



Tender No.: HOGPL/2022-23/C&P/024



HPOIL GAS PRIVATE LIMITED
(A Joint Venture of HPCL & OIL)

SUPPLY OF ISOLATION & APPLIANCE VALVES AT KOLHAPUR & AMBALA-KURUKSHETRA GA

TECHNICAL VOLUME

Tender No.: HOGPL/2022-23/C&P/024

Date: 16.01.2023



DEFINITION

Where used in this document, the following terms shall have the meanings indicated below, unless clearly indicated by the context to this order.

PROJECT: City Gas Distribution Project of Kolhapur District

OWNER/COMPANY/PURCHASER/CLIENT: HPOIL GAS PRIVATE LIMITED (HOGPL)

VENDOR/BIDDER/SUPPLIER/CONTRACTOR: The party, who manufactures and supplies equipment and Provide services to the OWNER or to CONTRACTOR.

MR: Material Requisition.

Manufacturer: Manufacturer of the isolation ball valves

PTS: Particular Technical Specification and all its appendix, if any.

TPIA: Third Party Inspection Agency approved by HOGPL.

SECTION I: MATERIAL REQUISITION

1.0. SCOPE OF SUPPLY & SERVICES

Design, Engineering, Manufacturing, Inspection, Testing, Marking, Packaging, Handling, Supply, Transportation, Insurance, Loading & Unloading at Kolhapur & Ambala-Kurukshetra (HOGPL) site/store of Isolation & Appliance Valves as per technical volume of tender document and all unmentioned parts necessary for satisfactory operation and testing except those which are indicated to be out of the Vendor's scope.

SOR Item No.	Description of item	Unit	Quantity
1	Supply at Kolhapur GA		
1.1	Isolation Valve ½”	Nos	75238
1.2	Isolation Valve ¾”	Nos	22813
1.3	Appliance Valve ¼”	Nos	22136
2	Supply at Ambala-Kurukshetra GA		
2.1	Isolation Valve ½”	Nos	11500

2.0. VENDOR'S COMPLIANCE

Vendor shall submit his bid in full compliance with the requirements of this MR and attachments.

Compliance with this material requisition in any instance shall not relieve the Vendor of his responsibility to meet the specified performance.



3.0. COMPLIANCE WITH SPECIFICATION

The vendor shall be completely responsible for the design, materials, fabrication, testing, inspection, preparation for shipment and transport of the above item strictly in accordance with the Material Requisition and all attachments thereto.

Any exception must be highlighted by the Vendor at bid stage and will be considered accepted only after written approval.

4.0. INSPECTION

Inspection shall be performed by a Third-Party Inspection Agency as listed in approved TPIA list of this tender document, as set out and specified in the codes and particular documents forming this Material Requisition. Manufacturer shall submit all necessary certificates in accordance with EN 10204 3.2.

5.0. VENDOR'S DOCUMENTS

Vendor shall supply the documentation as listed below. All documents shall be supplied in English language.

DOCUMENTS & DATA REQUIREMENTS

The table hereunder specifies the quantities and the nature of the documents to be submitted by the vendor to the HOGPL.

THE DOCUMENTS ARE FULLY PART OF THE SUPPLY WHICH SHALL BE COMPLETE ONLY IF AND WHEN THE DOCUMENTS COMPLYING FULLY WITH THE MATERIAL REQUISITION REQUIREMENTS ARE RECEIVED BY THE HOGPL.

Item	Documents and Data	A	B		C	
		Number of copies	Number of copies	Duration	Number of copies	Duration
1	List of Raw Material Manufacturer	3	3	2 weeks	3	Along with Dispatch/ Shipment
2	Drawing / Catalogue / Data Submittal List	3	3	2 weeks	3	Along with dispatch/ shipment
3	Delivery Schedule	3	3	2 weeks	3	Along with dispatch/ shipment
4	QA/QC Program	3	3	2 weeks	3	Along with dispatch/ shipment
5	Manufacturer Test Certificates				3	Along with dispatch/ shipment



6	Material Certificate				3	Along with dispatch/shipment
7	Final Technical File with Inspection Report				3	Before claim of final payment

NOTES

- 1) Durations in column B is after Purchase Order date.
- 2) Durations in column C is after document approval.
- 3) Due date of each document may be proposed.

SECTION II: PTS - ISOLATION VALVE

1.0 INTENT OF SPECIFICATION

The intent of this specification is to establish minimum requirements to manufacture and supply of Isolation Ball Valves used for supply of natural gas to domestic & commercial connections.

All codes and standard for manufacture, testing, inspection etc. shall be of latest edition.

Owner/ Owner’s Representative reserves the right to delete or order additional quantities during execution of order, based on unit rates and other terms & conditions in the original order.

2.0 MARKINGS

Markings shall be provided & shall include:

- i) Manufacturer’s name or trade mark, Model designation.
- ii) Rate working pressure in Bar.
- iii) Embossing on valves shall be “EN 331” only.

