



**उत्पाद मैनुअल**  
**अग्नि होज़ डिलीवरी कपलिंग, शाखा पाइप, नोजल और**  
**नोजल स्पानर, आई एस 903 : 2025 के अनुसार**

**PRODUCT MANUAL FOR**  
**FIRE HOSE DELIVERY COUPLINGS, BRANCH PIPE, NOZZLES AND**  
**NOZZLE SPANNER ACCORDING TO IS 903 : 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<br>IS No.                       | : | IS 903 : 2025                                                                                                                                                                                                                                                                                                                                                                                                                                                           |
|    | शीर्षक<br>Title                             | : | Fire Hose Delivery Couplings, Branch Pipe, Nozzles and Nozzle Spanner                                                                                                                                                                                                                                                                                                                                                                                                   |
|    | संशोधनों की संख्या<br>No. of amendments     | : | Nil                                                                                                                                                                                                                                                                                                                                                                                                                                                                     |
| 2. | नमूना दिशानिर्देश<br>Sampling Guidelines    |   |                                                                                                                                                                                                                                                                                                                                                                                                                                                                         |
| a) | कच्चा माल<br>Raw material                   | : | Please refer to Annex-A<br><br>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<br>Grouping Guidelines | : | Please refer to Annex-B                                                                                                                                                                                                                                                                                                                                                                                                                                                 |
| c) | नमूने का परिमाण<br>Sample Quantity          | : | 1 No. of each fitting<br><br>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<br>Parameters to be Declared in Test Request                                                                                                                                                                                                                                                                                                                                                                                                 | -                                                                   | Same as the scope of licence |
| 3. | परीक्षण उपकरणों की सूची<br>List of Test Equipment                                                                                                                                                                                                                                                                                                                                                                                                                                            | :                                                                   | Please refer to Annex-C      |
| 4. | निरीक्षण और परीक्षण की स्कीम<br>Scheme of Inspection and Testing                                                                                                                                                                                                                                                                                                                                                                                                                             | :                                                                   | Please refer to Annex-D      |
| 5. | <b>एक दिन में संभावित परीक्षण</b><br><b>Possible tests in a day</b>                                                                                                                                                                                                                                                                                                                                                                                                                          |                                                                     |                              |
|    | (i) Workmanship and finish (Clause 4), (ii) Dimensions (Clause 5.2, 6.2, 7.2 and 10.2), (iii) Hydraulic test (Clause 9.1), (iv) Deflection test requirement (Clause 10.4)<br><br>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 ready reference regarding the tests which can be witnessed during the inspection in the factory by the officer/auditor. |                                                                     |                              |
| 6. | <b>लाइसेंस का दायरा /Scope of the Licence:</b><br>Licence is granted to use Standard Mark as per IS 903 : 2025 with the following scope:                                                                                                                                                                                                                                                                                                                                                     |                                                                     |                              |
|    | Name of the product                                                                                                                                                                                                                                                                                                                                                                                                                                                                          | Fire hose delivery couplings/ Branch pipe/ Nozzles / Nozzle spanner |                              |
|    | Sizes                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        | Fire hose delivery couplings – 38 mm, 50 mm, 63 mm and 70 mm        |                              |
|    |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              | Branch Pipe – 63 mm                                                 |                              |
|    |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              | Nozzles – 6 mm, 12 mm, 15 mm, 20 mm, 25 mm and 30 mm                |                              |
|    |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              | Nozzles spanner – 6 mm, 12 mm, 15 mm, 20 mm, 25 mm and 30 mm        |                              |

भारतीय मानक ब्यूरो  
 BUREAU OF INDIAN STANDARDS  
 मानक भवन, ९, बहादुर शाह ज़फ़र मार्ग  
 Manak Bhawan, 9, Bahadur Shah Zafar Marg  
 नई दिल्ली- ११०००२  
 New Delhi – 110002

