

		उत्पाद मानक PRODUCT STANDARD	HG 100 72 Rev.01 पृष्ठ 3 का 1										
गोपनीय एवं अभिचार सुरक्षित रूप प्रपत्र पर ही भर्ष जानकारी भारत हेवी इलेक्ट्रिकल्स लिमिटेड की सम्पत्ति है इसे प्रत्यक्ष या अप्रत्यक्ष रूप से प्रसारणी के बिना को गुप्तता पर्वतको के लिए संरक्षित उपयोग नहीं किया जावे	SPECIFICATION FOR BALL VALVE 1. GENERAL: The Ball valves will be used for ON/OFF control of cooling water/oil in piping circuits of the hydrogenerator. Each of the valves shall be as per the specification given below & shall in general meet the requirements of standard given in this specification. 2. CONSTRUCTION: The Ball valves shall be full way type with internal screws and flanges at both sides. Valves shall have flanges drilled as per IS-6392, table -17 Class 16. Otherwise Valves shall have additional matching companion flanges on both sides with 2 Nos. Gaskets & necessary fasteners assembled with each valve. Valves shall be capable of being mounted in both horizontal & vertical pipelines. Material of other components shall be selected considering duty requirements as given below : (i) BODY – ASTM A 216 Gr. WCB (Cast steel) (ii) BODY CONNECTOR – ASTM A 216 Gr. WCB (Cast steel) (iii) BALL – AISI 304 / 316/ ASTM A 351Gr CF8 , CF8M (iv) BALL SEALS – PTFE OR EQUIVALENT (v) BODY SEAL (SEATS) – PTFE/NITRILE RUBBER/EPDM OR EQUIVALENT (vi) STEM– AISI 304 / 316 (vii) STEM PACKING – PTFE /CARBON FILLED PTFE/NITRILE RUBBER/EPDM OR EQUIVALENT (viii) GLAND NUT – AISI 304 (ix) GLAND – AISI 304 (x) STEM NUT – AISI 304 (xi) LEVER – CARBON STEEL PLATE (xii) FASTENERS-PROPERTY CLASS-8.8, ZINC/NICKEL/CHROMIUM PLATED. (xiii) GLAND PACKING – PTFE OR EQUIVALENT 3. DUTY : The valves will be connected in water/oil pipe line for opening and closing of water flow : <table border="0"> <tr> <td>Medium</td> <td>- Oil or Raw Cooling/Muddy water with very fine abrasive silt</td> </tr> <tr> <td>Temp of water/oil</td> <td>- 55°C /70 C Max.</td> </tr> <tr> <td>Pressure</td> <td>- Normal: 16 Kg/cm² Hydraulic (min.)</td> </tr> <tr> <td></td> <td>- Test : Body – 24 Kg/cm² Hydraulic (min.) for 5 minute.</td> </tr> <tr> <td></td> <td>Seat - 18 Kg/cm² Hydraulic (min.) for 3 minute</td> </tr> </table>			Medium	- Oil or Raw Cooling/Muddy water with very fine abrasive silt	Temp of water/oil	- 55°C /70 C Max.	Pressure	- Normal: 16 Kg/cm ² Hydraulic (min.)		- Test : Body – 24 Kg/cm ² Hydraulic (min.) for 5 minute.		Seat - 18 Kg/cm ² Hydraulic (min.) for 3 minute
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	Rev-01 DT 30.11.2017 Reviewed & updated. (J.S. Yadav) 11/12/2017 (Rishabh Garghe)	हाइड्रोजेनरेटर इंजीनियरिंग विभाग भारत हेवी इलेक्ट्रिकल्स लिमिटेड तैयारकर्ता: K.N.SINGH - sd - अनुमोदनकर्ता: J.K.BHATI - sd - जारी करने की तिथि: 07.10.2005											

गोपनीय एवं अधिकार सुरक्षित
BHEL

उत्पाद मानक
PRODUCT STANDARD

HG 100 72 Rev.01
पृष्ठ 3 का 2

4. TESTS & INSPECTION :

TEST	STANDARD	EXTENT OF TESTING	CERTIFICATE REQUIRED
Design & Visual inspection	API 608	100%	Inspection & attestation of manufactures Certificate by Authorized Inspector (AI)
Dimensional Checks	As per supplier's Drg. And IS 6392 TABLE – 17 for flange	100%	Inspection report by AI
Pressure testing	As per clause-3 above and API 598.	100%	Inspection report by AI & Test Certificate

5. INTERCHANGEABILITY

All the valves of same size shall be interchangeable/replaceable with respect to their size, Space, mounting/fitting, operation and spares requirements point of view.

6. MARKING ON VALVES:

(A) The body shall have the following marking.

- Nominal size
- Pressure Rating (Normal & test)
- Supplier trade mark
- Arrow showing close/open position of Lever
- Inspector's identification mark.

(B) Name plate covering the following details

- Manufacture's name
- Nominal size
- Pressure Rating
- Manufacturer's identification / serial No.
- Year of manufacture
- BHEL P.O. Number.\

(C) Hand wheel or lever shall have the marking "OPEN" & "SHUT" Duly cast along with the arrow to show direction of closing of the valve.

If physical size of valve does not permit to give all the above details then a metallic name plate can be separately attached to the valve by a chain/link/hook.

7. DOCUMENTS TO BE FURNISHED BY SUPPLIERS :-

The Suppliers shall furnish following information.

(A) After placement of P.O.:

- 2 copies of General arrangement drawing showing major dimensions in BHEL format for approval by BHEL. .
- Procedure for assembling and dismantling and special instructions, if any, for satisfactory working of valves.

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- List of spares, if any.
- 02 copies of operation and maintenance instruction including lubricant recommendation, storage instruction etc.
- 02 Copies of Box wise shipping list.

(B) Test Certificate :

- i) 02 Copies of Hydraulic Test Certificate
- ii) 02 Copies each of
 - Visual inspection
 - Dimensional check
 - Material specification.

8. **WARRANTY:** Warranty shall be as per enclosed annexure.

9. **PACKING.**

- All valves shall be packed suitably in closed wooden cases to avoid damage during storage and transit. Box shall be able to withstand rain and prolonged storage.
- Valve openings shall be suitably closed to exclude dirt and other foreign matter from the interior of the valves.
- Lever, if removed from the valves, shall be packed along with valves secured by cord or wire.
- Each valves after end protection should be wrapped in Polythene sheet before packing in the cases.
- Each packing case must contain 2 copies of shipping list-giving details of contents of the cases including dismantled parts, if any.
- Following marking shall be done on each case:
 - Complete address of consignee as per BHEL purchase order.
 - BHEL purchase order No.
 - No. of pieces in each packing box.
 - Net weight
 - Gross weight
 - Packing case number & total no of packings.
 - Arrow indicating top of packing case.

10. **COMPLIANCE TO SPECIFICATIONS**

Suppliers must confirm the compliance of this specification clause-by-clause in their offer in first instance itself. Any deviation from this specification shall be clearly spelt out in detail with proper technical justification for consideration of offer.