

SCOPE OF WORK
&
SPECIAL CONDITIONS OF CONTRACTS

TECHNICAL SPECIFICATION OF BALL VALVE

The Scope of supply includes Ball Valves conforming to design standard API-6D and meeting other technical requirements as specified in the bid document (i.e., as per Material Requisition (MR), Data Sheets, & Technical Specifications). This encompasses obtaining necessary approvals from Gasonet/Consultant, procurement of raw material, manufacturing, testing & inspection, packing & forwarding, and transportation to two locations as mentioned in Table-1 below:

Sr. No.	Location	Size and Rating	Location of Valve	Qty.
1.	Bikaner and Churu	8" 300# BW with extended 800mm from Valve Centre	Under Ground	03
2.		4" 300# BW with extended 800mm from Valve Centre	Under Ground	01
3.		4" 300# BW	Above Ground	01
4.		2" 300# BW	Above Ground	08

Vendor Responsibilities & Requirements

Gasonet's requirements for ball valve procurement specify that the vendor's responsibility includes providing the equipment, all internal components, and accessories necessary for operation and testing, as detailed in the provided documents.

The vendor must propose at least four Third-Party Inspection Agency (TPIA) options for Gasonet's approval and include the chosen TPIA's name in the Quality Assurance Plan (QAP). Notably, Gasonet will also conduct its own inspections.

All valves intended for gaseous hydrocarbons must undergo impact and hardness tests. The quoted price should include start-up and commissioning spares, with a separate, unpriced list of these spares also required.

The vendor must also provide essential documentation like signed datasheets and checklists, justifying any material substitutions with equivalent or superior ASTM-equivalent alternatives and adhering to the minimum inspection standards outlined in the QAP.

Technical Standards & Approvals

The scope of supply mandates that the ball valves must conform to the API-6D design standard and meet all other technical requirements specified in the bid documents, including material requisitions, data sheets, and technical specifications. This encompasses obtaining necessary approvals from Gasonet or their consultant, procuring raw materials, manufacturing, testing, inspection, packing, forwarding, and transportation to designated locations in Bikaner and Churu.

The contractor will be fully responsible for the engineering, procurement, construction, installation, and commissioning of the entire system in strict accordance with the project specifications. Critical pressure-containing and control components must have material test certificates compliant with EN 10204-3.2 standards.

Testing, Inspection, and Documentation

Furthermore, the supplied valves must be capable of withstanding field hydro test pressure (1.5 times design pressure) for a specified duration (6 to 24 hours) with the ball partially or fully open using non-corrosive water. The vendor is responsible for any required repairs or replacements if faults occur during the site hydro test, bearing all associated costs including packaging and transportation.

The entire order quantity is subject to Gasonet's inspection according to a provided table of minimum quantities per lot. If Gasonet engineer visits exceed the specified number, the vendor will bear touring expenditures as per company rules, though Gasonet reserves the right to waive this requirement due to project exigencies. TPI inspections must be completed before or alongside Gasonet's inspections, never after. For 100% Gasonet witness inspection, TPI inspection can be parallel, but for 10% Gasonet witness inspection, TPI inspection must be completed before raising a call and the report uploaded to Gasonet's Inspection Management System. The extent of Gasonet witness during final inspection varies by size and class, with specific percentages for random witness and document review, and 100% witness for larger sizes and higher classes.

Extent of **Gasonet** / Gasonet TPI witness during final inspection shall be as follows:

Sl. No.	Size range	Class	Gasonet / Gasonet Approved TPI Inspection extent
1	2" to 8"	150	10% random witness and document review for 100% valves.
2	10" and more	150	100% witness.
3	2" to 6"	300 and higher	10% random witness and document review for 100% valves.
4	8" and more	300 and higher	100% witness.
5	Below 2"	All classes	10% random witness and document review for 100% valves.

Material & Documentation Submission

Vendors are required to submit duly filled, signed data sheets, checklists, and forms with their offer. They must establish the equivalence or superiority of any proposed material not specified in the Datasheet, providing justification for material properties and availability, and indicating ASTM equivalents for all proposed and AISI-designated materials.

All documents and drawings submitted by bidders as part of their bid will solely assess technical capability and do not absolve them from complying with tender requirements; all supplied items must strictly adhere to the tender. In case of conflict among attached or referred documents, the order of precedence generally governing interpretation will be Material/Purchase Requisition & Notes to MR, Datasheets, Technical Specification, Codes and Standards, and Vendor's Standards, though Owner/Consultant reserves the right to consider the most stringent requirement.

Bidder/supplier must submit hard copies of all documents/drawings to Gasonet as listed in the MR and technical specifications; the receipt date at Gasonet is the submission date, and any re-submission due to errors will be at the bidder's/supplier's sole expense, without entitlement to time or cost benefits.

On-Site Support & Strip Test

For all valves in this MR, the successful bidder must arrange for **one site visit for Valve/Actuator** to address installation/commissioning issues, with costs built into quoted prices, covering all sites, including airfare, boarding, lodging, local transport, incidentals, and all other expenses, in addition to Defect Liability Period provisions.

Finally, for bolted body Ball valves, one valve of each ordered size and rating, selected randomly after successful hydro and pneumatic tests by TPI & **Gasonet** inspector, must undergo a **strip test**. The valve shall be dismantled completely; alloy steel parts checked with **Positive Material Identification** technique for compliance to relevant material code. The selected valve(s) shall then be reassembled after replacing sacrificial parts like gasket & O-rings and a complete final inspection as per approved QAP shall be carried out once again to ensure the **repeatability of body seals and seats**.

SPECIFICATION FOR CARBON STEEL BALL VALVES FOR ON-SHORE PIPELINE SYSTEMS

1. REFERENCE DOCUMENTS

- All valves shall be manufactured and supplied in accordance with the latest edition of American Petroleum Institute (API) Specification 6D / ISO 14313, with additions and modifications as indicated in the following sections of this specification.
- Reference has also been made in this specification to the latest edition of the following Codes, Standards and Specifications:
 - ASME B 16.5: Pipe flanges and flanged fittings
 - ASME B 16.10: Face-to-face and end-to-end dimensions of valves
 - ASME B 16.25: Butt welding ends
 - ASME B 16.34: Valves – flanged, threaded and welding ends
 - ASME B 16.47: Large diameter steel flanges
 - ASME B 31.3: Process piping
 - ASME B 31.4: Pipeline transportation systems for liquid hydrocarbons and other liquids
 - ASME B 31.8: Gas transmission and distribution piping systems
 - ASME Sec VIII: Boiler and pressure vessel code - Rules for construction of pressure vessels
 - ASME Sec IX: Boiler and pressure vessel code - Welding and brazing qualifications
 - ASTM A 370: Standard test methods and definitions for mechanical testing of steel products
 - ASTM B 733: Autocatalytic nickel phosphorous coating on metals
 - API 6FA: Fire test for valves
 - API 607: Fire test for soft-seated quarter-turn valves
 - API 1104: Welding of pipelines and related facilities
 - BS EN ISO 10497: Testing of valves – Fire type-testing requirements
 - MSS-SP-6: Standard finishes for contact faces of pipe flanges and connecting-end flanges of valves and fittings
 - MSS-SP-44: Steel pipeline flanges
 - SSPC-VIS-1: Steel structures painting council-visual standard
- In case of conflict between the requirements of this specification, API 6D and the Codes, Standards and Specifications (Mentioned above), the requirements of this specification shall govern. Order of precedence shall be as follows:
 - Valve Data Sheets
 - Material Requisition
 - This Specification
 - API 6D Specification
 - Other Referred Codes & Standards
 - Manufacturer's Standard

2. MATERIALS

- Material for major components of the valves shall be as indicated in Valve Data Sheet. Other components shall be as per Manufacturer's standard (suitable for the service conditions indicated in

Data Sheet) and shall be subject to approval by **Gasonet**. In addition, the material shall also meet the requirements specified hereinafter.