3.0 PACKAGING

Packing size to be mentioned to ensure uniformity in delivery conditions of the material being procured. Packing size shall be approved by owner / owner’s representative before packing the material. Bidder shall submit the packaging details during offer and also complied with at the time of delivery.

4.0 GAS TIGHTNESS

Valves shall be leak tightness tested in closed position and shall not leak to atmosphere in open and closed position when subjected progressively to internal air pressure of first 0.006 bar (g) and then to at least 1.5 times the maximum operating pressure (MOP) of the valve. This test shall be performed as per EN331 (latest edition).

5.0 TEMPERATURE RESISTANCE TEST

Signature & Seal of Bidder



This test shall be carried out as per EN331 (latest edition).

6.0 MECHANICAL STRENGTH

- i. The body of the valves shall be capable of withstanding, without deformation or leakage, a min. torque as per EN331 (latest edition) as applied to a pipe being connected to the valve.
- ii. Valve shall be capable of withstanding, without deformation or leakage, a min. bending moment as per EN331 (latest edition) as applied to a pipe being connected to the valve.
- iii. The valves shall be capable of withstanding impact without breakage or leakage as per EN331 (latest edition).
- iv. Vendor shall submit Model Number along with catalogues in English language along with un-priced bids.
- v. Maximum turning torque to operate the valve as per EN331 (latest edition).

7.0 DATA SHEET OF ISOLATION VALVE

S.NO	DESCRIPTION	DATA
1.00	PROCESS DATA	
1.01	Fluid	Natural Gas
2.00	Operating condition	
2.01	Pressure	4 bar (g)
2.02	Temperature (°C)	0 - 45
3.00	Design condition	
3.01	Pressure	6 bar (g)
3.02	Temperature (°C)	-5 to 60
4.00	VALVE DATA	
4.01	Size	½", ¾"
4.02	Type	Isolation Ball Valve, Full Bore with NPT (Confirming to ANSI B1.20.1) Female Threaded Ends (both inlet & outlet) for natural gas application with operating knob and locking arrangement, sealing wire and lead seal (without Key). Valve full open/close position shall be at 90°. The material is required for Domestic Natural Gas Service.
4.03	Pressure Rating	*
4.04	End connection	End connection should be NPT Female (conforming to ANSI B1.20.1).
4.05	Body material	Total body shall be of Forged Brass (ASTM B 283, Alloy UNSC37700) with hard Nickel / Chrome Plated. UTS – Min. 345 Mpa & Elongation 25 %
4.06	Ball material	Hard Chrome / Nickel Plated (*), Forged Brass (ASTM B 283, Alloy UNSC37700) with Teflon Seat. UTS – Min. 345 Mpa & Elongation 25 %
4.07	Stem	*
4.08	Seat & seal	*
4.09	Fire safe	*
4.10	Anti blow out	*
4.11	Antistatic	*



4.12	Extension stem	NA
4.13	Operator	Knob and locking arrangement with Butterflytype Handle
5.00	PAINTING	
5.01	Surface preparation	*
5.02	Primer	*
5.03	Finish	*
5.04	Insulation	*
6.00	TEST	
6.01	Hydrostatic Shell Test	
	Test Pressure	7.8 bar(g)
	Test Medium	*
6.02	Hydrostatic Seat Test	
	Test Pressure	*
	Test medium	*
6.03	Functional / Pneumatic Test	
	Test Pressure	7.8 bar(g)
	Test medium	Air
6.04	Tensile Strength Test	As per EN331 (latest edition)
6.05	Bending Test	As per EN331 (latest edition)
6.06	Torque Test	As per EN331 (latest edition)
6.07	Turning Torque Test	As per EN331 (latest edition)
6.08	Antistatic Test	*
6.09	Fire Test	*
6.10	Visual and dimensional examination	As per QAP
Note	Unless otherwise stated all tests will be witnessed by the purchaser	
7.00	QUALITY CONTROL	
7.01	Material certificates	EN-10204, 3.2 Certificate
7.02	All testing certificates	*
8.00	NICKEL-CHROME PLATING	
8.01	Body, Ball etc.	* (Note-3)

- NOTE:**
1. All Tests shall be carried out as per EN-331 (Latest Edition).
 2. Data / Information as marked “ * “ shall be provided by Vendor / Manufacturer for review and approval by Client / PMC.
 3. Nickel-Chrome Plating thickness shall be 10 micron ± 2 micron on valve body and ball.

SECTION III: PTS - APPLIANCE VALVE

1.0 INTENT OF SPECIFICATION

The intent of this specification is to establish minimum requirements to manufacture and supply of Appliance Ball Valves used for supply of domestic natural gas.

All codes and standard for manufacture, testing, inspection etc. shall be of latest edition.

Owner/ Owner’s Representative reserves the right to delete or order additional quantities



during execution of order, based on unit rates and other terms & conditions in the original order.

2.0 MARKINGS

Markings shall be provided & shall include:

- i) Manufacturer’s name or trade mark Model designation
- ii) Rate working pressure in Bar.
- iii) Embossing on valves shall be “EN 331” only.

