

**GOVERNMENT OF INDIA  
DEPARTMENT OF SPACE  
VIKRAM SARABHAI SPACE CENTRE (VSSC)  
THIRUVANANTHAPURAM**

**Tender for Multi unit automatic rubber hardness tester with multi indentors**

**Bids to be submitted online**

**Tender No.: VSSC/PURCHASE UNIT III (SPRE)/VS202100315901 dated 25-08-2021**

## A. Tender Details

Tender No :	<b>VSSC/PURCHASE UNIT III (SPRE)/VS202100315901</b>
Tender Date :	<b>25-08-2021</b>
Tender Classification:	<b>GOODS</b>
Purchase Entity :	<b>PURCHASE UNIT III (SPRE)</b>
Centre :	<b>VIKRAM SARABHAI SPACE CENTRE (VSSC)</b>

### **Procurement of Multi unit automatic rubber hardness tester with multi indentors**

This Tender is for the procurement of Multi unit automatic rubber hardness tester with multi indentors. This tender is proposed as a DOMESTIC PUBLIC TENDER. This tender is restricted only to Class-I and Class-II Local Suppliers as defined under DPIIT Order dtd 04/06/2020- Preference to Make in India Order-2017 Revision. Non-Local Suppliers need not quote.

Foreign OEMs/Agents quoting on behalf of Foreign OEMs are not permitted to quote. High Sea Sales Quotes not permitted. The bids shall be in INR only.

Tenderers are advised NOT TO UPLOAD any documents revealing the price of the main equipment, accessories, spares or AMC. They are however, requested to upload UNPRICED BIDS (i.e. Price details masked) showing appropriate break-up of components of main equipment, individual accessories and spares as desired.

This is a TWO-PART tender i.e. Techno-Commercial Bid (Part-I) and Price Bid (Part-II) shall be submitted separately. All technical and commercial terms and conditions shall be furnished in the Techno-Commercial Bid while price shall be indicated only in the Price Bid. Uploading price details anywhere else other than the price-bid shall lead to unconditional rejection of the tender. Please make note of the same.

Purchase preference to eligible vendors are applicable as per extant notifications issued by the Government of India.

The Class-I/Class-II Local suppliers, at the time of submitting their offer, shall also indicate percentage of local content and provide self-certification that the item (s) offered meets the local content requirement for Class-I/Class-II Local Suppliers as the case may be. They shall also give details of location (s) at which the local value addition is made.

In cases if the item(s) offered exceed Rs. 10 Crores, the Class-I/Class-II Local Suppliers shall provide a Certificate from the statutory auditor or cost auditor of the company (in case of companies) or from a practicing cost accountant or practicing chartered accountant (in respect of suppliers other than companies) giving the percentage of local content.

False Declarations will be in breach of the Code of Integrity under Rule 175 (1) (i) (h) of the General

Financial Rules for which a bidder or its successors can be debarred for up to two years as per Rule 151 (iii) of the General Financial Rules along with such other actions as may be permissible under law. Technical Bids will be opened at the scheduled due date & time. No further intimation will be sent in this regard. The schedule for price bid opening shown is only indicative. Price bids will only be opened in the case of parties who have been techno-commercially accepted, the details of which will be communicated at a later stage.

## **A.1 Tender Schedule**

Bid Submission Start Date :	<b>25-08-2021 10:00</b>
Bid Clarification Due Date :	<b>14-09-2021 12:00</b>
Bid Submission Due Date :	<b>01-10-2021 14:00</b>
Bid Opening Date :	<b>01-10-2021 14:01</b>
Price Bid Opening Date :	<b>19-10-2021 12:00</b>

