

ISO 4064-1:2024-12 (E)

Water meters for cold potable water and hot water - Part 1: Metrological and technical requirements

| 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 |