- Carbon steel used for the manufacture of valves shall be fully killed.
- The Carbon Equivalent (CE) of valve end connections which are subject to further field welding by **Gasonet**, shall not exceed 0.43% (as calculated by the following formula) on check analysis for each heat of steel used:

$$CE = C + \frac{Mn}{6} + \frac{Cr + Mo + V}{5} + \frac{Ni + Cu}{15}$$

- For Valves specified to be used for Gas service or LPG service, Charpy V-notch test, on each heat of base material shall be conducted as per API 6D Clause 8.5, for all pressure containing parts such as body, end flanges and welding ends as well as bolting material for pressure containing parts. Unless stated otherwise, the Charpy V-notch test shall be conducted at 0 °C. Test procedure shall conform to ASTM A370. The average absorbed energy value of three full sized specimens shall be 27 J. The minimum impact energy value for any one specimen of the three specimens analysed as above, shall not be less than 22 J. When Low Temperature Carbon Steel (LTCS) materials are specified in Valve Data Sheet or offered by Manufacturer, the Charpy V-notch test requirements of applicable material standard shall be complied with.
- For all such valves where carbon steel is used as ball material, the ball shall have 75 micrometer (0.003 inch) thick Electroless Nickel Plating (ENP) as per ASTM B733 with following classification: SC2, Type II, Class 2. The hardness of plating shall be minimum 50 RC.
- For valves specified to be used for Gas service or LPG service, hardness test shall be carried out as per ASTM A370 for each method of manufacture and each heat of steel used in the manufacture of valves. A full thickness cross-section shall be taken for this purpose and the maximum hardness of the materials of valve components shall not exceed 248 HV10.
- All process-wetted parts, metallic and non-metallic, shall be suitable for the fluids and service specified by **Gasonet**. The service gas composition shall be as given elsewhere in the Material Requisition. In addition, Manufacturer shall confirm that all wetted parts are suitable for treated water / seawater environment, which may be used during field testing.
- Non-metallic parts of the valves (including O-rings, soft seal etc.) intended for hydrocarbon gas service at pressures of PN 100 (300# & 600 #) and above shall be resistant to explosive decompression.

DESIGN AND CONSTRUCTION

- Valve design shall meet the requirements of API 6D and other referred codes and shall be suitable for the service conditions indicated in Valve Data Sheet. The ASME Boiler & Pressure Vessel Code, Section VIII, Division 1, may be used to design the valve body. Allowable stress requirements shall comply with the provisions of ASME B31.3. In addition, corrosion allowance indicated in Valve Data Sheet shall be considered in valve design. However, the minimum wall thickness shall not be less than the minimum requirement of ASME B16.34. The Manufacturer shall have a valid license to use API 6D monogram for manufacture of ball valves.

- For above ground valves, valve body design shall be either fully welded or bolted type, as indicated in Valve Data Sheet. Valve body joints with threads are not permitted. For buried valves, valve body design shall be fully welded type only. Valve body joints with bolts or threads are not permitted.
- Ball shall be of single piece, solid type construction.
- Valves shall be Full Opening (FO) or Reduced Opening (RO) as indicated in Valve Data Sheet. FO valves shall be suitable for the passage of all types of pipeline scraper and inspection pigs on regular basis without causing damage to either the valve component or the pig. The FO valve shall provide an unobstructed profile for pigging operations in either direction. FO valves shall be designed to minimize accumulation of debris in the seat ring region to ensure that valve movement is not impeded.
- The opening size of RO valves shall be corresponding to that of a FO valve of smaller nominal diameter as indicated in table below. For sizes of a particular rating not covered in API 6D, the opening sizes of the RO valve shall be as per Manufacturer's standard.

Nominal Valve Size DN mm (NPS inches)	Nominal Valve Size for Reduced Opening DN mm (NPS inches)	Nominal Valve Size DN mm (NPS inches)	Nominal Valve Size for Reduced Opening DN mm (NPS inches)
50 (2)	50 (2)	600 (24)	500 (20)
80 (3)	50 (2)	650 (26)	550 (22)
100 (4)	80 (3)	700 (28)	600 (24)
150 (6)	100 (4)	750 (30)	600 (24)
200 (8)	150 (6)	800 (32)	650 (26)
250 (10)	200 (8)	850 (34)	700 (28)
300 (12)	250 (10)	900 (36)	750 (30)
350 (14)	250 (10)	950 (38)	800 (32)
400 (16)	300 (12)	1000 (40)	850 (34)
450 (18)	350 (14)	1050 (42)	900 (36)
500 (20)	400 (16)	1200 (48)	1050 (42)
550 (22)	450 (18)		

- Ball mounting shall be trunnion / pivot type or as indicated in Valve Data Sheet. Ball mounting, either trunnion or floating, unless otherwise specified, shall be as follows. Valve design shall minimize the possibility of debris ingress into the trunnion as far as practicable.

Sl. No.	Nominal Valve Size (NPS inches) ANSI Pressure Rating	Floating Ball	Trunnion Mounted
1	150#	< 8"	> 8"
2	300#	< 4"	> 4"
3	600#	Nil	> 2"

- Valve seats shall have metal to metal contact. O-rings or other seals, if used for drip tight sealing, shall be encased in a suitable groove in such a manner that it cannot be removed from seat ring and there is no extrusion during opening or closing operation of valve at maximum differential pressure corresponding to valve class rating. The seat rings shall be so designed as to ensure sealing at low as well as high differential pressures.