**ANNEX A**  
**Raw Material**

| SN | Raw Material          | Indian Standard                                                                                                            |
|----|-----------------------|----------------------------------------------------------------------------------------------------------------------------|
| 1  | Copper Alloys –       |                                                                                                                            |
|    | Sand Castings         | Sand castings shall confirm to grade LTB 2 of IS 318 or grade HTB 1 of IS 304                                              |
|    | Die Castings          | Die castings shall confirm to grade LCB 2 of IS 292                                                                        |
|    | Hot Forgings          | Hot forgings shall confirm to grade FNB of IS 6912 with – Fe: max 0.1%, other elements: max 0.1% and zinc: Balance         |
| 2  | Aluminium alloys      | Aluminium alloy shall confirm to Clause 8.2 of IS 903 & designation 4225, 4450 or 4600 of IS 617.                          |
| 3  | Zinc-aluminium alloys | Zinc-aluminium alloys shall confirm to Clause 8.3 of IS 903                                                                |
| 4  | Springs               | Springs used in plunger lugs in case of copper alloy couplings shall confirm to IS 7608                                    |
|    |                       | Springs used in plunger lugs in case of aluminium alloy, zine alloy and stainless-steel couplings shall confirm to IS 6528 |
|    |                       | Stiffness of plunger springs shall confirm to Clause 8.6 of IS 903                                                         |
| 5  | Washers               | Washers shall confirm to Type A of IS 937                                                                                  |
| 6  | Stainless steel       | Stainless steel shall confirm to grade 1 or grade 4 of IS 3444.                                                            |
| 7  | Nozzle Spanner        | Nozzle spanner shall be made of steel of grade 35C4 or 40C8 of IS 1570 (Part 2/Sec 1)                                      |

## **ANNEX-B**

### **Grouping Guidelines**

1. Fire Hose Delivery Couplings, Branch Pipe, Nozzles and Nozzle Spanner as per IS 903: 1993 is classified as below:
  - a) Fire hose delivery couplings – 38 mm, 50 mm, 63 mm and 70 mm
  - b) Branch Pipe – 63 mm
  - c) Nozzles – 6 mm, 12 mm, 15 mm, 20 mm, 25 mm and 30 mm.
  - d) Nozzles spanner – 6 mm, 12 mm, 15 mm, 20 mm, 25 mm and 30 mm.
2. Considering the above, the following grouping guidelines for GoL/ CSoL shall be followed:
  - a) Fire hose delivery coupling of any size shall be tested to cover all the sizes of couplings.
  - b) Branch pipe of size 63 mm shall be tested to cover the same in the scope of licence.
  - c) Nozzles and Nozzle spanner having the minimum and maximum size shall be tested to cover Nozzles and Nozzle spanner of all intermediate sizes in that range including the sizes tested.
3. The Firm shall declare the varieties of Fire Hose Delivery Couplings, Branch Pipe, Nozzles and Nozzle Spanner 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-C

### List of Test Equipment

*(INDICATIVE LIST, FOR GUIDANCE ONLY)*

| S. No. | Tests used in with Clause Reference                        | Test Equipment                                                                                                                                                                                            |
|--------|------------------------------------------------------------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| 1      | Dimensions & Tolerances<br>( Clause 5.2, 6.2, 7.2 and 10.2 | <ul style="list-style-type: none"><li>• Snap gauges</li><li>• Vernier caliper</li><li>• Thread ring gauges</li><li>• Radius gauges</li><li>• Angle gauges</li><li>• Thickness measurement gauge</li></ul> |
| 2      | Hydraulic test<br>(Clause 9.1)                             | Hydrostatic pressure testing arrangement with pressure gauge and timer                                                                                                                                    |
| 3      | Deflection test requirement<br>(Clause 10.4)               | Weight of 35 Kg                                                                                                                                                                                           |

## ANNEX D

### SCHEME OF INSPECTION AND TESTING

#### 1. QUALITY ASSURANCE PLAN

1.1 It is expected that manufacturers (licensees/applicants) will implement a Quality Assurance Plan i.e. a plan of regular testing and in-process controls, designed to ensure that the product bearing the Standard Mark conforms to all requirements of the Indian Standard.

1.2 The manufacturers shall define a Quality Assurance Plan defining the control unit (i.e. lot/batch etc.) and the levels of control (i.e. the frequency and number of samples for conducting the different tests as per the Indian Standard) and submit the same to BIS Branch Office for information. The manufacturer shall comply with the same and maintain test records in accordance with para 2.4.

