



**International
Standard**

ISO 16399

**Agricultural irrigation equipment —
Meters for irrigation water**

AMENDMENT 1

*Matériel d'irrigation agricole — Compteurs pour l'eau
d'irrigation*

AMENDEMENT 1

**Second edition
2023-02**

**AMENDMENT 1
2025-02**

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Published in Switzerland

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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*.

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6.3

Add the following tables under each list item and renumber the subsequent tables:

- Sensitivity to irregularity in the upstream velocity profiles:
- Water meter manufacturers can specify the flow profile sensitivity class in accordance with Table 2, based on the results of the relevant tests specified in 7.5.

Table 2 — Sensitivity to the irregularity in the upstream velocity profiles classes (U)

Class	Required straight pipe lengths (x DN)	Straightener needed
U0	0	No
U3	3	No
U5	5	No
U10	10	No
U15	15	No
U0S	0	Yes
U3S	3	Yes
U5S	5	Yes
U10S	10	Yes
NOTE The values in this table are recommendations, but any other value can be chosen.		

- Sensitivity to irregularity in the downstream velocity profiles:
- Water meter manufacturers can specify the flow profile sensitivity class in accordance with Table 3, based on the results of the relevant tests specified in 7.5.

Table 3 — Sensitivity to the irregularity in the downstream velocity profiles classes (D)

Class	Required straight pipe lengths (x DN)	Straightener needed
D0	0	No
D3	3	No
D5	5	No
D0S	0	Yes
D3S	3	Yes
NOTE The values in this table are recommendations, but any other value can be chosen.		

6.6

Replace the existing clause with the following:

6.6 Marks and inscriptions

A water meter shall be clearly and indelibly marked with the following information, either grouped or distributed, on the casing, the indicating device dial, an identification plate or the meter cover, if it is not detachable. These markings shall be visible without dismantling the water meter after the instrument has been placed on the market or put into use.

- a) Unit of measurement.
- b) Accuracy class, where it differs from accuracy class 2.
- c) Numerical value of Q_3 and the ratio Q_3/Q_1 : if the meter measures reverse flow and the values of Q_3 and the ratio Q_3/Q_1 are different in the two directions, both values of Q_3 and Q_3/Q_1 shall be inscribed; the direction of flow to which each pair of values refers shall be clear. The ratio Q_3/Q_1 may be expressed as R, e.g. "R40". If the meter has different values of Q_3/Q_1 in horizontal and vertical positions, both values of Q_3/Q_1 shall be inscribed, and the orientation to which each value refers shall be clear.
- d) Name or trademark of the manufacturer.
- e) Year of manufacture, the last two digits of the year of manufacture, or the month and year of manufacture.
- f) Serial number (as near as possible to the indicating device).
- g) Direction of flow, by means of an arrow (shown on both sides of the body or on one side only provided the direction of flow arrow is easily visible under all circumstances).
- h) Maximum admissible pressure (MAP) if it exceeds 1 MPa or 0,6 MPa for $DN \geq 500$.

Note

1 bar = 100 000 Pa

1 bar = 0,1 MPa

- i) Letter V or H, if the meter can only be operated in the vertical or horizontal position.
- j) The temperature class as specified in Table 1 where it differs from T30
- k) The pressure loss class where it differs from $\Delta p 100$.
- l) The installation sensitivity class where it differs from U0/D0.

For a water meter with electronic devices, the following additional inscriptions shall be applied where appropriate.

- m) For an external power supply: the voltage and frequency.
- n) For a replaceable battery: the latest date by which the battery shall be replaced.
- o) For a non-replaceable battery: the latest date by which the meter shall be replaced.
- p) Environmental classification.
- q) Electromagnetic environmental class.

The environmental classification and electromagnetic environmental class may be given on a separate datasheet, unambiguously related to the meter by a unique identification, and not on the meter itself.