3.0 PACKAGING

Packing size to be mentioned to ensure uniformity in delivery conditions of the material being procured. Packing size shall be approved by owner / owner’s representative before packing the material. Bidder shall submit the packaging details during offer and also complied with at the time of delivery.

4.0 GAS TIGHTNESS

Valves shall be leak tightness tested in closed position and shall not leak to atmosphere in open and closed position when subjected progressively to internal air pressure of first 0.006 bar(g) and then to at least 1.5 times the maximum operating pressure (MOP) of the valve. This test shall be performed as per EN331 (latest edition).

5.0 TEMPERATURE RESISTANCE TEST

This test shall be carried out as per EN331 (latest edition).

6.0 MECHANICAL STRENGTH

- 1. The body of the valves shall be capable of withstanding, without deformation or leakage, a min. torque as per EN331 (latest edition) as applied to a pipe being connected to the valve.
- 2. Valve shall be capable of withstanding, without deformation or leakage, a min. bending moment as per EN331 (latest edition) as applied to a pipe being connected to the valve.
- 3. The valves shall be capable of withstanding impact without breakage or leakage as per EN331 (latest edition).
- 4. Vendor shall submit Model Number along with catalogues in English language along with un-priced bids.
- 5. Maximum turning torque to operate the valve as per EN331 (latest edition).

7.0 DATA SHEET OF APPLIANCE VALVE

S.NO	DESCRIPTION	DATA
1.00	PROCESS DATA	
1.01	Fluid	Natural Gas



2.00	Operating condition	
2.01	pressure	4 bar (g)
2.02	Temperature (°C)	0 - 45
3.00	Design condition	
3.01	pressure	6 bar (g)
3.02	Temperature (°C)	-5 to 60
4.00	VALVE DATA	
4.01	Size	1/4"
4.02	Type	Appliance Ball Valve, Full Bore with NPT (Confirming to ANSI B1.20.1) Female Threaded End as an inlet and the outlet shall be having Ni/Cr plated brass or stainless-steel nozzle (Serrated to suit 1/4" rubber tubing / hose connection and with a metallic operating knob for full open/close at 90° position. The material is required for Domestic Natural Gas Service.
4.03	Pressure Rating	*
4.04	End connection	End connection at the inlet should be NPT Female (conforming to ANSI B1.20.1) and the outlet shall be having Ni/Cr plated brass or stainless steel nozzle
4.05	Body material	Total body including the nozzle shall be of Forged Brass (ASTM B 283, Alloy UNSC37700) with hard Nickel / Chrome Plated. UTS – Min. 345 Mpa & Elongation 25 %
4.06	Ball material	Hard Chrome / Nickel Plated (*), Forged Brass (ASTM B 283, Alloy UNSC37700) with Teflon Seat. UTS – Min. 345 Mpa & Elongation 25 %
4.07	Stem	*
4.08	Seat & seal	*
4.09	Fire safe	*
4.10	Anti-blow out	*
4.11	Antistatic	*
4.12	Extension stem	NA
4.13	Operator	Knob with Butterfly type Handle and without locking arrangement
5.00	PAINTING	
5.01	Surface preparation	*
5.02	Primer	*
5.03	Finish	*
5.04	Insulation	*
6.00	TEST	
6.01	Hydrostatic Shell Test	
	Test Pressure	7.8 bar(g)
	Test Medium	*
6.02	Hydrostatic Seat Test	*
	Test Pressure	*
	Test medium	*
6.03	Functional / Pneumatic Test	
	Test Pressure	7.8 bar(g)
	Test Medium	Air
6.04	Tensile Strength Test	As per EN331 (latest edition)
6.05	Bending Test	As per EN331 (latest edition)
6.06	Torque Test	As per EN331 (latest edition)
6.07	Turning Torque Test	As per EN331 (latest edition)



6.08	Antistatic Test	*
6.09	Fire Test	*
6.10	Visual and dimensional examination	As per QAP
Note	Unless otherwise stated all tests will be witnessed by the purchaser	
7.00	QUALITY CONTROL	
7.01	Material certificates	EN-10204, 3.2 Certificate
7.02	All testing certificates	*
8.00	NICKEL-CHROME PLATING	
8.01	Body, Ball etc.	* (Note-3)

NOTE: 1. All Tests shall be carried out as per EN-331 as per EN331 (latest edition).

2. Data / Information as marked “ * “ shall be provided by Vendor / Manufacturer for review and approval by Client / PMC.

