

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