- Valves shall have double block and bleed feature to facilitate complete flushing, draining and venting of the valve body cavity.
- For valves to be used in liquid service, the body cavity over-pressure shall be prevented by self-relieving seat rings / assemblies. A pressure relief hole in the ball is not permitted. Self-relieving seat rings shall relieve at a body cavity differential pressure not exceeding 50% of the valve class rating pressure.
- Valves shall be designed to withstand a sustained internal vacuum of at least 1 (one) milli-bar in both open and closed positions.
- FO valves of nominal size DN 200 mm (8") & above and RO valves of nominal size DN 250 mm (10") & above shall have provision for secondary sealant injection under full line pressure for seat and stem seals. All sealant injection connections shall be provided with a needle valve, a grease fitting and non-return valve. Valve design shall have a provision to replace the sealant injection fitting under full line pressure. Location and arrangement of sealant points shall be as per Figure-1.
- Valves shall be provided with vent and drain connections. Location and arrangement of vents and drains shall be as per Figure-1. Body vent and drain shall be provided with valves (ball or plug type). Number and size shall be as per Figure-1.
- Valve design shall ensure repair of stem seals / packing under full line pressure.
- ❖ Valve ends shall be either flanged or butt welded or one end flanged and one end butt welded as indicated in Valve Data Sheet. Flanges of the flanged end cast/ forged body valves shall be integrally cast / forged with the body of valve. Face-to-face/ end-to-end dimensions shall conform to API 6D. Face-to-face and end-to-end dimensions for valve sizes not specified in API 6D shall be in accordance with ASME B 16.10. Face-to-face and end-to-end dimensions not shown in API 6D or in ASME B 16.10 shall be as per Manufacturer Standard and shall be subject to approval by **Gasnet**.
- ❖ Flanged ends shall have flanges as per ASME B16.5 for valve sizes up to DN 600 mm (24 inches) excluding DN 550 mm (22 inches) and as per MSS-SP-44 / ASME B 16.47 series A for valve sizes DN 550 mm (22 inches) & for DN 650 mm (26 inches) and above. Flange face shall be either raised face or ring joint type (RTJ) as indicated in Valve Data Sheet. Flange face finish shall be serrated or smooth as indicated in Valve Data Sheet. Smooth finish when specified shall be 125 to 200 microinches AARH. In case of RTJ flanges, the groove hardness shall be minimum 140 BHN.
- ❖ Butt weld end preparation shall be as per ASME B16.25. The thickness of the pipe to which the valve has to be welded shall be as indicated in Valve Data Sheet. Valves shall be without transition pups, unless otherwise specified in Valve Data sheet. In case significant difference exists between thickness of welding ends of valve and connecting pipe, the welding ends of valve shall have bevel preparation as per ASME B31.4 or ASME B31.8, as applicable.
- Design of weld end valves shall be such that during field welding operations, the soft seals or plastic components of the valve (wherever used) are not liable to be damaged. The Manufacturer shall furnish necessary field welding instructions and post-weld test procedure to demonstrate integrity and leak-tightness of valves after field welding operations.

- Valves shall be provided with ball position indicator and stops of rugged construction at the fully open and fully closed positions.
- FO valves of nominal size $\geq$ DN 200 mm (8") and RO valves of nominal size $\geq$ DN 250 mm (10") shall be equipped with support foot and lifting lugs. Tapped holes and eye bolts shall not be used for lifting lugs. Height of support foot shall be kept a minimum. The location and size of support foot / lifting lugs shall ensure unrestrictive operation of vent / drain valves.
- Valve design shall be such as to avoid bimetallic corrosion between carbon steel and high alloy steel components. Suitable insulation shall be provided as required.
- Valves shall be of fire-resistant design as per API 607/BS EN ISO 10497/API 6FA, as indicated in Valve Data Sheet.
- Valves shall be provided with anti-static devices to ensure electrical continuity between stem / ball and valve body.
- Stem extension and stem housing design shall be such that the complete assembly will form a rigid unit giving a positive drive under all conditions with no possibility of free movement between valve body, stem extension or its operator.
- Outer casing of stem extension shall have 3/8" or 1/2" NPT plugs at the top and bottom, for draining and filling with oil to prevent internal corrosion.
- Operating Devices a) Valves shall have a power actuator or manual operator as indicated in Valve Data Sheet. In case of manual operator, valve sizes $<$ DN 100 mm (4 inches) shall be wrench operated and valve sizes $\geq$ DN 150 mm (6 inches) shall be gear operated. Each wrench – operated valve shall be supplied with wrench. Valve design shall be such that damage due to malfunctioning of the operator or its controls will only occur in the operator gear train or power cylinder and that damaged parts can be replaced without the valve cover being removed. b) The power actuator shall be in accordance with the **Gasonet** specification issued for the purpose and as indicated in Valve and Actuator Data Sheet. Operating time shall be as indicated in Valve Data Sheet. Valve operating time shall correspond to full close to full open/full open to full close under maximum differential pressure corresponding to the valve rating. For actuated valves, the actuator torque output shall be 1.25 times the break torque required to operate the ball valve under the maximum differential pressure corresponding to the valve class rating. c) For manual operator of all valves, the diameter of the hand wheel or the length of operating wrench shall conform to API 6D requirements and be such that under maximum differential pressure, the total force required to operate the valve does not exceed 350 N. Manufacturer shall also indicate the number of turns of hand wheel (in case of gear operators) required for operating the valve from full open to full close position. d) Direction of operation of hand wheel or wrench shall be in clockwise direction while closing the valve. Hand wheels shall not have protruding spokes. e) Gear operators, when provided, shall have a self-locking provision and shall be fully encased, in waterproof/ splash proof/ dust proof/ weatherproof enclosure and shall be filled with suitable grease. f) Operating devices shall be designed for easy operation of the valve under maximum differential pressure corresponding to the valve rating.
- All welds shall be made by welders and welding procedures qualified in accordance with the provisions of ASME Section IX. The procedure qualification shall include impact test and hardness test and shall meet the requirements of above-mentioned clause of this specification, respectively.

- All welds shall be stress relieved in accordance with ASME Section VIII.
- Repair by welding is not permitted for fabricated and forged body valves. However, repair by welding as per ASME B16.34 is permitted for cast body valves. Such repairs shall be carried out at casting supplier's care only. Repair shall be carried out before any heat treatment of casting is done. Repair welding procedure qualification shall also include impact test and hardness test and shall meet the requirements of as mentioned above of this specification, respectively.
- The tolerance on internal diameter and out of roundness at the ends for welded end valves shall be as per applicable connected pipe specification as indicated in Valve Data Sheet.
- When indicated in Material Requisition, valves shall have locking device to lock the valve either in full open (LO) or full close (LC) positions. Locking devices shall be permanently attached to the valve operator and shall not interfere with operation of the valve.
- Valve stem shall be capable of withstanding the maximum operating torque required to operate the valve against the maximum differential pressure corresponding to applicable class rating. The combined stress shall not exceed the maximum allowable stresses specified in ASME Section VIII, Division I. In case of power actuated valves, the valve stem shall be designed for maximum output torque of the selected power actuator (including gear box, if any) at valve stem.