3. Nickel-Chrome Plating thickness shall be 10 micron \pm 2 micron on valve body and



**QUALITY ASSURANCE PLAN
ISOLATION VALVE**

SR. NO.	INSPECTION AND TESTING	QUANTUM OF CHECK / TEST	PROCEDURE	ACCEPTANCE CRITERIA AND CERTIFICATE	FORMAT OF RECORD	INSPECTION BY		REMARKS
						Manufacturer	TPIA	
1.0	Raw Material							
1.1	Metallic Parts (Chemical / Physical Requirement)	One in each heat	As per ASTM B 283 (ALLOY UNS C37700) / EN 331	As per ASTM B 283 (ALLOY UNS C37700) / EN 331	MATERIAL TEST CERTIFICATE	P	R	
1.2	Seat & Stem Seal	One in each heat	As per EN 331 / Manufacturer's Standard	As per EN 331 / Manufacturer's Standard	MATERIAL TEST CERTIFICATE	P	R	
2.0	Final Product :							
2.1	Gas Tightness Test	100%	As per EN 331	As per EN 331	TEST REPORT	P	W = Ten nos. per size per Lot	
2.2	Bending Test	One no. per Heat per Size	As per EN 331	As per EN 331	TEST REPORT	P	W = One no. per size per Lot	
2.3	Turning Torque Test	One no. per Heat per Size	As per EN 331	As per EN 331	TEST REPORT	P	W = One no. per size per Lot	
2.4	Temperature Resistance Test	One no. per Heat per Size	As per EN 331	As per EN 331	TEST REPORT	P	W = Ten no. per size per Lot	
2.5	Flow Capacity Test	One no. per Heat per Size	As per EN 331	As per EN 331	TEST REPORT	P	W = One no. per size per Lot	
2.6	Twist (torque Test)	One no. per Heat per Size	As per EN 331	As per EN 331	TEST REPORT	P	W = One no. per size per Lot	
3.0	Visual Inspection (Free from defects)	100%	As per EN 331	As per EN 331	INSPECTION REPORT	P	W = Ten nos. per size per Lot	
4.0	Dimension Tolerances (Min. length of engagement , OD , wall thk.)	100%	As per Approved Drawing	As per Approved Drawing	INSPECTION REPORT	P	W = Ten nos. per size per Lot	
5.0	Marking	100%	As per EN 331	As per EN 331	INSPECTION REPORT	P	W = Ten nos. per size per Lot	
6.0	Final Documentation		As per P.O. / PTS	As per P.O. / PTS	EN 10204 3.2 CERTIFICATE	P	R	

LEGEND: R - Review, W - Witness, H - Hold, P - Perform, TPIA - Third Party Inspection Agency, CA - Control Authority (Owner / Owner's representative)

Signature & Seal of Bidder



Notes: -

- 1 The Above Testing and acceptance criteria are minimum requirements; however, manufacturer shall ensure that the product shall also comply to the additional requirements as per Particular Technical specifications (PTS)
- 2 The supplier shall submit their own detailed QAP prepared on the basis of above / Technical specification for approval of Owner/Owner's representative.
- 3 Owner/Owner representative shall review/approve all the documents related to QAP/Quality manuals/Drawings etc. submitted by supplier.
- 4 Contractor shall in coordination with Supplier/Sub vendor shall issue detailed Production and Inspection schedule indicating the dates and the locations to facilitate Owner/Owner's representative and TPIA to organize Inspection.
- 5 Special manufacturing procedures have to be specially approved or only previously approved procedures have to be used, in case of conflict between specifications more stringent condition shall be applicable.
- 6 Owner / Owner's representative including TPIA will have the right to inspect any activity of manufacturing at any time
- 7 All reference Codes/ Standards, Documents, P.O. Copies shall be arranged by vendor / supplier for reference of TPIA/IGL at the time of Inspection
- 8 At the time of delivery of material in stores, vendor will submit copy of all related document of inspection along with release note & MTC.
- 9 All Tests shall be carried out as per EN-331 (Latest Edition).

**QUALITY ASSURANCE PLAN
APPLIANCE VALVE**

SR. NO.	INSPECTION AND TESTING	QUANTUM OF CHECK / TEST	PROCEDURE	ACCEPTANCE CRITERIA AND CERTIFICATE	FORMAT OF RECORD	INSPECTION BY		REMARKS
						Manufacturer	TPIA	
1.0	Raw Material							
1.1	Metallic Parts (Chemical / Physical Requirement)	One in each heat	As per ASTM B 283 (ALLOY UNS C37700) / EN 331	As per ASTM B 283 (ALLOY UNS C37700) / EN 331	MATERIAL TEST CERTIFICATE	P	R	
1.2	Seat & Stem Seal	One in each heat	As per EN 331 / Manufacturer's Standard	As per EN 331 / Manufacturer's Standard	MATERIAL TEST CERTIFICATE	P	R	
2.0	Final Product							
2.1	Gas Leak Tightness Test	100%	As per EN 331	As per EN 331	TEST REPORT	P	W = Ten nos. per size per Lot	Min 2% by TPIA
2.2	Bending & Torque Test	One no. per Heat per Size	As per EN 331	As per EN 331	TEST REPORT	P	W = Ten nos. per size per Lot	
2.3	Operating Torque Test	One no. per Heat per Size	As per EN 331	As per EN 331	TEST REPORT	P	W = Ten nos. per size per Lot	
2.4	Temperature Resistance Test	One no. per Heat per Size	As per EN 331	As per EN 331	TEST REPORT	P	W = Ten nos. per size per Lot	
2.5	Flow Capacity Test	One no. per Heat per Size	As per EN 331	As per EN 331	TEST REPORT	P	W = Ten nos. per size per Lot	
3.0	Visual Inspection (Free from defects)	100%	As per EN 331	As per EN 331	INSPECTION REPORT	P	W = Ten nos. per size per Lot	Min 2% by TPIA