#### 1.3 RECOMMENDED LEVELS OF CONTROL/CONTROL UNIT:

1.3.1 For the guidance of manufacturers, the recommended definition of control unit: Fire hose delivery couplings, Branch pipe, Nozzles, Nozzle spanner of each size manufactured from same material in one day shall constitute a control unit.

1.3.2 For the guidance of manufacturers in preparing the Quality Assurance Plan, recommended levels of control are given in **Table 1**.

1.3.3 The manufacturer shall ensure inspection and testing as per the Quality Assurance Plan submitted by them on the whole production of the factory which is covered by this plan. Alternatively, the manufacturer has the option of adherence to the quality plan as per levels of control recommended in column 3 of Table 1.

1.4 However, all manufacturers shall ensure compliance of their products to all the requirements of the Indian Standard.

**2 ENSURING COMPLIANCE THROUGH TESTING-** It is expected that manufacturers (licensees/applicants) will establish a suitably equipped and staffed in house laboratory (In house testing facility) for testing at least those parameters of the Indian Standard which require routine testing for ensuring quality of the product. This includes in-process controls as may be defined and put in place by the manufacturer and testing parameters/requirements which can only be performed in the factory.

2.3 For the guidance of manufacturers, Table 1 giving the recommended levels of control is given below. Column 2 of Table 1 indicates routine tests where test equipment is required in house as “R” or other tests which can be subcontracted as “S”. Subcontracting is permitted to BIS recognized/empanelled laboratory or any other laboratory having valid NABL accreditation as per IS/ISO/IEC 17025.

**2.4 For MSME manufacturers, the requirement of maintaining a laboratory/in-house testing facility for routine tests (indicated as “R” in Column 2 of Table 1) is also optional.**

2.4.2 MSME manufacturers may utilize common cluster based facilities as per guidelines for the utilization of cluster based test facilities by MSMEs or the provisions of Sharing of testing facilities or get testing done from BIS recognized/empaneled laboratory or any other laboratory having valid NABL accreditation as per IS/ISO/IEC 17025.

**2.5 Large Scale manufacturers shall maintain an in-house laboratory equipped at least with test facilities for routine tests (indicated as “R” in Column 2 of Table 1),** where different tests given in the specification shall be carried out in accordance with the method given in the specification. They shall also implement a calibration plan for the in-house test equipment.

2.5.2 Alternatively, in lieu of an in-house laboratory, large scale manufacturers can also utilize the provisions of Sharing of testing facilities as per the Guidelines for Grant of Licence available on BIS website [www.bis.gov.in](http://www.bis.gov.in). (Under Conformity Assessment>Product Certification Process). Even for subcontracted tests, provisions for sharing of testing facilities can be utilized.

**2.6 TEST RECORDS-** The manufacturers maintaining an in-house laboratory or utilizing common cluster based facilities or shared test facilities shall maintain test records for the tests carried out to establish conformity. For the tests being subcontracted to BIS recognized/empanelled laboratory or any other laboratory having valid NABL accreditation as per IS/ISO/IEC 17025, test reports 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 separately, clearly and permanently marked on each fitting, provided always that the product so marked conforms to all requirements of the specification.

3.3 Marking shall be done as per Clause 11 of IS 903:2025.

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

a) “For BIS certification details please visit [www.bis.gov.in](http://www.bis.gov.in)”

