



**उत्पाद मैनुअल
आई एस 19315 : 2025 के अनुसार
जलकल के लिए बॉल वाल्व**

**PRODUCT MANUAL FOR
BALL VALVES FOR WATER WORKS PURPOSES
ACCORDING TO IS 19315 : 2025**

विभिन्न उत्पादों के लिए भारतीय मानक ब्यूरो) अनुरूपता मूल्यांकन (विनियम, 2018 की योजना -I के तहत प्रमाणन के संचालन में एकरूपता और पारदर्शिता के लिए इस उत्पाद मैनुअल का उपयोग सभी क्षेत्रीय / शाखा कार्यालयों और लाइसेंसधारियों द्वारा संदर्भ सामग्री के रूप में किया जाएगा। दस्तावेज़ का उपयोग बीआईएस प्रमाणन प्राप्त करने के इच्छुक संभावित आवेदकों द्वारा भी किया जा सकता है।

This Product Manual shall be used as reference material by all Regional/Branch Offices & licensees to ensure uniformity 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.

1.	मानक संख्या IS No.	:	IS 19315 : 2025
	शीर्षक Title	:	Ball Valves for Water Works Purposes
	संशोधनों की संख्या No. of amendments	:	Nil
2.	नमूना दिशानिर्देश Sampling Guidelines		
a)	कच्चा माल Raw material	:	Please refer to Annex-A Note: This section indicates the requirements for raw material (if specified in the IS) for which compliance is to be established during Grant of Licence/Change in Scope of Licence/ Factory Surveillance
b)	समूहीकरण दिशानिर्देश Grouping Guidelines	:	Please refer to Annex-B
c)	नमूने का परिमाण Sample Quantity	:	2 nos. Note: This section indicates the quantity of the sample of the product and/or the raw material (if applicable), required to be sent to the laboratory for testing, for the purpose of Grant of Licence/Change in Scope of Licence/ Factory Surveillance (incase of market surveillance, effort may be made to procure therequired quantity of product sample, as far as possible since raw material sample may not be available in market)

d)	परीक्षण अनुरोध में घोषित किए जाने वाले पैरामीटर Parameters to be Declared in Test Request	-	Same as the scope of licence
3.	परीक्षण उपकरणों की सूची List of Test Equipment	:	Please refer to Annex-C
4.	निरीक्षण और परीक्षण की स्कीम Scheme of Inspection and Testing	:	Please refer to Annex-D
5.	एक दिन में संभावित परीक्षण Possible tests in a day		
	All tests Note: This section is for the guidance of BIS Certification Officers/Technical Auditors of BIS Authorized Outside Surveillance Agencies (OSAs) during factory inspection to provide readyreference regarding the tests which can be witnessed during the inspection in the factory by the officer/auditor.		
6.	लाइसेंस का दायरा /Scope of the Licence: Licence is granted to use Standard Mark as per IS 19315 : 2025 with the following scope:		
	Name of the Product	Ball Valves for Water Works Purposes	
	Body Material	Brass/ Bronze/ Cast steel/ Stainless steel	
	Pattern	Full bore/ Reduced bore	
	Construction	One piece/ Two piece/Three piece	
	End Connections	Flanged end/ Screwed end/ Socket weld end/ Soldering end/ Crimping end	
	Operation	Manual Lever/Gear Box/ Pneumatic Actuator/ Electric Actuator	
	Ratings	Nominal pressure (PN): PN 6/ PN 10/ PN 16/ PN 20/ PN 25/ PN 30/ PN 40 (or) Class: Class 150/Class 300	
	Nominal Sizes (DN)	For Flanged end valves: DN15, DN20, DN25, DN32, DN40, DN50, DN65, DN80, DN100, DN150 For Screwed end/ Socket weld end/ Soldering end/ Crimping end valves: DN8, DN10, DN15, DN20, DN25, DN32, DN40, DN50, DN65, DN80, DN100	

