



**PRODUCT MANUAL FOR  
WATER METERS (DOMESTIC TYPE)  
ACCORDING TO IS 779: 1994**

*This Product Manual shall be used as reference material by all Regional/Branch Offices & licensees to ensure coherence of practice and transparency in operation of certification under Scheme-I of Bureau of Indian Standards (Conformity Assessment) Regulations, 2018 for various products. The document may also be used by prospective applicants desirous of obtaining BIS certification licence/certificate.*

1.	<b>Product</b>	:	IS 779 : 1994
	<b>Title</b>	:	WATER METERS (DOMESTIC TYPE)
	<b>No. of Amendments</b>	:	5
2.	<b>Sampling Guidelines:</b>		
a)	<b>Raw material</b>	:	As per clause 6.1 and Annex- B of IS 779 : 1994
b)	<b>Grouping guidelines</b>	:	Please refer <a href="#">ANNEX – A</a>
c)	<b>Sample Size</b>	:	3 Water meters for all tests
3.	<b>List of Test Equipment</b>	:	Please refer <a href="#">ANNEX – B</a>
4.	<b>Scheme of Inspection and Testing</b>	:	Please refer <a href="#">ANNEX – C</a>
5.	<b>Possible tests in a day :</b>		
	(i) Construction (Clause 7)		
	(ii) Indicating Device (Clause 8)		
	(iii) Meter size and overall dimensions (Clause 9)		
	(iv) Pressure tightness (Clause 10.1)		
	(v) Loss of pressure (Clause 10.2)		
	(vi) Metering accuracy (Clause 11.1)		
	(vii) Minimum starting flow (Clause 11.2)		
6.	<b>Scope of the Licence :</b>		
	“Licence is granted to use Standard Mark as per IS 799 : 1994 with the following scope:		
	Name of the product	Water Meter (Domestic Type)	
	Nominal Size	15 mm, 20 mm, 25 mm, 40 mm and 50 mm	
	Jet of meter	Single jet meter / Multi jet meter	
	Class	Class A / Class B	
	Type of water meter	Semi positive(piston type)/Inferential (turbine type) including magnetic type water meters	
	Type of dial	Dry/Wet dial	

**ANNEX A**

**Grouping Guidelines**

1. The parameters as given below shall be considered for grouping of Water Meter (Domestic Type) as per IS 779 : 1994 for GoL/CSoL:
  - a) Class – Class A and Class B
  - b) Jet of Meter – Single Jet / Multi jet
  - c) Type - Semi positive(piston type)/Inferential (turbine type) including magnetic type
  - d) Type of Dial – Wet Dial / Dry Dial type
  - e) Nominal Sizes - 15 mm, 20 mm, 25 mm, 40 mm and 50mm
  
2. Considering the above, grouping guidelines as given below shall be followed:
  - a) Water Meter having minimum nominal size and maximum nominal size from each Class shall be tested to cover Water Meters of all nominal sizes in that range.
  
  - b) However, if class B water meter tested, class A water meter may also be covered.
  
  - c) Water Meter with each Type of jet (single jet/multi jet), Type [Semi positive (piston type)/ Inferential (turbine type) including magnetic type] and Type of Dial (wet/dry dial) shall be tested separately to cover that variety of water meter in the scope of licence.
  
3. The Firm shall declare the varieties of Water Meters intended to be covered in the Licence. The Scope of Licence may be restricted based on the Manufacturing and Testing capabilities of the Manufacturer.
  
4. During the operation of the Licence, BO shall ensure that all the types and sizes covered in the Licence are tested in rotation, to the extent possible.

**ANNEX B****List Of Test Equipment***Major test equipment required to test as per the Indian Standard*

<b>S. No.</b>	<b>Tests used in with Clause Reference</b>	<b>Test Equipment</b>
1	Meter size and overall dimensions (Clause 9)	a) Vernier caliper b) Steel scale c) Thread ring gauge
2	Pressure tightness (Clause 10.1) Loss of pressure (Clause 10.2) Metering accuracy (11.1) Minimum starting flow (11.2)	a) Test bench as per IS 6784 with measuring tank
3	Temperature suitability (Clause 10.3)	a) Temperature controlled water bath and temperature indicator b) Test bench as per IS 6784 with measuring tank
4	Type test	Necessary arrangement as per IS 6784

*The above list is indicative only and may not be treated as exhaustive.*

**ANNEX C**

**Scheme of Inspection And Testing**

**1. LABORATORY** - A laboratory shall be maintained which shall be suitably equipped (as per the requirement given in column 2 of Table 1) and staffed, where different tests given in the specification shall be carried out in accordance with the methods given in the specification.

**1.1** The manufacturer shall prepare a calibration plan for the test equipment.

**2. TEST RECORDS** – The manufacturer shall maintain test records for the tests carried out to establish conformity.

**3. LABELLING AND MARKING** – As per the requirements of IS 779: 1984

**4. LEVELS OF CONTROL** - The tests as indicated in column 1 of Table 1 and the levels of control in column 3 of Table 1, shall be carried out on the whole production of the factory which is covered by this plan and appropriate records maintained in accordance with paragraph 2 above.

**4.1** All the production which conforms to the Indian Standard and covered by the licence should be marked with Standard Mark.

**5. REJECTIONS** – Disposal of non-conforming product shall be done in such a way so as to ensure that there is no violation of provisions of BIS Act, 2016.

**TABLE 1**

(1)				(2)	(3)		
Test Details				Test equipment requirement R: required (or) S: Sub-contracting permitted	Levels of Control		
Cl.	Requirement	Test Methods			No. of Sample	Frequency	Remarks
		Clause	Reference				
6 and Annex B	Materials	6.1, 6.1.1, Annex B	IS 779	S	One for each type of material	Each lot/cast received	No further testing is required if accompanied with test certificate or ISI marked
7	Construction	7.1 to 7.15	IS 779	R	All	-	-
8	Indicating device	8.1 to 8.4	IS 779	R	All	-	-
9	Meter size and Overall dimensions	9.1 & 9.1.1, Table 2	IS 779	R	All	-	-
10.1	Pressure tightness test	10.1	IS 799 IS 6784	R	All	-	-
10.2	Loss of pressure	10.2	IS 799 IS 6784	R	All	-	-
10.3	Temperature suitability	10.3	IS 799 IS 6784	S	Once in three month for each class and size of water meter	-	#
11.1	Metering accuracy	11.1	IS 799 IS 6784	R	All	-	-
11.2	Minimum starting flow	11.2	IS 799 IS 6784	R	All	-	-
12.4.4	Life Test (Accelerated endurance test)	12.4.4	IS 799 IS 6784	S	Once in six month for each class and size of water meter	-	#

# In case of failure, marking on that size and class of water meter shall be stopped and necessary corrective actions shall be taken. Further marking shall be resumed only after passing of improved sample in all tests including type tests.

Note-1: Sub-contracting is permitted to a laboratory recognized by the Bureau or Government laboratories empanelled by the Bureau.

Note-2: Levels of control given in column 3 are obligatory in nature.