HPOIL GAS PRIVATE LIMITED

(A Joint Venture of HPCL & OIL)

CITY GAS DISTRIBUTION PROJECT OF KOLHAPUR DISTRICT, MAHARASHTRA

TENDER NAME: SUPPLY OF DOMESTIC DIAPHRAGM GAS METERS TO KOLHAPUR GA

Tender No.: HOGPL/2024-25/C&P/022
Dated: 11.03.2025

TECHNICAL VOLUME (VOL II of II)
(COMPETITIVE BIDDING)

SECTION - I MATERIAL REQUISITION

1. 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.

2. DOCUMENT PRECEDENCE

It shall be the responsibility of the Manufacturer / Vendor to inform the Purchaser of any errors, ambiguities, inconsistencies, discrepancies or conflict of information that may be found to exist in any document, specification or drawing submitted by the Purchaser.

In case of conflict, the order of precedence shall be as follows:

a. Data Sheets;
b. Technical Specifications;
c. Basic Documents;
d. Codes and Standards.

As a general rule in the event of any discrepancy between technical matter and local laws/ regulations (and documents above listed) the most stringent shall be applied. Manufacturer / Vendor shall notify purchaser of any apparent conflicts between MR, specifications, related datasheets, any code and standards and any other specifications noted herein. (Resolution and / or interpretation precedence shall be obtained from Purchaser in writing before proceeding with the design / manufacturer or completion of services.)

3. SCOPE OF SUPPLY & SERVICES

The Scope Design, Engineering, Manufacture, Inspection, Testing, Supply of Domestic Diaphragm Natural Gas Meters G 1.6 (Normal) including packaging, insurance, handling, transportation, loading, unloading at sites, designated store.

~~This specification covers the requirements for 12 mm OD X 0.6 mm wall thickness Copper tube, Half Hard. Unless modified by this specification, requirement of BS EN 1057 (latest), Half Hard, shall be valid, with the recommended changes in physical properties to suit wrinkle free bend ability.~~

SOR Item No.	Description of item	Unit	Quantity
1	The Scope Design, Engineering, Manufacture, Inspection, Testing, Supply of Domestic Diaphragm Natural Gas Meters G 1.6 (Normal) including packaging, insurance, handling, transportation, loading, unloading at sites, designated store.	Nos	3000

NOTE:

I. Bidder has to quote full quantity of quoted item mentioned above; partial quotation for the item shall be liable to rejection.
II. Cost of Third Party Inspection Agency shall be in bidder/supplier scope.
III. Accessories for meter shall be supplied as specified in the specifications attached with the material

requisition.

4. REMARKS/COMMENTS

4.1. Supplier's Compliance

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

Bidder shall include the following statement in his bid:

We certify that our bid is fully complying with your enquiry dated ….....……and referenced ……,

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

4.2. **Compliance with Specification**:

The supplier shall be completely responsible for the design, materials, fabrication, testing, and Inspection, preparation for shipment & transfer of above material to nominated delivery point strictly in accordance with the MR & all attachments thereto.

4.3. Supplier's Scope

Supplier's scope of work includes the equipment with all internals & accessories shown on the data sheets, specifications and all parts necessary for a satisfactory operation & testing except those which are indicated to be out of Supplier's supply.

5. DOCUMENTS & DATA REQUIREMENTS

5.1. The table hereunder specifies the quantities & nature of the documents to be submitted by the Supplier to Company.

5.2. The documents required at the inquiry stage to be included in the bid are listed under column A.

5.3. The documents required after award of the agreement and subject to the written approval of the Company are listed under column B.

5.4. The final & certified documents are listed under column C.

5.5. Any document even when preliminary shall be binding and therefore duly identified & signed by the Supplier. It shall bear the Company's project reference, the PR number and identification number.

5.6. The documents are fully part of the supply which shall be complete only if and when the documents complying fully with the purchase requisition requirements received by the Engineer.