INSPECTION AND TESTS

- The Manufacturer shall perform all inspection and tests as per the requirements of this specification and the relevant codes, prior to shipment, at his works. Such inspection and tests shall be, but not limited to, the following:
 - ❖ All valves shall be visually inspected. The internal and external surfaces of the valves shall be free from any strikes, gouges and other detrimental defects. The surfaces shall be thoroughly cleaned and free from dirt, rust and scales.
 - ❖ Dimensional check on all valves shall be carried out as per the **Gasonet** approved drawings.
 - ❖ Chemical composition and mechanical properties shall be checked as per relevant material standards and this specification, for each heat of steel used.
 - ❖ Non-destructive examination of individual valve material and components consisting of, but not limited to castings, forgings, plate and assembly welds shall be carried out by the Manufacturer.
 - Body castings of all valves shall be radiographically examined on 100% of the surface of critical areas as per ASME B16.34. Procedure and acceptance criteria shall be as per ASME B16.34. The extent of radiography shall be as follows:

ANSI Pressure Rating	Valve Size	Extent of Radiography
150 #	All sizes	Nil
300 #	< DN 400mm (16")	Nil
	> DN 450mm (18")	100%
> 600 #	All sizes	100%

All castings shall be wet magnetic particle inspected 100% of the internal surfaces. Method and acceptance shall comply with ASME B.16.34.

- All valves, with body fabricated from plates or made by forgings, shall be ultrasonically examined in accordance with the procedure and acceptance standard of Annexure E of ASME B16.34. All forgings shall be wet magnetic particle inspected 100% of the internal surfaces. Method and acceptance shall comply with ASME B 16.34
- Bodies and bonnets made by welded assembly of segments of castings, forgings, plates or combinations thereof shall be examined, as applicable, by methods of as mentioned above for cast components or clause mentioned in above for forged components and plates.
- Full inspection by radiography shall be carried out on all welds of pressure containing parts. Acceptance criteria shall be as per ASME B 31.4 or ASME B31.8, as applicable, and API 1104.
- Welds, which in **Gasonet**'s opinion cannot be inspected by radiographic methods, shall be checked by ultrasonic or magnetic particle methods and acceptance criteria shall be as per ASME Section VIII, Division 1, Appendix 12 and Appendix 6, respectively.
- All finished wrought weld ends subject to welding in field shall be 100% ultrasonically tested for lamination type defects for a distance of 50mm from the end. Laminations shall not be acceptable. b) Weld ends of all cast valves subject to welding in field shall be 100% radiographically examined and acceptance criteria shall be as per ASME B16.34. c) After final machining, all bevel surfaces shall be inspected by dye penetrant or wet magnetic particle methods. All defects longer than 6.35 mm are rejected, as are defects between 6.35 mm and 1.59mm that are separated by a distance less than 50 times their greatest length. Rejectable defects must be removed. Weld repair of bevel surface is not permitted.
- All valves shall be tested in compliance with the requirements of API 6D. During pressure testing, valves shall not have sealant lines and other cavities filled with sealant, grease or other foreign material. The drain, vent and sealant lines shall be either included in the hydrostatic shell test or tested independently. Test pressure shall be held for at least 30 minutes. No leakage is permissible during hydrostatic testing. The body cavity self-relieving feature meeting the requirements of mentioned above of this specification shall also be checked.
- A supplementary air seat test as per API 6D (Annex B, Clause B.3.3, Type II) shall be carried out for all valves. A bubble tight seal is required without the use of any sealant. No leakage is allowed. Test pressure shall be held for at least 15 minutes.
- Manufacturer who intends bidding, must submit at bid stage, certificate and report for successful fire type-tests for valves in accordance with API-607/ BS EN ISO 10497 / API 6FA, as applicable in Valve Data Sheet. Failure to comply with this requirement shall be a cause of rejection of the Bidder's offer.
- Valves shall be subjected to Operational Torque Test as per API 6D (Annex B, Clause B.6) under hydraulic pressure equal to maximum differential pressure corresponding to the valve pressure class rating. For manual operator of all valves, it shall be established that the force required to operate the valve does not exceed the requirements stated in clause of this specification.
- Power actuated valves shall be tested after assembly of the valve and actuator at the valve Manufacturer's works. At least five Open-Close-Open cycles without internal pressure and five Open-Close-Open cycles with maximum differential pressure shall be performed on the valve actuator assembly. The time for Full Open to Full close shall be recorded during testing. If required,

the actuator shall be adjusted to ensure that the opening and closing times are within the limits stated in Actuator Data Sheet issued for the purpose. Hand operator provided on the actuator shall also be checked after above testing, for satisfactory manual over-ride performance. These tests shall be conducted on minimum one valve out of a lot of five (5) valves of the same size, rating and the actuator model / type. In case the tests do not meet the requirements, retesting / rejection of the lot shall be decided by **Gasonet's** Inspector.

- Subsequent to successful testing as specified in clause above, one (1) valve out of the total ordered quantity shall be randomly selected by the **Gasonet's** Representative for cyclic testing as mentioned below: a) The valve shall be subjected to at least 100 Open-Close-Open cycles with maximum differential pressure corresponding to the valve rating. b) Subsequent to the above, the valve shall be subjected to hydrostatic test and supplementary air seat test in accordance with clause mentioned above. In case this valve fails to pass these tests, the valve shall be rejected, and two more valves shall be selected randomly and subjected to testing as indicated above. If both valves pass these tests, all valves manufactured for the order (except the valve that failed) shall be deemed acceptable. If either of the two valves fails to pass these tests, all valves shall be rejected, or each valve shall be tested at the option of Manufacturer. Previously carried out test of similar nature shall be considered acceptable if the same has been carried out by Manufacturer in last two years. Valves of two sizes below and two sizes above the size of valve previously tested, and rating similar or one rating lower of valve tested previously, shall be qualified.
- Checks shall be carried out to demonstrate that the dissimilar metal used in the valves are successfully insulated as per the requirement of clause mentioned of this specification.
- When indicated in Valve Data Sheet, valves shall be subjected to anti-static testing as per supplementary test requirement of API 6D (Annex B, Clause B.5).
- **Gasonet** reserves the right to perform stage-wise inspection and witness tests as indicated in clause mentioned above at Manufacturer's works prior to shipment. Manufacturer shall give reasonable access and facilities required for inspection to the **Gasonet's** Inspector. **Gasonet** reserves the right to require additional testing at any time to confirm or further investigate a suspected fault. The cost incurred shall be to Manufacturer's account. In no case shall any action of **Gasonet** or his Inspector relieve the Manufacturer of his responsibility for material, design, quality or operation of valves. Inspection and tests performed/ witnessed by the **Gasonet's** Inspector shall in no way relieve the Manufacturer's obligation to perform the required inspection and tests.

EXTENT OF INSPECTION & TESTING

- **Gasonet's** Inspector shall perform inspection and witness tests on all valves or as indicated in the Quality Assurance Plan (QAP) attached with this specification.
- The hydrostatic testing and cyclic opening and closing of the valves with the operator shall be witnessed by **Gasonet's** Inspector.

TEST CERTIFICATES

Manufacturer shall submit the following certificates:

- Mill test certificates relevant to the chemical analysis and mechanical properties of the materials used for valve construction as per the relevant standards.

- Test certificates of hydrostatic and pneumatic tests complete with records of timing and pressure of each test.
- Test reports on radiograph and ultrasonic inspection.
- Test report on operation of valves conforming to clause as mentioned above of this specification.
- All other test reports and certificates as required by API 6D and this specification.