Signature & Seal of Bidder

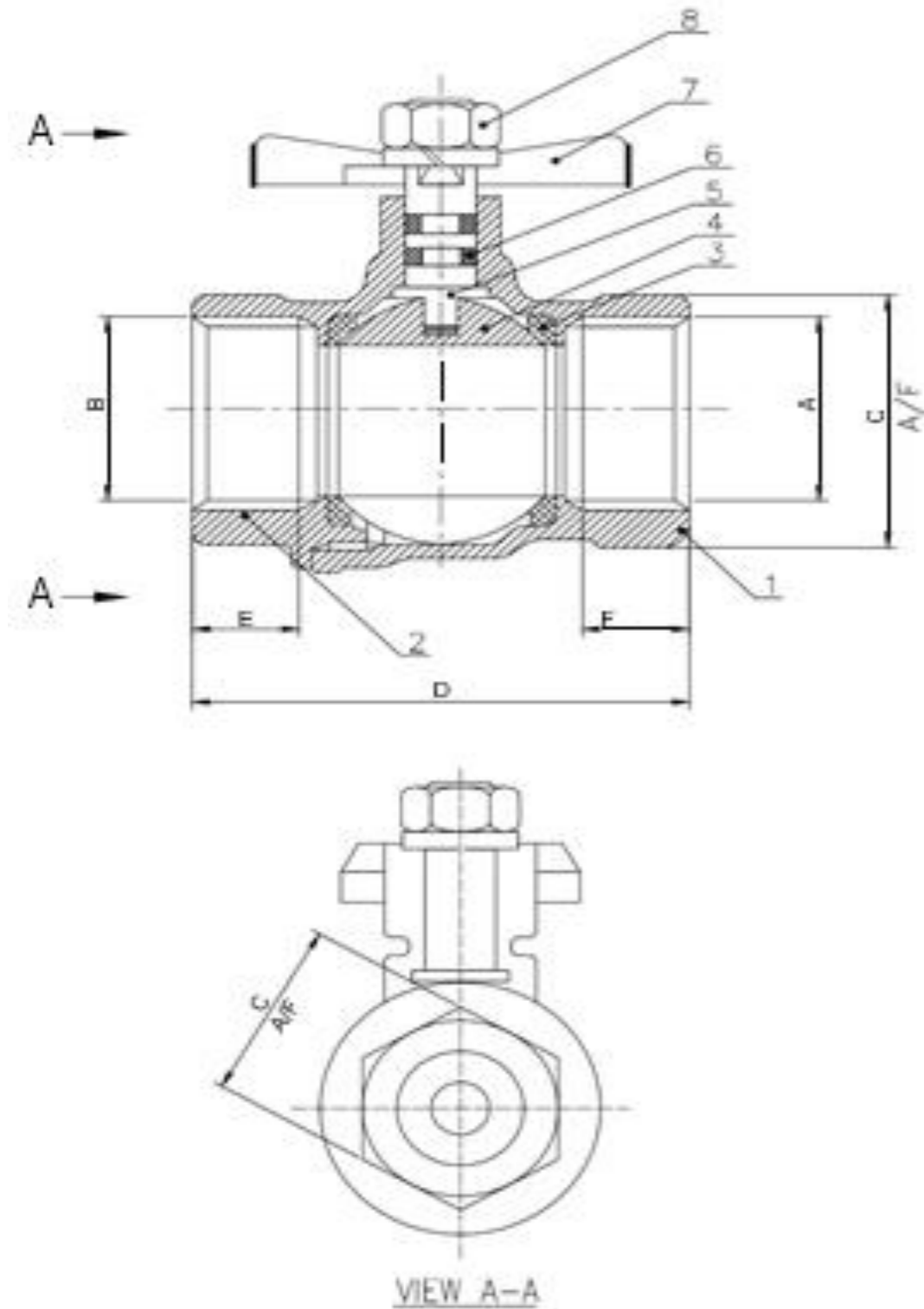


4.0	Dimension Tolerances (Min. length of engagement, OD , wall thk.)	100%	As per Approved Drawing	As per Approved Drawing	INSPECTION REPORT	P	W = Ten nos. per size per Lot	Min 2% by TPIA
5.0	Marking	100%	As per EN 331	As per EN 331	INSPECTION REPORT	P	W = Ten nos. per size per Lot	Min 2% by TPIA
6.0	Final Documentation		As per P.O. / PTS	As per P.O. / PTS	EN 10204 3.2 CERTIFICATE	P	R	

