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STANDARD

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**Agricultural irrigation equipment —
Direct-acting pressure-regulating valves**

*Matériel agricole d'irrigation — Vannes de régulation de la pression à
action directe*



Reference number
ISO 10522:1993(E)

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.

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.

International Standard ISO 10522 was prepared by Technical Committee ISO/TC 23, *Tractors and machinery for agriculture and forestry*, Subcommittee SC 18, *Irrigation and drainage equipment and systems*.

Annex A of this International Standard is for information only.

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Agricultural irrigation equipment — Direct-acting pressure-regulating valves

1 Scope

This International Standard specifies construction and performance requirements and test methods for direct-acting pressure-regulating valves (hereinafter "pressure regulators") intended for operation in irrigation systems, with water at temperatures not exceeding 50 °C, which may contain fertilizers and chemicals of types and in concentrations commonly used in agricultural irrigation. This International Standard applies to pressure regulators in nominal sizes up to and including 80 mm (3 in).

2 Normative references

The following standards contain provisions which, through reference in this text, constitute provisions of this International Standard. At the time of publication, the editions indicated were valid. All standards are subject to revision, and parties to agreements based on this International Standard are encouraged to investigate the possibility of applying the most recent editions of the standards indicated below. Members of IEC and ISO maintain registers of currently valid International Standards.

ISO 7-1:1982, *Pipe threads where pressure-tight joints are made on the threads — Part 1: Designation, dimensions and tolerances.*

ISO 2859-1:1989, *Sampling procedures for inspection by attributes — Part 1: Sampling plans indexed by acceptable quality level (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 9644:1993, *Agricultural irrigation equipment — Pressure losses in irrigation valves — Test method.*

ISO 9911:1993, *Agricultural irrigation equipment — Manually operated small plastics valves.*

3 Definitions

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

3.1 direct-acting pressure-regulating valve; pressure regulator: Valve in which the water passage widens or narrows automatically to maintain a relatively constant pressure at the outlet of the pressure regulator under varying pressures or flowrates at the inlet of the pressure regulator.

3.2 ordinary pressure regulator: Pressure regulator intended for installation upstream from an irrigation device, and constituting an independent unit.

3.3 single-range pressure regulator: Pressure regulator with a fixed pressure setting which cannot be varied.

3.4 multi-range pressure regulator: Pressure regulator with alternative pressure settings that may be changed by replacing regulating components (springs, discs, etc.), but not by external adjustment.

3.5 adjustable pressure regulator: Pressure regulator whose pressure setting can be adjusted externally without requiring replacement of parts in the regulation assembly.

3.6 integral pressure regulator: Pressure regulator which is an integral part of an irrigation device or is fitted specifically to a particular irrigation device.

3.7 regulated pressure: Water pressure at the outlet of a pressure regulator (p_1 in figure A.2).

3.8 regulation range: Range of water pressure at the inlet of the pressure regulator (starting at the initial regulation pressure) including the regulated pressures within the accuracy range specified in this International Standard.