## **B. Tender Attachments**

NA

### **Instructions To Vendors**

#### **1. Instructions to Vendors**

1. This is an E Tender. Hence Postal/Fax/Email tenders will not be accepted.
2. Last minute clarification on tenders will not be entertained.
2. This tender is proposed as a DOMESTIC PUBLIC TENDER. This tender is restricted only to Class-I and Class-II Local Suppliers as defined under DPIIT Order dtd 04/06/2020- Preference to Make in India Order-2017 Revision. Non-Local Suppliers need not quote.
3. Foreign OEMs/Agents quoting on behalf of Foreign OEMs are not permitted to quote. High Sea Sales Quotes not permitted. The bids shall be in INR only.
4. Tenderers are advised NOT TO UPLOAD any documents revealing the price of the main equipment, accessories, spares or AMC. They are however, requested to upload UNPRICED BIDS (i.e. Price details masked) showing appropriate break-up of components of main equipment, individual accessories and spares as desired.
5. This is a TWO-PART tender i.e. Techno-Commercial Bid (Part-I) and Price Bid (Part-II) shall be submitted separately. All technical and commercial terms and conditions shall be furnished in the Techno-Commercial Bid while price shall be indicated only in the Price Bid. Uploading price details anywhere else other than the price-bid shall lead to unconditional rejection of the tender. Please make note of the same.
6. Purchase preference to eligible vendors are applicable as per extant notifications issued by the Government of India.
7. The Class-I/Class-II Local suppliers, at the time of submitting their offer, shall also indicate percentage of local content and provide self-certification that the item (s) offered meets the local content requirement for Class-I/Class-II Local Suppliers as the case may be. They shall also give details of location (s) at which the local value addition is made.
8. In cases if the item(s) offered exceed Rs. 10 Crores, the Class-I/Class-II Local Suppliers shall provide a Certificate from the statutory auditor or cost auditor of the company (in case of companies) or

from a practicing cost accountant or practicing chartered accountant (in respect of suppliers other than companies) giving the percentage of local content.

9. False Declarations will be in breach of the Code of Integrity under Rule 175 (1) (i) (h) of the General Financial Rules for which a bidder or its successors can be debarred for up to two years as per Rule 151 (iii) of the General Financial Rules along with such other actions as may be permissible under law.

10. Technical Bids will be opened at the scheduled due date & time. No further intimation will be sent in this regard. The schedule for price bid opening shown is only indicative. Price bids will only be opened in the case of parties who have been techno-commercially accepted, the details of which will be communicated at a later stage.

## C. Bid Templates

### C.1 Technical Bid - Multi unit automatic rubber hardness tester with multi indentors

#### 1. Multiunit automatic hardness tester with multi indentors

##### Item specifications for Multiunit automatic hardness tester with multi indentors

SI No	Specification	Value	Compliance	Offered Specification	Remark
1	General Description	Bench top type multi-unit automatic hardness tester. Automatic support for the housing of four units fitted with automatic sample lifting system. At a time 4 units (Sh.A, Micro Sh.A, Sh.D, and IRHD) shall be installed and test shall be performed by rotating the support.	Yes / No / Explain		
2	Unit control	Automatic hardness units shall be controlled by electronic console and software.	Yes / No / Explain		
3	Control Console	Colour Touch screen display for the control of automatic hardness unit which permits the selection of hardness unit (Type of indenter), perform automatic multiple test in different point of the same sample, set the number of tests to be performed automatically and the rotation angle between one test and the next one, Set hardness test time, display the test result at the end of the test time, start and stop the automatic execution of the test.	Yes / No / Explain		

4	Operating Software in English along with data acquisition system	<p>System should be loaded with latest licensed full data acquisition software which permits:</p> <ol style="list-style-type: none"> <li>1. Execution of a customer defined number of tests in different point of the sample with customer defined test time.</li> <li>2. Analysis of hardness relaxation curve.</li> <li>3. Statistical analysis of results</li> <li>4. The software shall be compatible with latest OS.</li> <li>5. Software shall permit all the activities mentioned in the control console.</li> <li>6. Compatible latest desktop/ Laptop for fast data acquisition and processing (Make: HCL/Dell/HP) with laser jet printer &amp; latest operating system is also under suppliers scope.</li> </ol> <p>8GB RAM minimum, 1TB HDD. Dual LAN card for connecting instrument and other to Local area network</p>	Yes / No / Explain		
5	Sample holder with automatic rotation	Sample holder with motor controlled rotation. The device has to be installed on the machine and permits to perform automatic multiple test in different points of the same sample.	Yes / No / Explain		
6	Magnifying lens	Magnifying glass with metal frame. Scratch-proof and solvent-resistant lens with magnification of five times. Lens diameter should be minimum 75mm with enlarged magnification area with a diameter of 20mm.	Yes / No / Explain		

7	Dimension of the test specimen	The machine shall be capable to hold the specimen of thickness 1.5mm minimum to perform hardness measurement.	Yes / No / Explain		
8	Power supply	230 V +/-10%, 50-60 Hz, single phase	Yes / No / Explain		

