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**Agricultural irrigation equipment —  
Pressure losses in irrigation valves —  
Test method**

*Matériel agricole d'irrigation — Pertes de pression dans les vannes  
d'irrigation — Méthode d'essai*



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Case postale 56 • CH-1211 Geneva 20  
Tel. + 41 22 749 01 11  
Fax + 41 22 749 09 47  
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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.

International Standards are drafted in accordance with the rules given in the ISO/IEC Directives, Part 2.

The main task of technical committees is to prepare International Standards. 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 document may be the subject of patent rights. ISO shall not be held responsible for identifying any or all such patent rights.

ISO 9644 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 second edition cancels and replaces the first edition (ISO 9644:1993), which has been technically revised. It also incorporates the Amendment ISO 9644:1993/Am 1:1998.

# Agricultural irrigation equipment — Pressure losses in irrigation valves — Test method

## 1 Scope

This International Standard specifies a test method for determining the pressure loss in agricultural irrigation valves under steady-state conditions when water flows through them. The scope and accuracy of the valve performance specifications presented will assist agricultural irrigation system designers in comparing pressure losses through various types of valves.

The measurement of pressure losses provides a means for determining the relationship between pressure loss and flow rate through the valve.

This International Standard also describes the method of reporting pertinent test data.

No attempt is made to define product use, design or applications.

The test method is suitable for valves with equal inlet and outlet nominal sizes.

NOTE Unless otherwise specified, the equations are expressed in the SI units recommended by ISO 1000.

## 2 Terms and definitions

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

### 2.1

#### nominal size

#### DN

conventional numerical designation used to indicate the size of an irrigation valve

NOTE It is expressed in millimetres, or in metres according to ISO 1000.

### 2.2

#### volume flow rate

#### flow rate

$q_V$

volume of water flowing through the valve per unit time

NOTE It is expressed in litres per second (l/s), cubic metres per hour (m<sup>3</sup>/h), or in cubic metres per second (m<sup>3</sup>/s) according to ISO 1000.