*

ISO 8233, *Thermoplastics valves — Torque — Test method*

ISO 9624, *Thermoplastics piping systems for fluids under pressure — Flange adapters and loose backing flanges — Mating dimensions*

ISO 9644, *Agricultural irrigation equipment — Pressure losses in irrigation valves — Test method*

3 Terms and definitions

For the purposes of this document, the following terms and definitions.

ISO and IEC maintain terminological databases for use in standardization at the following addresses:

— ISO Online browsing platform: available at https://www.iso.org/obp

— IEC Electropedia: available at https://www.electropedia.org/

3.1
body
main component of the valve which houses functioning components, provides the fluid flow passageways and the connection ends

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3.2
seat
part of the *obturator* (3.10) which provides the obturator sealing surface that can be an integral or a separate component

3.3
nominal pressure
PN
numerical designation equal to the maximum working pressure specified by the manufacturer at which a device will continuously operate

3.4
nominal size
numerical designation used to refer to the size of the device end connections which is identical to the numerical nominal diameter of the pipe or pipes to which the device is to be connected directly

3.5
angle valve
valve with a generally cylindrical body for which the *body* (3.1) ends are in planes perpendicular to each other and having a *stem* (3.13) the axis of which is colinear with the axis passing through the centre of one of the body ends

3.6
ball valve
valve in which a ball can be turned to move its port, or ports, relative to the ports in the valve *body* (3.1), to control the flow of water

3.7
globe valve
valve with a generally cylindrical *body* (3.1) in which the axes of the body ends are co-linear and in which the axis of the *stem* (3.13) is perpendicular to the axes of the body ends

3.8
oblique valve
valve in which the axes of the *body* (3.1) ends are co-linear and in which the axis of the *stem* (3.13) is oblique to the axes of the body ends

3.9
closing disc
part of an *obturator* (3.10) of any shape on which the *disc face* (3.11) is formed and to which the *disc facing ring* (3.12), if used, is secured

3.10
obturator
moving member in a valve that operates to close the valve and, where applicable, contains a washer or similar sealing device

3.11
disc face
sealing surface of the *obturator* (3.10) in a valve which contacts the valve *seat* (3.2) when the valve is in the closed position

3.12
disc facing ring
ring, of material different from that of the *closing disc* (3.9), secured to the disc and used to ensure water tightness when the valve is closed

3.13
stem
component of an *obturator* (3.10) on which the actuating thread is formed and by which control of the closing component is affected

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