ANNEX A
Raw Material

SN	Body Component	Raw Material	Indian Standard
1	Body and connectors	Forged brass – Low lead	Shall conform to FLB/ FMnB/ FHTB1/ FHTB2/ FNS of IS 6912
		Forged brass – Lead free	Shall conform to FNB/ FHTB3/ FHTB4/ FHTB5 of IS 6912
		Brass – Gravity die casting	Shall conform to DCB-2 of IS 1264
		Leaded tin bronze casting	Shall conform to LTB-2 of IS 318
		Stainless steel bars	Shall conform to IS 6603 X12Cr12, Grade SS-304, 316
		Cast steel	Shall conform to IS 1030
		Spheroidal graphite iron casting	Shall conform to IS 1865
2	Ball	Stainless steel or brass	Shall conform to 12 Cr 12 of IS 6603 or, FLB/ FMnB/ FHTB1/ FNS/ FNB/ FHTB3/ FHTB4/ FHTB5 of IS 6912 or, IS 319 Grade 1 or, SS304/ SS316 equivalent bar form
3	Stem	Stainless steel or brass	Shall conform to 12 Cr 12 of IS 6603, 304/316 or FLB of IS 6912
		Forged brass	Shall conform to IS 1264 DCB-2, FLB/FMnB/ FHTB1/ FNS/ FNB/FHTB3/ FHTB4/ FHTB5 of IS 6912, or IS 319 Grade 1
		Extruded brass	Shall conform to IS 319 Grade-I or Grade-II (half hard)
4	Gland nut	Carbon steel	Shall conform to C-45 of IS 1570
		Leaded-tin bronze	Shall conform to LTB-2 of IS 318
		Brass	Shall conform to FLB/ FMnB/ FHTB1/ FNS/ FNB/FHTB3/ FHTB4/ FHTB5 of IS 6912, or IS 319 Grade 1
		Stainless steel	Shall conform to 12Cr12 IS 6603
5	Bolting nut	Carbon steel	Shall conform to IS 1570 (Part 2) C45 or SS 304

6	Handle	Carbon steel (with suitable corrosion preventive coatings)	Shall conform to Grade B of IS 2062, SS304, IS 513 (Part 2)
		Aluminium	Shall conform to IS 617
7	Stem nut	Carbon steel	Shall conform to IS1570 C-45
		Stainless steel	Shall conform to 12Cr12 of IS 6603
		Leaded-tin bronze	Shall conform to LTB-2 of IS 318
		Brass	Shall conform to FLB of IS 6912
8	Seat and seal material	Seat - PTFE/GFT/CFT Gland packing – PTFE/graphite Thrust washer – GFT / PTFE	Firm shall declare the seat and seal material

ANNEX-B

Grouping Guidelines

1. Ball Valves for Water Works Purposes as per IS 19315:2025 are categorized as follows:

- (a) Body Material: Brass/ Bronze/ Cast steel/ Stainless steel
- (b) Pattern: Full bore/ Reduced bore
- (c) Construction: One piece/ Two piece/Three piece
- (d) End Connections: Flanged end/ Screwed end/ Socket weld end/ Soldering end/ Crimping end
- (e) Operation: Manual Lever/Gear Box/ Pneumatic Actuator/ Electric Actuator
- (f) Ratings:
 - (i) Nominal pressure (PN): PN 6/ PN 10/ PN 16/ PN 20/ PN 25/ PN 30/ PN 40
 - (ii) Class: Class 150 & Class 300
- (g) Nominal Sizes (DN):
 - (i) Flanged end valves: DN15, DN20, DN25, DN32, DN40, DN50, DN65, DN80, DN100, DN150
 - (ii) Screwed end/ Socket weld end/ Soldering end/ Crimping end valves: DN8, DN10, DN15, DN20, DN25, DN32, DN40, DN50, DN65, DN80, DN100.

2. Ball Valves for Water Works Purposes are grouped based on nominal sizes as given below :

End Connections	Size Group 1	Size Group 2	Size Group 3
Flanged end valves	sizes up to DN 25	DN 32 to DN 65	DN 80 and above
Screwed end/ Socket weld end/ Soldering end/ Crimping end valves			

3. Based on the above categorization, the following grouping guidelines shall be followed for considering GoL/CSoL:

- (i) Ball Valves of each Body material, Pattern, Construction, End Connection, Operation, Ratings (Nominal Pressure (PN)/Class) shall be tested for all requirements to cover that particular Body material, Pattern, Construction, End Connection, Operation, Ratings (Nominal Pressure (PN)/Class).