**4 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**  
**(ONLY FOR GUIDANCE PURPOSE)**

| (1)                       |                         |                     |           | (2)                                                                         | (3)                                                                                                                                                                                                                                  |                           |                                                                                                         |
|---------------------------|-------------------------|---------------------|-----------|-----------------------------------------------------------------------------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|---------------------------|---------------------------------------------------------------------------------------------------------|
| Test Details              |                         |                     |           | Test equipment requirement<br>R: required (or) S: Sub-contracting permitted | Levels of Control                                                                                                                                                                                                                    |                           |                                                                                                         |
| Cl.                       | Requirement             | Test Methods        |           |                                                                             | No. of Sample                                                                                                                                                                                                                        | Frequency                 | Remarks                                                                                                 |
|                           |                         | Clause              | Reference |                                                                             |                                                                                                                                                                                                                                      |                           |                                                                                                         |
| 4                         | Workmanship and finish  | 4                   | IS: 903   | 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. |                           |                                                                                                         |
| DELIVERY HOSE COUPLINGS - |                         |                     |           |                                                                             |                                                                                                                                                                                                                                      |                           |                                                                                                         |
| 5.1                       | Design                  | 5.1                 | IS 903    | 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. |                           |                                                                                                         |
| 5.2                       | Dimensions & tolerances | 5.2, Fig. 2A and 2B | IS 903    |                                                                             |                                                                                                                                                                                                                                      |                           |                                                                                                         |
| 5.3                       | Materials               | 5.3 & 8             |           | S                                                                           | One                                                                                                                                                                                                                                  | Each consignment received | No further testing is required, if material received is accompanied with test certificate or ISI marked |
| 5.4                       | Hydraulic test          | 5.4 & 9.1           | IS 903    | R                                                                           | All                                                                                                                                                                                                                                  | -                         | -                                                                                                       |
| BRANCH PIPE -             |                         |                     |           |                                                                             |                                                                                                                                                                                                                                      |                           |                                                                                                         |
| 6.1                       | Design                  | 6.1                 | IS 903    | 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. |                           |                                                                                                         |
| 6.2                       | Dimensions & tolerances | 6.2, Fig 3          | IS 903    |                                                                             |                                                                                                                                                                                                                                      |                           |                                                                                                         |
| 6.3                       | Material                | 6.3 & 8             | IS 903    | S                                                                           | One                                                                                                                                                                                                                                  | Each consignment          | No further testing is required, if material received is accompanied with test                           |

|                         |                          |              |                                      |   |                                                                                                                                                                                                                                      |                           |                                                                                                         |
|-------------------------|--------------------------|--------------|--------------------------------------|---|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|---------------------------|---------------------------------------------------------------------------------------------------------|
|                         |                          |              |                                      |   |                                                                                                                                                                                                                                      | received                  | certificate or ISI marked                                                                               |
| 6.4                     | Hydraulic test           | 6.4 & 9.1    | IS 903                               | R | All                                                                                                                                                                                                                                  | -                         | -                                                                                                       |
| <b>NOZZLES -</b>        |                          |              |                                      |   |                                                                                                                                                                                                                                      |                           |                                                                                                         |
| 7.1                     | Design                   | 7.1          | IS 903                               | 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. |                           |                                                                                                         |
| 7.2                     | Dimensions & tolerances  | 7.2, Fig 3   | IS 903                               |   |                                                                                                                                                                                                                                      |                           |                                                                                                         |
| 7.3                     | Material                 | 7.3 & 8      | IS 903                               | S | One                                                                                                                                                                                                                                  | Each consignment received | No further testing is required, if material received is accompanied with test certificate or ISI marked |
| 7.4                     | Hydraulic test           | 7.4 & 9.1    | IS 903                               | R | All                                                                                                                                                                                                                                  | -                         | -                                                                                                       |
| <b>NOZZLE SPANNER -</b> |                          |              |                                      |   |                                                                                                                                                                                                                                      |                           |                                                                                                         |
| 10.1                    | Material                 | 10.1         | IS 903<br>IS 1570 (Part 2/<br>Sec 1) | S | One                                                                                                                                                                                                                                  | Each consignment received | No further testing is required, if material received is accompanied with test certificate or ISI marked |
| 10.2                    | Shape & Dimensions       | 10.2, Fig. 5 | IS 903                               | 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. |                           |                                                                                                         |
| 10.3                    | Anti-corrosive treatment | 10.3         | IS 903                               |   |                                                                                                                                                                                                                                      |                           |                                                                                                         |
| 10.4                    | Deflection Test          | 10.4         | IS 903                               | R | One                                                                                                                                                                                                                                  | Each control unit         | -                                                                                                       |

Note: Dimensions and tolerances may be checked with gauges.