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**Agricultural irrigation equipment —  
Irrigation valves —**

Part 3:  
**Check valves**

*Matériel agricole d'irrigation — Vannes d'irrigation —  
Partie 3: Clapets antiretour*



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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 9635-3 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 9635-3, together with ISO 9635-1, ISO 9635-2, ISO 9635-4 and ISO 9635-5, cancels and replaces ISO 9635:1990, of which it constitutes a technical revision.

ISO 9635 consists of the following parts, under the general title *Agricultural irrigation equipment — Irrigation valves*:

- *Part 1: General requirements*
- *Part 2: Isolating valves*
- *Part 3: Check valves*
- *Part 4: Air valves*
- *Part 5: Control valves*

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# Agricultural irrigation equipment — Irrigation valves —

## Part 3: Check valves

### 1 Scope

This part of ISO 9635 specifies construction and performance requirements and test methods for check valves, intended for operation in irrigation systems with water at temperatures not exceeding 60 °C, which can contain fertilizers and other chemicals of the types and concentrations used in agriculture.

It is applicable to hydraulically operated check irrigation valves of DN 15 (1/2 inch) diameter or greater, designed to operate in the fully open and fully closed positions, but which can also operate for extended time periods in any intermediate position.

### 2 Normative references

The following referenced documents are indispensable for the application 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 9635-1:2006, *Agricultural irrigation equipment — Irrigation valves — Part 1: General requirements*

ISO 9644:1993, *Agricultural irrigation equipment — Pressure losses in irrigation valves — Test method*

### 3 Terms and definitions

For the purposes of this document, the terms and definitions given in ISO 9635-1 and the following apply.

#### 3.1

##### check valve

valve which automatically opens by fluid flow in a defined direction and which automatically closes to prevent fluid flow in the reverse direction

[EN 1267]

#### 3.2

##### flow coefficient

$K_v$

coefficient equal to the flow rate, in cubic metres per hour, of water at a temperature between 5 °C and 50 °C, passing through the valve and causing a loss of static head of 1 bar

NOTE 1  $Q = K_v \sqrt{\Delta p}$ , where  $Q$  is the flow rate in cubic metres per hour (m<sup>3</sup>/h), and  $p$  is the pressure in kilopascals per square centimetre (kPa/cm<sup>2</sup>).

NOTE 2 1 bar = 0,1 MPa = 10<sup>5</sup> Pa; 1 MPa = 1 N/mm<sup>2</sup>.

NOTE 3 Adapted from EN 736-3.