The certificates shall be valid only when signed by **Gasnet's** Inspector. Only those valves which have been certified by **Gasnet's** Inspector shall be despatched from Manufacturer's works.

PAINTING, MARKING & SHIPMENT

- Valve surface shall be thoroughly cleaned, freed from rust and grease and applied with sufficient coats of corrosion resistant paint. Surface preparation shall be carried out by shot blasting to SP-6 in accordance with "Steel Structures Painting Council – Visual Standard SSPC-VIS-1". For valves to be installed underground, when indicated in Valve Data Sheet, the external surfaces of the buried portion of valves shall be painted with three coats of suitable coal tar epoxy resin with a minimum dry film thickness of 300 microns.
- Manufacturer shall indicate the type of corrosion resistant paint used, in the drawings submitted for approval.
- All valves shall be marked as per API 6D. The units of marking shall be metric except Nominal Diameter which shall be in inches. Marking shall be done by die-stamping on the bonnet or on the housing. However, for buried valves, the marking shall be done on the above ground portion of the stem housing only.
- Valve ends shall be suitably protected to avoid any damage during transit. All threaded and machined surfaces subject to corrosion shall be well protected by a coat of grease or other suitable material. All valves shall be provided with suitable protectors, for flange faces, securely attached to the valves. Bevel ends shall be protected with metallic or high impact plastic bevel protectors.
- All sealant lines and other cavities of the valve shall be filled with sealant before shipment.
- Packaging and shipping instructions shall be as per API 6D.
- On packages, following shall be marked legibly with suitable marking ink: a) Order Number b) Manufacturer's Name c) Valve Size and Rating d) Tag Number e) Serial Number

SPARES & ACCESSORIES

- Manufacturer shall furnish list of recommended spares and accessories for valves required during start-up and commissioning and supply of such spares shall be included in the price quoted by Manufacturer.
- Manufacturer shall furnish list of recommended spares and accessories required for two years of normal operation and maintenance of valves and price for such spares shall be quoted separately.
- Manufacturer shall quote for spares & accessories as per Material Requisition.

GUARANTEE

- Manufacturer shall guarantee that the materials and machining of valves and fittings comply with the requirements in this specification and in the Purchase Order.
- Manufacturer is bound to replace or repair all valve parts which should result defective due to inadequate engineering or to the quality of materials and machining.

- If valve defect or malfunctioning cannot be eliminated, Manufacturer shall replace the valve without delay.
- Any defect occurring during the period of Guarantee shall be attended to by making all necessary modifications and repair of defective parts free of charge to **Gasonet** as per the relevant clause of the bid document.
- All expenses shall be to Manufacturer's account.

Valve Size (NB) (inch)	12", 8", 6", 4"
ANSI Rating	300#
Design Standard	API 6D
Connecting Pipeline Design Pressure	49 Kg/cm2 (g)
Design Temperature	-29°C to +65°C
Connecting Pipe Specification (Outer Diameter, mm)	DN 300 (12"): 323.9; DN 200 (8"): 219.1; DN 150 (6"): 168.3; DN 100 (4"): 114.3
Connecting Pipe Specification (Thickness, mm)	6.4 for all sizes
Configuration	Reduced Bore or Full Bore
End Connections	Flanged as per ASME B16.5 or Butt Welded as per ASME B16.25
Flanges (wherever applicable)	RF or RT; Serrated or Smooth (125 to 200 microinches AARH)
Ball Mounting	Trunnion Mounted for 6", 8", 12" Valves; Floating Ball for 4" valves
Valve body type	Fully Welded or Two/Three Piece Bolted
Pup Piece	Yes (500 mm, integrally welded, material/OD/thickness same as connecting pipe)
Corrosion Allowance	1.5 mm
Service	Natural Gas
Location	Above Ground or Buried
Stem Extension Requirement	No
Gear Operator Requirement	Yes (for 6", 8", 12" Ball Valves) or Lever Operated (for 4" Ball Valves)
Actuator Requirement	No
Fire Resistant Design Requirement	Type test as per API 6FA/API 607
Valve Testing Requirement - Hydrostatic Test (Body)	Test Pressure (min.): 76 kg/cm2(g); Minimum Duration: As per API 6D
Valve Testing Requirement - Hydrostatic Test (Seat)	Test Pressure (min.): 57 kg/cm2(g); Minimum Duration: As per API 6D
Valve Testing Requirement - Air Test	Test Pressure (min.): 5.6-7 kg/cm2(g); Minimum Duration: As per API 6D

Anti-Static Requirement	Testing	As per Standard API 6D (Latest Ed.)
Valve Specification	Painting	Surface preparation by Shot Blasting (SA 2 1/2). Three coats of corrosion resistant paint (min. 300 micron total thickness, 80-120 micron per coat) for above ground. Colour RAL-7038 (finalized during drawing approval).
Lock Close/Normally Close Requirement	Open/Lock Close	N.A.
Notes		This Data Sheet to be read with Gasonet's Technical Specification. Minimum thickness of valve body and adapter not less than ASME B16.34 plus 1.5 mm corrosion allowance. Inspection and Testing as per QAP, Data Sheet, Gasonet's T.S., API 6D. Stops for positive alignment of ball with ports. Long pattern valves only. Charpy V-notch & Hardness test for body, body adaptor, end flanges, ball, body seat rings, stem & studs/nuts. Compressed asbestos fibre (CAF) not to be used for body sealing/gasket materials. Welding end out-of-roundness not more than 0.5% of pipe OD. Valves to be inspected and approved by Purchaser/Purchaser's representative before dispatch. Support foot & lifting lugs as per Cl. 4.16 of TS. Bidder to clearly write offered valve material or indicate "AGREED". Minimum thickness of Valve body/Adapter/End pc. as per Cl. 4.1 of TS no.

TECHNICAL SPECIFICATION FOR GLOBE VALVE

Sr. No.	Location	Size and Rating	Location of Valve	Qty.
1.	Bikaner and Churu	2" 300# BW	Above Ground	02
2.		4" 300# BW	Above Ground	02

General Specifications

Parameter	Specification
Valve Type	Globe Valve, Straight Pattern, T-Type Body
Sizes	2" (DN50), 4" (DN100)
Pressure Class	ASME Class 300
End Connections	Butt Weld (BW) Ends as per ASME B16.25
Operation	Handwheel Operated
Application	Natural Gas (Isolation and Throttling)
Orientation	Suitable for Horizontal and Vertical Installation

Applicable Codes and Standards

The valves shall fully comply with the latest editions of the following codes and standards:

Aspect	Standard
Primary Design	BS 1873 (Steel Globe and Globe Stop and Check Valves)
Pressure-Temp. Rating	ASME B16.34 (Valves—Flanged, Threaded, and Welding End)
Face-to-Face Dim.	ASME B16.10 (Long Pattern)
Butt Weld Ends	ASME B16.25
Inspection & Testing	API 598 (Valve Inspection and Testing) & API 6D (for supplementary testing)
Fire Safe Testing	API 607 / API 6FA
Material Specifications	ASTM (as specified in MOC table)
Marking	MSS-SP-25 (Standard Marking System for Valves)
Certification	EN 10204:2004 Type 3.2

Note on API 6D: While BS 1873 is the primary design standard for globe valves, supplementary testing, quality, and documentation requirements from API 6D relevant to pipeline service shall be incorporated as specified herein.