LEGEND: R - Review, W - Witness, H - Hold, P - Perform, TPIA - Third Party Inspection Agency, CA - Control Authority (Owner / Owner's representative)

Notes: -

- 1 The Above Testing and acceptance criteria are minimum requirements; however, manufacturer shall ensure that the product shall also comply to the additional requirements as per Particular Technical specifications (PTS)
- 2 The supplier shall submit their own detailed QAP prepared on the basis of above / Technical specification for approval of Owner/Owner's representative.
- 3 Owner/Owner representative shall review/approve all the documents related to QAP/Quality manuals/Drawings etc. submitted by supplier.
- 4 Contractor shall in coordination with Supplier/Sub vendor shall issue detailed Production and Inspection schedule indicating the dates and the locations to facilitate Owner/Owner's representative and TPIA to organize Inspection.
- 5 Special manufacturing procedures have to be specially approved or only previously approved procedures have to be used, in case of conflict between specifications more stringent condition shall be applicable.
- 6 Owner / Owner's representative including TPIA will have the right to inspect any activity of manufacturing at any time
- 7 All reference Codes/ Standards, Documents, P.O. Copies shall be arranged by vendor / supplier for reference of TPIA/IGL at the time of Inspection
- 8 At the time of delivery of material in stores, vendor will submit copy of all related document of inspection along with release note & MTC.
- 9 All Tests shall be carried out as per EN-331. However, other additional tests, which are not covered in EN-331, shall be carried out as per ASME B16.33.



TECHNICAL SPECIFICATIONS

MEDIUM	NATURAL GAS
END CONNECTION	1/2", 3/4" NPT (F) AT BOTH INLET & OUTLET
OPERATING PRESSURE	4 BAR(G)
OPERATING TEMPERATURE	0 – 45 DEG C
DESIGN PRESSURE	6 BAR(G)
DESIGN TEMPERATURE	-5– 60 DEG C
OPERATOR	KNOB & LOCKING ARRANGEMENT WITH BUTTERFLY TYPE HANDLE
MATERIAL OF CONSTRUCTION (REFER DATA SHEET)	BODY: FORGED BRASS (ASTM B 283, ALLOY UNSC37700) WITH HARD NICKEL/CHROME PLATED BALL: FORGED BRASS (ASTM B 283, ALLOY, UNSC37700) WITH HARD NICKEL, CHROME PLATED

NOTE:

1. ALL DIMENSIONS ARE IN MM UNLESS SPECIFIED OTHERWISE
2. ALL NPT THREADS SHALL BE AS PER ASME B 1.20.1
3. ALL DIMENSIONS MARKED " ** " SHALL BE PROVIDED BY VENDOR
4. DIMENSIONS MENTIONED IN TABLE ARE MINIMUM REQUIREMENT
5. GA DRAWING AS SHOWN IS INDICATIVE ONLY. ACTUAL SHAPE/SIZE SHALL BE AS PER VENDOR'S OWN GA DRAWING.