Sr No	Number of copies	A	B		C	
		Number of copies	Number of copies	Required date	Number of copies	Required date
1	Data sheet, catalogue, etc. documents submittal schedule	1	4	1 week	4	1 week
2	Detail GA Drawing with part names and MOC of each part.		4	1 week	4	1 week

3	Code Compliance Certificate as per applicable governing standard	1	4	1 week	4	1 week
4	Meter index format		4	1 week	4	1 week
5	Test / Calibration / Inspection Certificates / Reports		4	1 week after test	4	1 week
6	Installation, Operation and Maintenance manuals, Catalogues with part list for meters along with software CD and calibration reports.		4	2 weeks before shipping	4	1 week
7	Sizing calculation		3	1 Week	3	1 Week
8	Packing / Shipping list with weights and dimensions. (Note-6)		4	2 weeks before shipping	4	
9	Final technical file (containing all final drawings and documents listed in column 'c')		4	2 weeks before shipping		
10	Type Approval Certificate, Weights & Measures Certificate for meter	1	2	1 week	4	1 week
11	ATEX approval certificates for meter	1	2	1 week	4	1 week
12	SOR of quoted items along with signed and stamped	1	3	2 Weeks before shipping	~	1 Week
13	Deviation form, Technical specification if any with proper justification.	1				
14	Inspection and test procedures	3	2 Weeks before shipping	~	1 Week	
15	Compliance certificate to quality assurance plan	1		1 week		1 Week

NOTES:

I. Duration in column B (required date) are weeks after purchase order date (=T0).
II. Duration in column C (required date) are weeks after document approval.
III. Due date of each document may be proposed.
IV. Final technical file shall be supplied in hard copy as indicated, and in electronic format (PDF).
V. The selected vendor shall provide calibration certificates of each meter.
VI. The packing boxes for each flow meter. (Each Item which is been packed independently) shall carry the item calibration certificate within the packing box.

SECTION - II MATERIAL SPECIFICATION

ABBREVIATION

Abbreviation	Full Form
AMR	Automatic Meter Reading
ATEX	Atmosphères Explosibles
ANSI	American National Standards Institute
EVC	Electronic Volume Corrector
FAT	Factory Acceptance Test
IEC	International Electrotechnical Commission
ISO	International Organization for Standardization
MAOP	Maximum Allowable Operating Pressure
MIU	Meter Interface Unit
NACE	National Association of Corrosion Engineers
NPT	Nominal Pipe Thread
NRV	Non Return Valve
OEM	Original Equipment Manufacturer
PNGRB	Petroleum and Natural Gas Regulatory Board
RF	Radio Frequency
RO	Restriction Orifice
SAT	Site Acceptance Test
SS	Stainless Steel
TPIA	Third Party Inspection Agency
WPC	Wireless Planning & Coordination Wing

1. SCOPE

This Standard Specification, together with the data sheets attached herewith, establishes the minimum technical and functional requirements for design, engineering, materials, fabrication, painting, inspection and testing, documentation, marking, packing and shipping of gas meters used in Domestic applications in CGD industry.

2. REFERENCE DOCUMENTS

The related standards referred to herein and mentioned below shall be of the latest editions prior to the date of the Purchaser's enquiry.

Standard	Description
EN 1359 + A1 Latest	Gas Meters - Diaphragm Meters
OIML R137	Gas Meters
ATEX	94/9/EC Directive
EN 12480	Gas meters - Rotary Displacement Gas Meters
AGA Report No.7	Measurement of Natural Gas by Turbine Meters
AGA Report No.8	Compressibility factor of Natural Gas and other related Hydrocarbon gases
ISO 27001	Information security standards
BS 4161	Specification for diaphragm meters of 6 cubic meters
IEC 60529	Degree of Protection Provided by Enclosures (IP Code)
ASME B1.20.1	Pipe Threads, General Purpose (Inch)
ASME B16.5	Pipe Flanges and Flanged Fittings
EN 12405-1 + A1	Electronic Volume Calculator
IEC 60529	Degree of Protection Provided by Enclosures (IP Code)
IEC 60079	Electrical apparatus for explosive gas atmospheres
PNGRB T4S	PNGRB Technical Standards and Specifications