Design and Construction Features

Feature	Description
Body & Bonnet	Bolted Bonnet (BB), Outside Screw & Yoke (OS&Y), Rising Stem.
Stem	One-piece hardened and ground. With backseat feature for online gland packing replacement.
Disc	Plug Type or Contoured Plug Type, suitable for throttling service.
Seat	Renewable or Integral, faced with hardened material.
Gland Packing	Controlled-clearance gland with low-emission graphite rings. Must be fire safe.
Gasket	Spiral Wound, SS 316 + Graphite filler.
Handwheel	Cast Iron / Ductile Iron, designed for max 350 N manual force for operation.
Fire Safety	Certified fire-safe design as per API 607 or API 6FA .
Anti-Static Device	Required between stem, ball, and body to ensure electrical continuity.

Material of Construction (MOC)

Component	Material Specification	Trim
Body & Bonnet	ASTM A216 Gr. WCB (Cast Carbon Steel)	-
Stem	ASTM A182 Gr. F316 (SS 316) or ASTM A276 Type 410 (13% Cr)	-
Disc	ASTM A216 Gr. WCB + 13% Cr facing (or SS 316)	API Trim 8
Seat Ring	ASTM A105N + Stellite 6 Facing	(13Cr / Stellite)
Gland Bushing	Stainless Steel (e.g., ASTM A276 Type 316)	-
Gasket	SS 316 + Flexible Graphite (Spiral Wound)	-
Gland Packing	Braided Flexible Graphite (Low Emission Grade)	-

Studs / Nuts	Studs: ASTM A193 Gr. B7; Nuts: ASTM A194 Gr. 2H	-
Handwheel	Ductile Iron (ASTM A536) or Cast Iron (ASTM A126)	-

Inspection and Testing Requirements

All inspection and testing must be witnessed and certified by a Third-Party Inspection Agency (TPIA) to meet EN 10204 3.2 requirements.

Test Type	Standard	Procedure and Acceptance Criteria
Hydrostatic Shell Test	API 598 / API 6D	Test pressure at 1.5times rated working pressure (i.e., 1.5times x 740 psig=1110 psig). Duration as per API 598. No visible leakage.
Hydrostatic Seat Test	API 598 / API 6D	Test pressure at 1.1times rated working pressure (i.e., 1.1times x 740 psig=814t psig). Leakage rate as per API 598 (Zero leakage).
Pneumatic Seat Test	API 598 / API 6D	Low-pressure gas test at 80–100 psig (6–7 bar) with air or nitrogen. No visible bubbles for the duration of the test. This test is mandatory for gas service.
NDE Castings -	As per ASME B16.34	Body & Bonnet castings must be subjected to Radiography (RT) or Ultrasonic Testing (UT) at critical sections. Magnetic Particle (MT) or Dye Penetrant (PT) test on all accessible surfaces.
NDE - Butt Weld Ends	ASME B16.25	Bevel ends shall be 100% examined by MT or PT after final machining.

Painting, Marking, and Documentation

Aspect	Requirement
Surface Preparation	Shot Blasting to Sa 2.5 standard.
Painting	Two-component high-build epoxy paint. Total Dry Film Thickness (DFT) to be minimum 150 microns. Color: Golden Yellow (RAL 1004) for natural gas.
Marking	Valve body and ID plate shall be marked as per MSS-SP-25 . The ID plate must include Manufacturer, Size, Rating, MOC (Body/Trim), Serial No., and Tag No.

Documentation	A complete documentation dossier shall be provided including: GA Drawing, Material Test Certificates (MTCs) for all pressure parts per EN 10204 3.2, Hydrostatic and Pneumatic Test Reports, NDE Reports, Fire-Safe Certificate, Final EN 10204 3.2 Certificate endorsed by the TPIA.
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Quality Assurance Plan (QAP) per EN 10204 3.2

The following QAP outlines the inspection and testing requirements for the valve. All tests shall be witnessed and certified by an authorized third-party inspection agency (TPIA) as per EN 10204 3.2.

Raw Material Inspection

- **Verification:** Check all mill test certificates (MTCs) for raw materials (body, bonnet, trim, bolting) to ensure they comply with the specified ASTM standards.
- **Traceability:** Ensure proper traceability of raw materials from the MTC to the final product.

In-Process Inspection

- **Dimensional Checks:** Verify all critical dimensions, including face-to-face, end connections (butt-weld prep), bore size, and overall dimensions as per the approved drawing.
- **Welding Inspection:** For butt-weld ends, a minimum of 10% of the welds shall be subjected to Liquid Penetrant Testing (PT) or Magnetic Particle Testing (MT).
- **Hardness Test:** Conduct a hardness test on the hard-faced trim components to ensure a minimum hardness of **HRC 38-42** for Stellite 6.

Final Inspection & Testing

All valves shall undergo the following tests:

- **Hydrostatic Shell Test:** The valve body shall be hydrostatically tested at **1.5 times the maximum allowable working pressure (MAWP)** for a duration of 5 minutes. No visible leakage is permitted.
- **Hydrostatic Seat Test:** The valve seat shall be hydrostatically tested at **1.1 times the MAWP** with a tight shut-off. Leakage must not exceed the permissible rate as per API 598 or equivalent.
- **Low-Pressure Air Seat Test:** Conduct an air test at 80 psi (5.5 bar) to confirm bubble-tight shut-off. This test is crucial for gas service applications.
- **Visual Inspection:** A thorough visual inspection of the finished valve to check for any defects, such as casting imperfections, paint quality, and correct marking.
- **Functionality Test:** The valve's operation (open/close) shall be checked to ensure smooth and easy movement without binding.

Documentation & Certification

The following documents shall be provided with each batch of valves:

- **EN 10204 Type 3.2 Inspection Certificate:** This is the primary certificate issued by an independent third-party inspector, certifying compliance with all specified requirements, including material, design, and test results.
- **Mill Test Certificates (MTCs):** MTCs for all pressure-containing and pressure-retaining parts.

- **Hydrostatic and Pneumatic Test Reports:** Official reports detailing the test pressures, hold times, and results.
- **General Arrangement Drawing:** A copy of the approved drawing with all dimensions and material details.
- **Installation, Operation, and Maintenance (IOM) Manual:** A manual with instructions for proper handling, installation, operation, and maintenance of the valve.