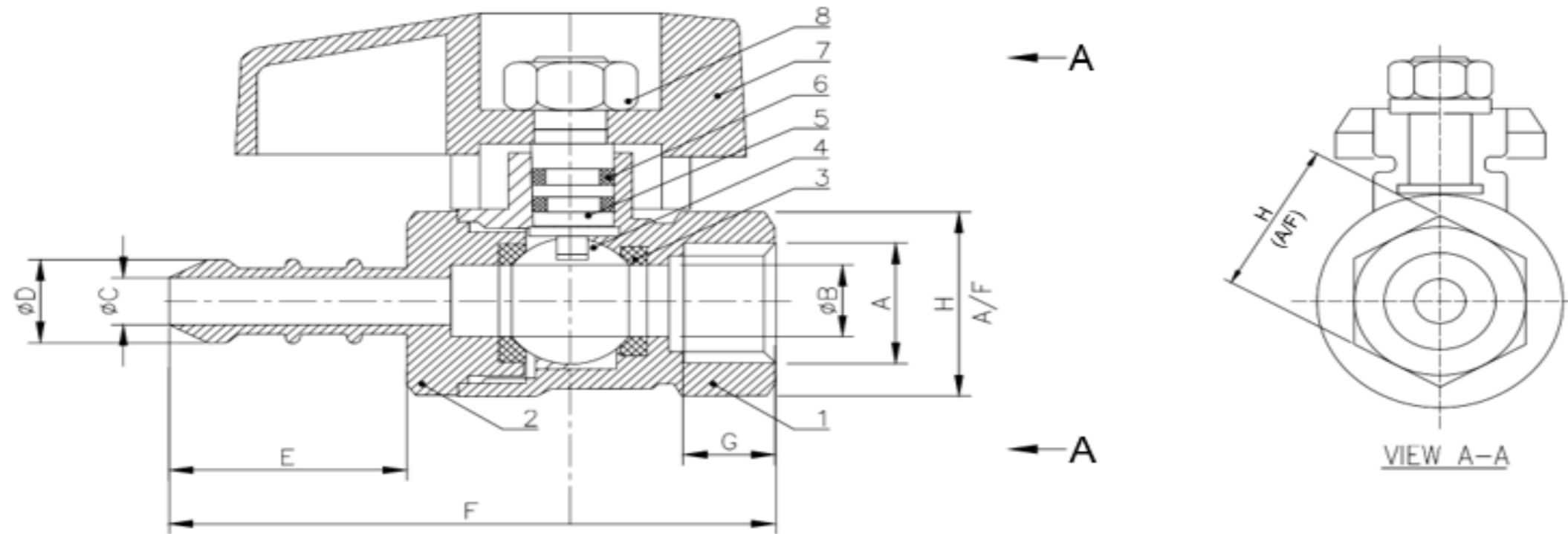
MATERIAL LIST

Item	Part	Material
1	BODY	BRASS
2	END CAP	BRASS
3	BALL SEAT	PTFE
4	BALL	BRASS
5	STEM	BRASS
6	O-RING	NBR
7	HANDLE	STEEL, NICKEL PLATED
8	STEM NUT	STEEL, NICKEL PLATED

DIMENSION TABLE

SIZE	A	B	C	D	E (Min.)	F (Min.)
1/2"	1/2" NPT(F) x 14 TPI	1/2" NPT(F) x 14 TPI	25 ^{+1.0} ₀	56 ^{+1.0}	15.5	15.5
3/4"	3/4" NPT(F) x 14 TPI	3/4" NPT(F) x 14 TPI	31 ^{+1.0} ₀	62 ^{+1.0}	16.0	16.0
1"	1" NPT(F) x 11.5 TPI	1" NPT(F) x 11.5 TPI	38 ^{+1.0} ₀	76 ^{+1.0}	18.5	18.5

Signature & Seal of Bidder



NOTE:

1. ALL DIMENSIONS ARE IN MM UNLESS SPECIFIED OTHERWISE
2. ALL NPT THREADS SHALL BE AS PER ASME B 1.20.1
3. ALL DIMENSIONS MARKED " * " SHALL BE PROVIDED BY VENDOR
4. DIMENSIONS MENTIONED IN TABLE ARE MINIMUM REQUIREMENT
5. GA DRAWING AS SHOWN IS INDICATIVE ONLY. ACTUAL SHAPE/SIZE SHALL BE AS PER VENDOR'S OWN GA DRAWING.

TECHNICAL SPECIFICATIONS	
MEDIUM	NATURAL GAS
END CONNECTION	1/4" NPT (F) at inlet and 10mm dia. Male nozzle at outlet (as shown in fig.) 1/2" NPT (F) at inlet and 10mm dia. Male nozzle at outlet (as shown in fig.)
OPERATING PRESSURE	4 BAR(G)
OPERATING TEMPERATURE	0 – 45 DEG C
DESIGN PRESSURE	6 BAR(G)
DESIGN TEMPERATURE	-5 – 60 DEG C
OPERATOR	KNOB WITH BUTTERFLY TYPE HANDLE
MATERIAL OF CONSTRUCTION (REFER DATA SHEET)	BODY : FORGED BRASS (ASTM B 283, ALLOY UNSC37700) WITH HARD NICKEL/CHROME PLATED BALL : FORGED BRASS (ASTM B 283, ALLOY, UNSC37700) WITH HARD NICKEL, CHROME PLATED

MATERIAL LIST		
ITEM	PART	MATERIAL
1	BODY	BRASS
2	END CAP	BRASS
3	BALL SEAT	PTFE
4	BALL	BRASS
5	STEM	BRASS
6	O-RING	NBR
7	HANDLE	STEEL, NICKEL PLATED
8	STEM NUT	STEEL, NICKEL PLATED

DIMENSION TABLE								
SIZE	A	B	C	D	E	F	G*	H
1/4"	1/4" NPT(F) x 18 TPI	8	5.5 ⁰ _{-0.1}	10 ^{+0.2} ₀	23.5 ^{+0.2} ₀	60 ^{+2.0} ₀	10.1 ^{+0.2} ₀	18 ^{+0.2} ₀

Signature & Seal of Bidder



SECTION III
CHECKLIST – TECHNICAL

Bidder confirms following, as a minimum, has been enclosed in the offer.

S.NO	Requirements	Compiled by Bidder (Tick)
1	Reference List of previous supply of Procured item	
2	Filled – up Data Sheets, duly signed and stamped by bidder enclosed.	
3	List of recommended commissioning spares and accessories for Procured item.	
4	List of recommended spares and accessories for two-year normal operation for procured item.	
5	Compliance statement duly filled and stamped enclosed.	
6	GA & assembly drawings, cross section drawings including partlist & material list enclosed.	
7	Other technical details & vendor's product catalogues enclosed.	