3. DESIGN CRITERIA

3.1. GENERAL

All gas meters shall be designed for continuous operation in the given site conditions with the following design criteria:

- Ease of operation and maintenance
- Suitability for applicable environmental conditions
- Suitability for operation in the designated classification of hazardous areas
- State-of-the-art proven technology and instrumentation
- Safety for operating and maintenance personnel
- Safety for connected equipment
- High redundancy with high reliability (high MTBF and low MTTR) and no single point of failure
- Minimum cost of ownership

3.2. ENVIRONMENTAL CONDITIONS

The equipment considered and the complete installation shall be suitable for continuous operation under the ambient conditions prevailing at site.

3.3. EMC COMPLIANCE

All gas meters and accessories shall be immune to Radio Frequency Interference (RFI) and Electro Magnetic Interference (EMI). The design and installation of all electrical / electronic equipment shall meet the RFI/EMI requirements according to IEC 61000, emission (IEC61000-6-4) and immunity (IEC-61000-6-2) requirements for an industrial environment.

3.4. HAZARDOUS AREA CLASSIFICATION

Gas meters shall be certified for use in designated areas when installed in hazardous area classified zones as per IEC 60079.

3.5. INGRESS PROTECTION

Gas meters shall have ingress protection to IP 54 or better in accordance with IEC 60529.

4. TECHNICAL REQUIREMENTS

Gas meters shall be installed at domestic applications in order to meter the gas consumed by the Customers. Gas meter type shall be decided based on flow capacity, pressure rating and accuracy requirements. These meters shall be designed to operate on clean and dry natural gas.

Diaphragm meter shall be suitable for measurement of low gas flows in domestic and light commercial metering applications.

Diaphragm meter shall be designed in accordance to **EN 1359:1999 + A1 Amendment 2006 or latest** and shall be suitable for **outdoor/indoor installations**, tamper-proof and corrosion-resistant for a life period of **10 years**. Diaphragm meters fall into the **positive displacement** category as they have well-defined measurement compartments that alternately fill and empty as the meter reciprocates or rotates. The meter will indicate **volumetric flow** based on the **gear ratio, number of revolutions, and fixed volume displaced in each meter revolution**.

Diaphragm meter shall have an **accuracy class of 1.5** and **rangeability of 150:1 or better**. **Pressure drop** across the meter shall be **less than 2 mbar at Qmax**. **Ingress protection** of the meter shall be **IP 54 or better**.

Material of construction of the meter shall be **steel** with suitable coating on the **inside and outside** for **corrosion protection** of the casing. Diaphragm material shall be **polyester fabric coated with rubber** for an **endurance life cycle of 80,000 cum**. Meter shall be in accordance with **EN 1359**.

Diaphragm meter shall have an **8-digit mechanical index** (As per **EN1359 – Units in m^3**). **Index shall be provided with sealing arrangement** to avoid tampering.

Back-run stop is to be provided to **prevent the meter from running backwards** in case of tampering or backflow conditions. **Transmission system shall be tamperproof non-magnetic** with transmission rate of **0.01 m^3/rotation for G4 & G6** and **0.10 m^3/rotation for G10 - G25**.

Meter shall be provided with a **device in the outlet to prevent reverse flow**. **Overflow protection device**

(Restriction Orifice) shall be provided at the downstream of the meter. **Material of construction of restriction orifice shall be PTFE** and shall be suitable for **natural gas application**.

Vendor shall provide **brass adaptor** with **3/4" (NPT) inlet/outlet connection**. **Washer shall be of PTFE** material of construction and provided along with restriction orifice.

