



**PRODUCT MANUAL FOR  
FOOT VALVES FOR WATER WORKS PURPOSES  
ACCORDING TO IS 4038: 1986**

*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 4038: 1986
	<b>Title</b>	:	FOOT VALVES FOR WATER WORKS PURPOSES
	<b>No. of Amendments</b>	:	NIL
2.	<b>Sampling Guidelines:</b>		
a)	<b>Raw material</b>	:	Clause 3.1, 4.7 of IS 4038: 1986
b)	<b>Grouping guidelines</b>	:	Please refer ANNEX - A
c)	<b>Sample Size</b>	:	Two Valves (One coated and one without coating)
3.	<b>List of Test Equipment</b>	:	Please refer ANNEX – B
4.	<b>Scheme of Inspection and Testing</b>	:	Please refer ANNEX – C
5.	<b>Possible tests in a day</b>	:	All tests
6.	<b>Scope of the Licence:</b>		
	“Licence is granted to use Standard Mark as per IS 4038: 1986 with the following scope:		
	Name of the product	FOOT VALVES FOR WATER WORKS PURPOSES	
	Type	Swing/ Lift	
	End Connection	Flanged/ Screwed	
	Nominal Sizes		

**ANNEX A****Grouping Guidelines**

1. Foot valves covered in IS 4038: 1986 are classified as given below:

(a) Type

Type		Size
Swing Type	Single disc	Upto 150 mm
	Two discs of semi- circular types (preferably)	Exceeding 150 mm
Lift Type		upto 100 mm (recommended)

(b) End connection

- Flange type (drilled or undrilled)
- Screwed type

(c) Nominal Sizes:

Flange type	50, 65, 80, 100, 125, 150, 200, 250, 300, 350, 400 and 450
Screwed type	25, 32, 40, 50, 65, 80, 100, 125, 150

2. Considering the above, following grouping guidelines developed for GoL/CSoL:

a) ***Swing type foot valve***

- One sample each of any size from Single disc and Two discs foot valve shall be tested to cover all the sizes of both the varieties of Swing Type foot valves.

b) ***Lift type foot valve***

- One sample of any size shall be tested to cover all the sizes of Lift Type foot valves.

c) Foot valve of each type of end connection i.e. flange type and screwed type shall be tested to cover foot valves of that particular type of end connection.

3. The Firm shall declare the varieties they intend to cover 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>Sl. No.</b>	<b>Tests used in with Clause Reference</b>	<b>Test Equipment</b>
1.	Nominal Size (Clause 2.1)	<ul style="list-style-type: none"> <li>- Vernier Calliper</li> <li>- Steel scale</li> <li>- Inside calliper</li> </ul>
2.	Manufacture (Clause 4)	<ul style="list-style-type: none"> <li>- Vernier Calliper</li> <li>- Micrometer</li> <li>- Steel scale</li> <li>- Outside caliper</li> <li>- Angle protractor</li> <li>- Thread ring gauges</li> <li>- Radius gauges</li> <li>- Thread plug gauges</li> <li>- Square thread gauges</li> </ul>
3.	Coating (Clause 5.3)	<ul style="list-style-type: none"> <li>- Hot air oven</li> <li>- Cooling Chamber</li> <li>- Glass thermometer</li> <li>- Penknife</li> </ul>
4.	Hydrostatic- Seat Test (Clause 6.1.1) Hydrostatic- Housing Test (Clause 6.1.2)	<ul style="list-style-type: none"> <li>- Hydrostatic pressure testing arrangement with pressure gauge, water pumps and end plugs</li> <li>- Stop watch</li> <li>- Hammer</li> </ul>

*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 equipments.

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

**3. LABELLING AND MARKING** – As per the requirement of IS 4038: 1986.

**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 Standards 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**

<b>(1)</b>				<b>(2)</b>	<b>(3)</b>		
<b>Test Details</b>				<b>Test equipment requirement R: required (or) S: Sub-contracting permitted</b>	<b>Levels of Control</b>		
<b>Cl.</b>	<b>Requirement</b>	<b>Test Method</b>			<b>No. of Sample</b>	<b>Frequency</b>	<b>Remarks</b>
		<b>Clause</b>	<b>Reference</b>				
2	Nominal Size	2.1.1	IS 4038	R	Each valve	-	-
3	Material	3.1, Table 1	IS 4038	S	One	Each consignment	#
4	Manufacture	4.1 to 4.6, Table 2 to 5 Fig. 1 to 5	IS 4038	R	Each valve	-	-
4.7	Bolts and Nuts	4.7	IS 4038 IS 1367 (Part 3) and (Part 6)	S	One	Each consignment	#
5	Coating	5.1 to 5.4	IS 4038	R	Each valve	-	-
6	Testing	6.1.1, 6.1.2	IS 4038	R	Each valve	-	-

# Further testing is not required if consignment received is accompanied with the manufacturers test certificate or ISI marked.

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 only recommendatory in nature. The manufacturer may define the control unit/batch/lot and submit his own levels of control in column 3 with proper justification for approval by BO Head.