DIN EN ISO 4064-1:2025-07 (E)

Water meters for cold potable water and hot water - Part 1: Metrological and technical requirements (ISO 4064-1:2024)

Contents

Page

Foreword ..... **v**

1 Scope **1**

2 Normative references **1**

3 Terms and definitions **1**
3.1 Water meter and its constituents 2
3.2 Metrological characteristics 5
3.3 Operating conditions 7
3.4 Test conditions 8
3.5 Electronic and electrical equipment 10

4 Metrological requirements **11**
4.1 Values of Q_1, Q_2, Q_3, and Q_4 11
4.2 Accuracy class and maximum permissible error 12
4.2.1 General 12
4.2.2 Accuracy class 1 water meters 12
4.2.3 Accuracy class 2 water meters 12
4.2.4 Meter temperature classes 12
4.2.5 Water meters with separable calculator and measurement transducer 13
4.2.6 Relative error of indication 13
4.2.7 Reverse flow 13
4.2.8 Water temperature and water pressure 13
4.2.9 Absence of flow or of water 13
4.2.10 Static pressure 13
4.3 Requirements for meters and ancillary devices 13
4.3.1 Connections between electronic parts 13
4.3.2 Adjustment device 14
4.3.3 Correction device 14
4.3.4 Calculator 14
4.3.5 Indicating device 14
4.3.6 Ancillary devices 14

5 Water meters equipped with electronic devices **15**
5.1 General requirements 15
5.2 Power supply 16
5.2.1 General 16
5.2.2 External power supply 16
5.2.3 Non-replaceable battery 16
5.2.4 Replaceable battery 17

6 Technical requirements **17**
6.1 Materials and construction of water meters 17
6.2 Adjustment and correction 18
6.3 Installation conditions 18
6.4 Rated operating conditions 19
6.5 Pressure loss 19
6.6 Marks and inscriptions 20
6.7 Indicating device 21
6.7.1 General requirements 21
6.7.2 Types of indicating device 22

6.7.3 Verification devices — First element of an indicating device — Verification scale interval ... 23
6.8 Protection devices ... 24
6.8.1 General ... 24
6.8.2 Electronic sealing devices ... 24
7 Metrological controls ... 25
7.1 Reference conditions ... 25
7.2 Type evaluation and approval ... 25
7.2.1 External examination ... 25
7.2.2 Number of samples ... 25
7.2.3 Errors (of indication) ... 26
7.2.4 Repeatability ... 26
7.2.5 Overload water temperature ... 26
7.2.6 Durability ... 26
7.2.7 Interchange error ... 27
7.2.8 Static magnetic field ... 27
7.2.9 Documentation ... 27
7.2.10 Type approval certificate ... 28
7.2.11 Modification of an approved type ... 28
7.2.12 Type evaluation of a water meter with electronic devices ... 29
7.3 Initial verification ... 29
Annex A (normative) **Performance tests for water meters with electronic devices ... 31**
Annex B (informative) **Checking facilities ... 33**
Annex C (informative) **Permissible errors in service and subsequent verification ... 37**
Annex D (normative) **Requirements for software-controlled water meters ... 38**
Bibliography ... 46