The **end connection of the meters shall be protected with plastic caps**. In case of flange ends, **companion flanges with bolts** shall be provided at each end. In case the end connections of the meters proposed by the Vendor are not in line with the end connections mentioned in the data sheets, the Vendor shall supply **suitable adaptors** to suit the desired end connections. **Companion flanges with bolts if supplied shall be enclosed within the meter packing box**.

Vendor to provide the **type approval certification** for the meter as per **EN 1359** and **certification from Weights & Measures Department, India** with **Model & Make details included**. **Calibration certificate (original + soft copy)** shall be provided to Client. **One copy of the certificate shall be provided within the packing box of each meter**.

5. MATERIALS

Materials All the wetted parts including actuating mechanism shall be suitable for the fluid being handled. Material of construction of meter casing shall be either steel or die-cast aluminium with suitable coating on inside and outside for corrosion protection of casing in line with the applicable governing standards.

In case of diaphragm meters, diaphragm material shall be polyester fabric coated with rubber for an endurance life cycle of 80,000 cum.

Other Internal parts shall be non – metallic to prevent from tampering like magnet. Vendor shall use suitable material parts, provide proper surface finish, hardness and clearances, wherever possibilities of galling exists. For corrosion service, the material selected shall be in compliance with the requirements of NACE MR-0175 / IS0-15156 latest editions.

6. NAME PLATE

Each gas meter shall be **marked in legible characters**, which are **permanently visible**, in accordance with **BS EN 1359 / OIML R137 or latest**. The markings shall include:

a. **Type approval mark and number**
b. **Manufacturer's name and Identification Mark**
c. **Serial Number, Model Name, and Model Number**
d. **Flow Rate** – Maximum (**Qmax**) & Minimum (**Qmin**) in **m^3/h**
e. **Maximum Working Pressure (Pmax)** in **bar**
f. **Flow Direction**
g. **Nominal value of the cyclic volume (V)** in **dm^3**
h. **Number and date of the applicable EN Standard**
i. **Ambient temperature range (°C)**
j. **Gas temperature range (°C)**
k. **Accuracy class of the meter** (e.g., **Class 1.5**)
l. **Month & Year of Manufacture**

The **Type approval number** shall be issued by the **Department of Legal Metrology (W&M), Government of India**.

ATEX Marking shall comply with **Directive 94/9/EC** for the certified **electrical/electronic device or module**.

The **Owner's unique serial number** shall be marked on the meter as per the **standard procedure followed by the Owner**, which will be **communicated to the successful bidder**.

7. FABRICATION & PAINTING

Vendor shall obtain approval in writing from the Purchaser before start of fabrication of diaphragm meter. Vendor shall submit the required Specification, drawings & documents for approval. Also Vendor shall refer the relevant codes and standards for manufacturing herein. Painting shall be such that there is no rust formation on the Meter when exposed continuously to the corrosive atmosphere. All carbon steel bolting shall be hot dip galvanized or cadmium plated and bi-chromated. Aluminium components shall be anodized then coated with epoxy paint.

The Supplier's painting standard will be considered as an alternative offer provided it meets or exceeds the preceding requirements.

8. INSPECTION & TESTING

Vendor shall perform all inspection and testing as per project specification requirements and as per relevant codes, prior to shipment. The inspection and testing for diaphragm meters shall be carried out as per approved Inspection and Test Plan (ITP). Vendor shall submit the Inspection and Testing Plan for proprietary items / special items for approval. Vendor shall submit the test certificates to the Company for the tests conducted during the manufacturing process hazardous area certification test and calibration test. For any control, test or examination required under the supervision of TPIA / Owner / Owner's representative later shall be informed in writing one (1) week in advance by vendor about inspection date and place along with production schedule.

The Supplier shall provide calibration certificate and accuracy at MAOP of the diaphragm meter for the following flow rates: QMIN 0.1QMAX QMAX

Supplier shall hire Third Party Inspection Agency (to be approved by the Client) to perform inspection work. This agency shall inspect all the equipment/material and issue all inspection certificates/reports as per specifications and codes. Supplier shall furnish all the material test certificates, proof of approval/ license from specified authority as per specified standard, if relevant, internal test/ inspection reports, accuracy test report for individual meter, as per technical specification and specified code for 100% material, at the time of final inspection of each supply lot of material.