Tagging & Marking:

Each valve shall have a permanently attached metallic tag containing the following information:

- **Manufacturer's Name/Logo**
- **Size & Pressure Class:** 2" and 4" 300#
- **Body Material:** WCB
- **Heat Number**
- **Serial Number**
- **Date of Manufacture**
- **Direction of Flow Arrow**
- **EN 10204 3.2 stamp**

SPECIAL CONDITIONS OF CONTRACTS

1. GENERAL

- 1.1 The Special Conditions of Contract (SCC) shall be read and construed in conjunction with the General Conditions of Contract (GCC), Specifications of Work, Drawings, and all other documents forming part of this Contract.
- 1.2 All documents forming the Contract are intended to be correlative, complementary, and mutually explanatory. The Contract shall be read and interpreted as a whole.
- 1.3 In the event of any conflict, discrepancy, or inconsistency between the provisions of the General Conditions of Contract (GCC) and these Special Conditions of Contract (SCC), the provisions of the SCC shall prevail and govern.
- 1.4 Any work, services, or facilities that the Contractor is required to perform or provide under the specifications shall be executed at the Contractor's sole cost and expense. The Contract Price shall be deemed fully inclusive of all such costs.
- 1.5 All materials, design, and workmanship shall conform to the applicable Indian and/or international standards, codes, the Technical Specifications, and Data Sheets contained herein. Where the Contract stipulates requirements that are more stringent than those in the standard codes and specifications, such stringent requirements shall govern.
- 1.6 Order of Precedence: In the event of any irreconcilable conflict or discrepancy among the Contract Documents, the order of precedence for interpretation shall be as follows: 1. Letter of Acceptance (LOA) / Formal Order of Intent (FOI), including any Statement of Agreed Variations 2. Schedule of Rates (SOR) as enclosed with the LOA 3. Special Conditions of Contract (SCC) 4. Drawings 5. Technical / Material Specifications and Data Sheets 6. Instructions to Bidders (ITB) 7. General Conditions of Contract (GCC) 8. Applicable Industry Standards
- 1.7 Duty to Report Conflicts: The Contractor is responsible for carefully reviewing all Contract Documents. The Contractor shall promptly notify the Engineer-in-Charge in writing of any conflict, error, or omission discovered within the Contract Documents before proceeding with any work affected by such conflict, error, or omission. The Engineer-in-Charge shall issue a clarification or instruction, which shall be binding on the Contractor.
- 1.8 Absence of Specifications: In the absence of specific provisions or specifications for any material, design, or element of work, the same shall be performed, supplied, or executed in accordance with Good Industry Practice and Standard Engineering Practice, as directed by the Engineer-in-Charge. Such directions shall be binding upon the Contractor.

2. DEFINITIONS

- The terms used in these Special Conditions of Contract (SCC) shall, unless defined otherwise herein, have the meanings assigned to them in the General Conditions of Contract (GCC).

3. SCOPE OF WORK

The bidder shall have the single point responsibility of Design, Engineering, Manufacturing and supply of the Ball & Globe Valve to Gasonet Bikaner / Churu site of required specification.

Seller's scope shall include:

- Design / Manufacturing / Testing etc. of Ball Valve and Globe Valve as per Material Requisition / Technical Specifications / SOR.
- Preparation of quality assurance / quality control program.
- Obtaining Purchaser's approval.
- Arranging inspection and testing certification.
- Inspection by Purchaser / agency designated by purchaser and obtaining inspection release note.
- Obtaining dispatch clearance.
- Packing and
- Loading on truck / trailer, transportation to designated storage yard for Indian bidder and unloading of material at site / store as designated by the owner.
- Assistance of Testing and Commissioning at Site.

Note : Unloading at site will be in Vendor's Scope.

4. PACKING, MARKING AND SHIPMENT

The seller, wherever applicable shall after proper painting, pack and crate all goods for sea / air / road / rail transportation in a manner suitable to tropical humid climatic region in accordance with the internationally accepted practices and in such a manner so as to protect it from damage and deterioration, in transit by sea or air or road or rail and during storage at the storehouse. The seller shall be held responsible for all damages due to improper packing. The seller shall ensure sizing or packing of all oversized consignments in such a way that availability of carrier and/or road/rail route is properly taken into consideration.

5. DELIVERY PERIOD

The complete supply of all materials under this Contract, including Ball Valves and Globe Valves, shall be delivered within Eight (08) weeks from the date of issuance of the Fax of Acceptance (FOA).

The delivery of goods shall be on a **Free on Truck (FOT) Project Site** basis. The official **Date of Delivery** will be the date on which the materials are formally received and accepted by the Purchaser at the designated GSL Storages House / Site. Failure to adhere to the agreed-upon delivery schedule shall subject the Supplier to a **Price Reduction** (or Liquidated Damages) and/or enable the Purchaser to pursue other remedies, as stipulated in the Bidding Documents. This revision clarifies the terms, separates the core delivery requirement from the consequences of delay, and uses standard contractual language for better legal and commercial clarity.

6. PRE-DISPATCH REQUIREMENTS: QUALITY & INSPECTION

Quality Assurance: The Seller must prepare and adhere to the detailed Quality Assurance Plan (QAP) as mutually agreed upon. The Purchaser reserves the right to review any or all stages of work as deemed necessary.

7. THIRD-PARTY INSPECTION (TPI):

All materials under the scope of supply (including but not limited to Ball Valves, Globe Valves, and their components) MUST be inspected by a Purchaser-approved Third-Party Inspection Agency

(TPIA) before being offered for shipment. * A list of proposed TPIAs must be submitted for approval prior to engagement. **Please note that cost of TPIA is in the scope of vendor.**

8. **PAYMENT TERMS**

- 100% of the invoice value, inclusive of all applicable taxes and duties, shall be paid progressively within thirty (30) days, subject to any adjustments under the Price Reduction Schedule (PRS).
- Payment shall be released against the submission of a valid tax invoice in triplicate (in compliance with the GST Act/Law) accompanied by the following supporting documents:
 - Inspection Release Note issued by the Purchaser or the Purchaser's authorized agency.
 - Lorry Receipt (LR) / Goods Receipt (GR) as proof of dispatch.
 - All documents as specified in the Vendor Data Requirement List (VDRL) of the Material Requisition (MR).
 - Detailed Packing List.
 - Proof of customs clearance, including evidence of customs duty payment, for any imported items permitted under this Contract, if applicable.
 - Despatch Clearance or Dispatch Instructions issued by the Purchaser.
 - A copy of the Contract Performance Bank Guarantee (CPBG), where applicable.

9. **PRICE REDUCTION SCHEDULE (PRS)**

- In the event of a delay in delivery, a Price Reduction Schedule (PRS) shall be applicable. The value used for calculating PRS shall be the delivery value excluding Goods and Services Tax (GST).
- Notwithstanding the above, any portion of the supply that is delivered within the contractual delivery period and is complete in all respects, enabling its use for commercial operations, shall be excluded from the application of PRS.
- For supplies completed beyond the contractual delivery period, PRS shall be applied at a rate of half a percent (0.5%) of the value of the delayed portion of the supply for each week of delay, or part thereof.
- The total amount of price reduction under this clause shall be capped at a maximum of five percent (5%) of the total Contract value.

10. **REJECTION:**

Any materials found to be non-conforming to the specifications of the purchase order during any stage of inspection shall be liable for immediate rejection. The Seller shall be solely responsible for the immediate replacement of such rejected materials with conforming goods at no extra cost or impact on the delivery schedule to the Purchaser.