- (ii) Lowest and Highest Nominal Size from each size group as given above, shall be tested to cover all the sizes in that size Group.
- 4. The Firm shall declare the varieties of Ball Valves intended to be covered in the Licence. The Scope of Licence may be restricted based on the Manufacturing and testing capabilities of the Manufacturer.

During the operation of the Licence, BO shall ensure that all the varieties covered in the Licence are tested in rotation, to the extent possible.

ANNEX-C

List of Test Equipment

(INDICATIVE LIST, FOR GUIDANCE ONLY)

S.No.	Tests used in with Clause Reference	Test Equipments
1.	Valve Bore Dimensions (Cl. 4.4) Face-to-Face and End-to-End Dimensions (Cl. 4.5) Valve Ends (Cl. 4.6)	• Vernier Calliper • Micrometer • Thread Plug Gauges • Thread Ring Gauges • Surface Table • Magnetic V-Block
2	Performance Requirements (Cl. 7) Pressure Tests for Steel Valves (Cl. 7.2) Shell Test (Cl. 7.2.1) Closure Test (HYD) (Cl. 7.2.2) Closure Test (Gas) (Cl. 7.2.3)	• Arrangement for Pressure test with Pressure Gauge • Stop Watch • Water • Soluble oil/ suitable rust inhibitor
3	Performance Requirements (Cl. 7) Pressure Tests for Copper Alloy Valves (Cl. 7.3) Shell Test (Cl. 7.3.1) Closure Test (Cl. 7.3.2)	
4	Torque	• Torque wrench/Push-Pull guage

ANNEX D

SCHEME OF INSPECTION AND TESTING

1. LABORATORY - Manufacturers shall establish a suitably equipped and staffed in house laboratory (In-house testing facility) for testing of all parameters for ensuring quality of the product.

1.1 The levels of control are given at Table 1. Column 2 of Table 1 indicates tests on manholes where test equipment is required in-house as “R” or raw material tests which can be subcontracted as “S”. Subcontracting of raw materials is permitted to BIS recognized/empanelled laboratory or any other laboratory having valid NABL accreditation as per IS/ISO/IEC 17025.

1.2 The manufacturer shall prepare a calibration plan for the test equipments.

2 TEST RECORDS – The manufacturers shall maintain test records for the tests carried out to establish conformity of the product. For the tests of raw materials being subcontracted to BIS recognized/empaneled laboratory or any other laboratory having valid NABL accreditation as per IS/ISO/IEC 17025, test reports of raw materials issued by the laboratories shall be available for inspection by BIS.

3 PACKING AND MARKING - The Standard Mark as given in the Schedule of the licence shall be clearly marked on each ball valve, provided always that the product so marked conforms to all requirements of the specification.

3.1 Marking shall be done as per Clause 10 of IS 19315:2025.

3.2 Packing shall be done as per Clause 9 of IS 19315:2025.

3.3 **Additional Marking requirements:** Each valve/package shall also be marked with the following detail:

- “For BIS certification details, please visit www.bis.gov.in”

4 LEVELS OF CONTROL - The tests as indicated in column 1 of Table 1 and the levels of control submitted by the manufacturer 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 2.0 above.

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

5 REJECTION - All the production which conforms to the Indian Standard and covered under the scope of this licence shall be marked with the Standard Mark. 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				
4	Design and Dimensions	4.1 to 4.7	IS 19315	R	Firm to have adequate in-process controls to check compliance of this parameter as per the tolerances given in the Indian Standard. However, appropriate records shall be maintained by the manufacturer for evidence of conformity.		
5	Valve Operation	5.1 to 5.8	IS 19315	R			
6	Materials of Construction of Ball Valves	6 Table 11	IS 19315	S	One	Each consignment	No further testing is required, if material received is accompanied with test certificate or ISI marked
7.2	Pressure Tests for Steel Valves	7.2	IS 19315				
	Shell Test	7.2.1	IS 19315	R	Each Valve		-
	Closure Test (HYD)	7.2.2	IS 19315	R	Each Valve		-
	Closure Test (Gas)	7.2.3	IS 19315	R	Each Valve		-
7.3	Pressure Tests for Steel Valves	7.3	IS 19315				
	Shell Test	7.3.1	IS 19315	R	Each Valve		-
	Closure Test	7.3.2	IS 19315	R	Each Valve		-