Vendor to provide calibration certificates for review of all the measuring instruments at the time of inspection, i.e., used for checking and testing, along with the Master calibration certificate of the measuring instruments from which the instruments is calibrated. All meters shall be sealed properly by the Manufacturer after final inspection clearance and before dispatch. Meters found in an unsealed condition shall not be accepted. If the performance of any of the sample meter is not in compliance with the acceptance norms of the respective standards then that the lot of respective item will be rejected.

Vendor should follow the QAP provided in this tender and in line with applicable standards mentioned in the datasheet. Even after third party inspection, Owner reserves the right to select a sample of gas meters randomly from each manufacturing batch and have these independently tested. Should the results of these tests fall outside the limits specified in Technical specification, then Owner reserves the rights to reject all production supplied from the batch.

8.1. VISUAL INSPECTION

A visual inspection and physical check shall be made for compliance of the material with requirements of the specifications of the original Purchase Order and all subsequent change orders including the relevant attachments and with Manufacturer's catalogue description and certified drawings furnished. Included are:

a. Check for satisfactory workmanship, materials compliance and freedom from surface defects and broken glass;
b. Check for compliance with certified drawings including dimensions;
c. Check for all accessories on Purchase Order;
d. Check for required cable length, if any
e. Check paint for imperfections.

Verify that each component has a tag of corrosion resistant material permanently fastened to the unit and stamped with information Verify that all terminals for interconnecting wiring between units are accessible for connecting and checking. Terminal blocks should be numbered and where 2 or more are present, should have block identification. Interconnecting cables shall be colour coded or numbered. All electrical wiring shall be checked for continuity and insulation test.

8.2. FUNCTIONAL TESTING

Each gas meter shall be accurately calibrated and tested by the Manufacturer at the normal working conditions specified in the attached data sheet. All test equipment used for testing shall have traceability to national standards.

9. WARRANTY

Vendor shall guarantee that the complete scope of supply shall be safely and reliably meet all of the requirements of this Company Specification. Vendor shall provide warranty support for a period of 12 months from the date of commissioning or 18 months from the date of supply, whichever is earlier. Warranty shall apply to defective material workmanship and facility design. The cost of correction / replacement of any warranty items shall be borne by the Vendor. The job specifications / data sheets shall be referred for any specific warranty / guarantee.

10. MARKING, PACKING & SHIPMENT

Vendor responsible for gas meter and its accessories shall ensure that all equipment, associated materials and accessories are designed properly packed, and secured for transit to site without damage. Supplier / Vendor shall provide a detailed packing list for all the items been supplied. Necessary accessories supplied shall be packed in the main package box for which accessories are been supplied. The calibration certificates of each item shall be enclosed within the package box. Each package box shall be tagged with the Purchase Order number (unique identification is required).

The package box shall be suitable for inland transport or seaworthy (if imported). Necessary precautions and pre-requisites shall be considered by Supplier for package delivery to the concern Client site / location / workshop. Vendor shall provide and submit his standard “Marking, Packing and Shipping Procedures” for review by Client. Vendor shall specify any conditions, normal or special, to be verified in intermediate storage and during transport. Equipment shall be suitably packed including any dismantling, transit fastening and bracing necessary to prevent distortion or damage during transit. Adequate protection shall be provided to prevent mechanical damage and atmospheric corrosion in transit and at the job site. Preparation for shipment and packing will be subject to inspection and rejection by Company's inspectors. All costs occasioned by such rejection shall be to account of the Vendor.