11. **CONTRACT PERFORMANCE BANK GUARANTEE (CPBG)**

- **Applicability:** This clause is applicable to the supply of **Ball Valves** and Globe Valves.
- **Submission:** The successful Bidder (hereinafter "the Seller") shall furnish a Contract Performance Bank Guarantee (CPBG), also referred to as a Security Deposit (SD), within thirty (30) days from the date of receipt of the Notification of Award (NOA) or Fax of Acceptance (FOA).
- **Value:** The CPBG shall be for an amount equivalent to **three percent (3%)** of the annualized Contract value.
- **Form:** The CPBG may be in the form of a Banker's Cheque, Demand Draft, an irrevocable Bank Guarantee, or a Letter of Credit, denominated in the currency of the Contract.

- **Issuing Bank:** The Bank Guarantee shall be issued by: * a) Any Indian scheduled bank; or * b) A branch of an international bank situated in India and registered with the Reserve Bank of India (RBI) as a scheduled foreign bank. In case the Bank Guarantee is issued by a commercial bank other than a Nationalized Indian bank, the issuing bank must have a net worth exceeding INR 100 Crores. A declaration to this effect must be included within the Bank Guarantee instrument itself or provided separately on the bank's official letterhead.
- **Validity:** The CPBG shall remain valid for a period extending **three (3) months beyond** the expiry of the Warranty/Guarantee Period as defined in of this Contract.

12. WARRANTY / GUARANTEE

- The Warranty/Guarantee period shall be the earlier of: a) Twelve (12) months from the date of the first commercial operation of the Plant for which the materials supplied under the Contract are a part; or b) Eighteen (18) months from the date of the last shipment.
- Should any trouble or defect originating from the design, material, workmanship, or operating characteristics of any supplied materials arise at any time during the Warranty/Guarantee period, the Purchaser shall notify the Seller thereof.
- Upon such notification, the Seller shall, at its own cost and expense and as promptly as possible, undertake all necessary alterations, repairs, and/or replacements to ensure the materials function in accordance with the specifications and fulfill the foregoing guarantees.

13. DOCUMENTATION FOR DISPATCH

The following documents must be submitted to the Purchaser along with each shipment. Failure to provide this complete set will result in delays.

- A copy of the written **Dispatch Clearance** issued by the Purchaser.
- A copy of the **Inspection Release Note (IRN)** issued by the approved TPIA.
- **Certificate of Origin** issued by the relevant Chamber of Commerce, certifying the origin of the goods.
- A detailed **Statement / Packing List** containing the following information:
 - Name of the Vessel / Transporter details
 - Complete description and quantity of the material
 - Net and Gross weight of the material
 - All relevant Shipping Marks
 - Purchase Order Number

14. GENERAL CONDITIONS

Title & Lien: The Seller guarantees that all goods supplied are free from any claims of title or liens from any third party.

Governing Law: This agreement is governed by the Laws of India, and the courts in Mumbai shall have exclusive jurisdiction over all related matters.

SCHEDULE OF RATE (SOR)

**SUBJECT: PROCUREMENT OF BALL AND GLOBE VALVES FOR BIKANER AND
CHURU LOCATION**

TENDER NO.: GSL/C&P/VALVES/BD202508P003

SCHEDULE OF RATE

Sr. No.	Description	Qty & UOM	Unit Rate Excluding GST (In Rs.)	Total Amount Excluding GST (In Rs.)
Group-A (Ball Valve)				
1.	Supply of Ball Valve with ground extended Stem upto 800 mm from Valve Centre Size: 8" 300# Butt Weld Location: Underground	03 Nos.		
2.	Supply of Ball Valve with ground extended Stem upto 800 mm from Valve Centre Size: 4" 300# Butt Weld Location: Underground	01 No.		
3.	Supply of Ball Valve Size: 4" 300# Butt Weld Location: Above Ground	01 No.		
4.	Supply of Ball Valve Size: 2" 300# Butt Weld Location: Above Ground	08 Nos.		
5.	Assistance of the Erection and Commissioning of Ball Valves	01 Man-day		
Total Amount Excluding GST				
GST @				
Total Amount Including GST				
Group-B (Globe Valve)				
5.	Supply of Globe Valve Size: 2" 300# Butt Weld Location: Above Ground	02 Nos.		
6.	Supply of Globe Valve Size: 4" 300# Butt Weld Location: Above Ground	02 Nos.		
7.	Assistance of the Erection and Commissioning of Globe Valves	01 Man-day		
Total Amount Excluding GST				
GST @				
Total Amount Including GST				

- **Bid Evaluation and Award:** The evaluation of bids will be conducted on a group-wise basis. The contract shall be awarded to the vendor who submits the lowest overall commercial offer to the purchaser (L1 Bidder).
- **All-Inclusive Unit Rate:** The quoted Unit Rate must be all-inclusive, covering all costs associated with the scope of supply and services. This includes, but is not limited to, design, engineering, testing, transit insurance, commissioning spares, assistance with erection and commissioning, Third-Party Inspection Agency (TPIA) fees, and all charges for loading and unloading materials at the designated site.
- **Provision of Technical Documents:** The purchaser will provide the successful vendor with all necessary technical documentation, including detailed lists of commissioning spares and mandatory spares to facilitate the execution of the order.
- **Mandatory Quote for On-Site Assistance:** It is mandatory for the vendor to quote for Assistance with the Erection and Commissioning of Ball and Globe Valves. Please note that all expenses related to the visiting engineer's travel, lodging, and food shall be the sole responsibility of the vendor. The purchaser (Gasonet) will not provide or reimburse any amount for these arrangements.
- **Price Validity and Quantity Variation:** The quoted rates shall remain firm and valid for a period of six (6) months from the date of the Purchase Order. The purchaser reserves the right to increase or decrease the order quantity as specified in the tender documents. The delivery location for the valves will be either Bikaner or Churu.
- **Goods and Services Tax (GST):** Bidders are required to mandatorily quote the applicable rate of GST. The financial evaluation of bids will be performed on the total price, inclusive of GST.
- **Assumption of GST in Case of Ambiguity:** If a bidder fails to explicitly state the rate and amount of applicable taxes in the Schedule of Rates (SOR), or provides an ambiguous statement (e.g., "NIL," "Inclusive," "Extra at actual," or leaves the field blank), their quoted base price shall be deemed to be inclusive of all applicable GST.
- The Supplier shall be responsible for always maintaining adequate insurance coverage throughout the contract period, until the completion of installation, testing, and commissioning, as stipulated in the tender documents. "The Transit Insurance shall be arranged by the **Supplier, failing which the Supplier** shall be fully responsible for any transit damage. Gasonet will not pay any amount of the same.
- Please be advised that the quantity specified above is tentative and subject to increase or decrease based on project requirements. The material is to be delivered to either our Bikaner or Churu location, as will be directed at the time of order placement.

Sign and Stamp of Bidder's