COMPLIANCE STATEMENT

Sl. No	Requirement	Bidder's Confirmation
1	Bidder confirms that all materials proposed by the bidder are same/ superior to those specified in specification/ data sheets enclosed.	
2	Bidder confirms that the offer is in total compliance with the Technical requirements of the Material Requisition. Bidder confirms that deviation expressed or implied anywhere else in the offer shall not be considered valid.	
3	Bidder confirms that in the event of securing order for the requisitioned item(s), good for manufacturing drawings of ordered item(s) shall have complete details with dimensions, part list and material list including back-up calculations in the first submission, failing which the vendor shall be solely responsible for any likely delay in delivery of item(s).	

Signature & Seal of Bidder



INFORMATION/ DOCUMENTS / DRAWINGS TO BE SUBMITTED BY SUCCESSFUL BIDDER

1. Inspection & test reports for all mandatory tests as per the applicable code as well as test reports for any supplementary tests, in nicely bound volumes.
2. Filled in Quality Assurance Plan (QAP) for Purchaser's/ Consultant's approval. These QAPs shall be submitted in two copies within 15 days from LOI/ FOI.
3. Detailed completion schedule activity wise (Bar Chart), within one week of placement of order.

Note: All drawings, instructions, catalogues, etc., shall be in English language and all dimensions shall be metric units

INSTRUCTION TO BIDDERS

1. Bidder to note that no correspondence shall be entered into or entertained after the bid submission.
2. Bidder shall furnish quotation only in case he can supply material strictly as per this Material Requisition and specification/data sheet forming part of Material Requisition.
3. If the offer contains any technical deviations or clarifications or stipulates any technical specifications (even if in line with MR requirements) and does not include complete scope & technical / performance data required to be submitted with the offer, the offer shall be liable for rejection.
4. Bidder must submit all documents as listed in checklist with his offer.
5. Supplier must note that stage wise inspection for complete fabrication, testing including the raw material inspected to be carried out.
6. Vendors for bought out items to be restricted to the approved vendor list attached with bid document. Approval of additional vendor if required, for all critical bought out items shall be obtained by the supplier from the purchaser before placement of order. Credentials/PTR of the additional vendor proposed to be submitted by supplier for review and a Purchaser/ Purchaser's representative

LIST OF APPROVED TPIA

- 1. Tata Projects Ltd.**
22, Sarvodaya Society, Nizampura, Baroda-390002
0265-2392863 0265-2785952
- 2. Bax counsel Insepection Bureau Pvt. Ltd.**
303, Madhava, Bandra Kurla Complex, Bandra(E), Mumbai 400051
022-26591526,022- 26590236 022-26591526
- 3. Germanischer Lloyd**
4th Floor, Dakshna Building, Sec 11, Plot NO.2,
CBD Belapur, Navi Mumbai
022-4078 1000 022-4024 2935
- 4. ABS Industrial Verification Ltd.,**
Mumbai 404, Mayuresh Chambers, Sector 11,



CBD Belapur(E), Navi Mumbai 400614
022-27578780 /1 /2 022-27578784 / 5

- 5. Certification Engineers International Ltd.**
EIL Bhavan,5th floor,1, Bhikaji Camma Place,
New Delhi-110066
011- 26167539,26102121 011-26101419
- 6. Dalal Mott MacDonald**
501, Sakar -II, Ellisbridge, Ahemedabad 380006
079-26575550 079-6575558
- 7. International Certification Systems**
E-7, Chand Society, Juhu Road,
Juhu, Mumbai-4000049
022-26245747 022-226248167
- 8. SGS**
SGS India Pvt. Ltd., SGS House,4B,
A.S.Marg, Vikhroli(W),Mumbai
022-25798421 to 28, 022-25798431 to 33
- 9. Intertek Moody**
9th Floor, Kanchenjunga Building,
18- Barakhamba Road, New Delhi-110001
011-4713 3900 011-4713 3999
- 10. TUV SUD South Asia**
C-153/1, Okhla Industrial Ara, Phase-1,
New Delhi-110020
011-3088 9611/9797 011-3088 9598
- 11. TUV Rheinland (India) Pvt. Ltd.**
F-51, Kailash Complex GF, Veer Savarkar Marg,
Vikhroli Park Site, Vikhroli(W), Mumbai-400079
022-4215 5435 022-4215 5434
- 12. Vincott International India Assessment Service Pvt. Ltd.**
C-301, Mangalya Premises Cooperative Soc. Ltd,
Off. Marol Maroshi Road, Andheri(E), Mumbai 400959
022-4247 4100 022-4247 4101
- 13. Meenar Global Consultants**
Mr. Nitin Taneja (Project Manager) M: +91-9711212783
T: +91-129-4072836 Web: www.meenaar.in
Email: nitin.taneja@mee naar.in
- 14. VCS Quality Services Pvt. Ltd.**
505, 5th floor, 360 Degree Business Park,
Next to R-Mall, L.B.S. Marg, Mulund West,
Mumbai 400080
Tel: 91 22 21649720 091 22 21646392