11. INSTRUMENT DATA SHEET

DATA SHEET FOR DOMESTIC DIAPHRAGM METER TYPE- G 1.6		
GENERAL		
1	Meter Type	Domestic Meter.
2	Quantity	Refer MR
3	Service	Natural Gas.
4	Governing Standard	EN 1359:1999 + A1 Amendment 2006 or latest.
5	Approval	Type approval certificate as per Governing Standard.
6	Installation	Suitable for outdoor / indoor installations, tamper proof and corrosion resistance for a life period of 10 years.
PROCESS CONDITIONS		
7	Accuracy Class	Class 1.5
8	Accuracy	± 3% (Qmin to 0.1Qmax) and ±1.5% (0.1Qmax to Qmax).
9	Rangeability	150:1 or better.
10	Calibration	3 Points Covering Qmin, 0.1 Qmax & Qmax as per EN 1359: 2006/ EN 1359:2017 / or latest edition in force/ OIML R137 (Latest).
11	Cyclic Volume	Minimum *
12	Operating Pressure	21 – 25 mbar-g.
13	Design Pressure	500 mbar.
14	Min / Max. Flow	0.016 / 2.5 m^3/hr.
15	Pressure Drop	< 2 mbar.
16	Specific Gravity	0.6
BODY		
17	Ambient Temperature	-10° to 55°C
18	Meter Type	Diaphragm Type G1.6 (Normal).
19	Body Casing	Steel/Aluminum alloy with suitable coating on inside and outside for corrosion protection of casing.
20	Corrosion Protection	Suitable coating on inside and outside of casing.
21	Meter Case Sealing	Effective sealing as per governing standard.
22	Connection Orientation	80% LHS + 20% RHS.
23	End Connections	3/4"MPTM at both inlet and outlet conforming to ANSI B1.20.1. In case and connections are different, bidder to provide suitable adaptor (Free Loose Nut type) to meet the required connection size. (Note 2) & (Note-5).
24	Fire Resistance	As per EN 1359: 2006 / EN 1359:2017 / or latest edition in force or equivalent.
25	Centre to Centre Distance	110±2 mm*
26	Ingress Protection	IP-54 or better.
INDEX		
27	Max. Index Reading	8 Digit index(99999.999) with auto reset facility.
28	Unit of Measurement	CM (Cubic meter).
29	Ingress Protection	IP-54 or better.

INTERNALS		
30	Sensor MOC	Polyester fabric coated with rubber for an endurance life cycle shall be as per EN 1359.
31	Other Internal Parts	All meter internals shall be non – metallic to prevent from tampering like magnet.
32	Pulse Generation Device	Inductive / magnetic.
33	Other Internals	All meter internals shall be non-metallic to immune from tampering with magnet.
MISC.		
34	Testing	As per governing standard.
35	Reverse Flow Conditions	Meter shall be equipped with prevention of reverse rotation of index
Notes		
1	* : Vendor to Specify	
2	End connections shall be provided with plastic caps for protection during transportation	
3	Type Approval Certificate and Weights & Measures Certificate along with Model & Make information shall be provided for meters supplied.	
4	Calibration certificate (original + soft copy) shall be provided to client. One copy of the certificate shall be provided within the packing box of each meter.	
5	Meters shall be provided with brass adaptors with free loose nut & PTFE washer (2mm) for converting the port size for inlet / outlet end connection. Spare washer (5 pairs) shall be provided with each meter.	
6	The meters shall have the provision of upgrading it with Automatic Meter Reading (AMR) devices for future purpose	

12. QUALITY ASSURANCE PLAN

HPOIL GAS		**QUALITY ASSURANCE PLAN FOR DOMESTIC DIAPHRAGM METER TYPE - G 1.6**								**Rev. : 0 Date : 10-03-2025**
S N	**Components & Operations**	**Description of Test**	**Category**	**Extent of Check**	**Ref. Doc. & Cl.No.**	**Acceptance Criteria**	**Format of Record**	**Inspection**		**Remark**
1	**Body & Internal Parts**	Material of Body & Trim	Physical Properties / Chemical Composition	1 sample per heat	Approved data sheet	Applicable Material Std.	Material test Reports	**Manufacturer: P**	**TPIA: R**	-
2	**Assembly**	Dimension - Size, Rating, End Connection	Visual	100%	Approved drawing/doc	Approved drawing/doc	Inspection Format	**Manufacturer: P**	**TPIA: R**	-
		Degree of Protection	Test	10%	Approved data sheet	Applicable Standard	Test report	**Manufacturer: P**	**TPIA: R**	-
		Body Hydro Test	Test	100%	Approved data sheet	No leakage	Test report	**Manufacturer: P**	**TPIA: W**	Witness of quantity shall be as per inspection level 1 AQL 1% as per IS 2500 (part 1): 2000
		Calibration, Accuracy	Test	100%	Approved data sheet	Approved data sheet	Test report	**Manufacturer: P**	**TPIA: W**	
		Total Mean Pressure Loss (pressure absorbtion P.A.)	Test	100%	EN 1359 Clause 5.2	P.A<2 mbar	Test report	**Manufacturer: P**	**TPIA: R/W**	
		Functional Test	Test	100%	Approved data sheet	Approved data sheet	Test report	**Manufacturer: P**	**TPIA: W**	
3	**Marking**		Visual	100%	Approved Signage	MS, Clause No. 6	Test report	**Manufacturer: P**	**TPIA: R/W**	

LEGENDS H-HOLD | P-PERFORMANCE | R-REVIEW | W-WITNESS | TC-TEST CERTIFICATE | IIR-INTERNAL INSPECTION REPORT | CA-CONTROL AUTHOIRTY | TPIA - THIRD PARTY INSPECTION AGENCY | R/W – REVIEW AND WITNESS
Note:
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 ITP 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 ITP / Quality manuals / Drawings etc. submitted by supplier
4. Contractor shall in coordination with Supplier / Sub vendor 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 / HOGPL 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, dispatch clearance note & MTC.
9. TPIA shall review 100% of the reports

13. LIST OF RECOMMENDED THIRD PARTY INSPECTION AGENCIES

LIST OF RECOMMENDED THIRD PARTY INSPECTION AGENCIES				
SL. NO	**NAME OF TPI**	**ADDRESS**	**PHONE NO**	**FAX NO**
1	Tata Projects Ltd.	22, Sarvodaya Society, Nizampura, Baroda-390002	0265-2392863	0265-2785952
2	Bax Counsel Inspection 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 400614	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 Cama Place, New Delhi-110066	011-26167539, 26102121	011-26101419
6	Dalal Mott MacDonald	501, Sakar-II, Ellisbridge, Ahmedabad 380006	079-26575550	079-6575558
7	International Certification Services	E-7, Chand Society, Juhu Road, Juhu, Mumbai-400049	022-26245747	022-226248167
8	SGS India Pvt. Ltd.	SGS India Pvt. Ltd., SGS House, 4B, A.S. Marg, Vikhroli(W), Mumbai-400083	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 Area, 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@meenaar.in	-	-
14	Bureau Veritas (India) Pvt. Ltd.	72, Business Park, Marol Industrial Area, Cross Road 'C', Andheri East, Mumbai-400093	022-6274 2000	022-6274 2008
15	TUV Nord Group	-	-	-
16	DET NORSKE VERITAS (DNV)	-	-	-
17	LLOYD Register	-	-	-

14. SERIAL NUMBERING FORMAT FOR DOMESTIC DIAPHRAGM METER (G-1.6)

SERIAL NUMBERING FORMATS FOR DOMESTIC DIAPHRAGM METERS TYPE - G 1.6

First 3 Alphabets of Vendor			**Item Serial Number (From Manufacturer)**								**Month & Year of Manufacture**			
A	B	C	1	2	3	4	5	6	7	8	M	M	Y	Y
EXAMPLE:														
I	**T**	**R**	**1**	**2**	**3**	**4**	**5**	**6**	**7**	**8**	**0**	**7**	**1**	**5**

For EXAMPLES:	
ITRON -	ITR
RAYCHEM	RAY
ELSTER	ELS