## 2. SHORE A MEASURING HEAD and ACCESSORIES

### Item specifications for SHORE A MEASURING HEAD and ACCESSORIES

Sl No	Specification	Value	Compliance	Offered Specification	Remark
1	General Description	Shore A testing unit conforming to ASTM D2240 standard to be installed on the multi unit tester.	Yes / No / Explain		
2	Range	0 to 100 Sh.A	Yes / No / Explain		
3	Resolution	0.01 Sh.A	Yes / No / Explain		
4	Accuracy	± 1 Sh.A	Yes / No / Explain		
5	Calibration of equipment	The instrument shall be supplied with calibration certificate conforming to ASTM D2240 with traceability. The certificate includes follows: 1. Calibration of the force applied by the spring vs indentation 2. Calibration of the hardness reading vs indentation 3. Calibration of the test time.	Yes / No / Explain		



6	Standard blocks	5 nos of rubber samples shall be supplied for verification of Shore A tester with standard hardness values of 20-90 Sh.A. The samples should be supplied with 1. Calibration certificate and traceability. 2. Single identification label 3. Wooden protection box	Yes / No / Explain		
7	Range of application	Suitable for hardness measuring on flat and curved surfaced specimens with diameter 35 mm and thickness 6 mm prescribed under standards.	Yes / No / Explain		

### 3. MICRO SHORE A MEASURING HEAD and ACCESSORIES

#### Item specifications for MICRO SHORE A MEASURING HEAD and ACCESSORIES

SI No	Specification	Value	Compliance	Offered Specification	Remark
1	General Description	Micro Shore A (Shore AM) testing unit conforming to ISO 48-4, ASTM D2240 standard to be installed on the multi unit tester.	Yes / No / Explain		
2	Range	0 to 100 Micro Sh.A	Yes / No / Explain		
3	Resolution	0.01 Micro Sh.A	Yes / No / Explain		
4	Accuracy	± 1 Micro Sh.A	Yes / No / Explain		

5	Calibration of equipment	The instrument shall be supplied with calibration certificate conforming to ISO 48-4 and ASTM D2240 standard with traceability. The certificate includes follows. 1. Calibration of the force applied by the spring vs indentation 2. Calibration of the hardness reading vs indentation 3. Calibration of the test time.	Yes / No / Explain		
6	Standard blocks	5 nos of rubber samples shall be supplied for verification of Micro Shore A tester with standard hardness values of 20-90 Micro Sh.A. The samples should be supplied with 1. Calibration certificate and traceability. 2. Single identification label 3. Wooden protection box	Yes / No / Explain		
7	Range of application	Suitable for hardness measuring on flat and curved surfaced specimens with diameter 1.5mm and thickness 1.5mm prescribed under standards.	Yes / No / Explain		

#### 4. SHORE D MEASURING HEAD AND ACCESSORIES

##### Item specifications for SHORE D MEASURING HEAD AND ACCESSORIES

Sl No	Specification	Value	Compliance	Offered Specification	Remark
1	General Description	Shore D testing unit conforming to ASTM D 2240 standard to be installed on the multi unit tester.	Yes / No / Explain		
2	Range	0 to 100 Sh.D	Yes / No / Explain		

3	Resolution	0.01 Sh.D	Yes / No / Explain		
4	Accuracy	± 1 Sh.D	Yes / No / Explain		
5	Calibration of equipment	The instrument shall be supplied with calibration certificate with traceability. The certificate includes follows. 1. Calibration of the force applied by the spring vs indentation 2. Calibration of the hardness reading vs indentation 3. Calibration of the test time.	Yes / No / Explain		
6	Standard blocks	Samples required for verifying minimum 5 measurements with standard hardness values of 20-90 Sh.D. The samples should be supplied with 1. Calibration certificate and traceability. 2. Single identification label 3. Wooden protection box	Yes / No / Explain		
7	Range of application	Suitable for hardness measuring on flat and curved surfaced specimens with diameter 35 mm and thickness 6 mm prescribed under standards.	Yes / No / Explain		

## 5. O RING HOLDING DEVICE FOR HARDNESS MEASUREMENT

### Item specifications for O RING HOLDING DEVICE FOR HARDNESS MEASUREMENT

Sl No	Specification	Value	Compliance	Offered Specification	Remark
1	O RING HOLDING DEVICE		-		

2	General Description	This centering device should allow to quickly carry out hardness test of O rings with cross section diameter between 1.5mm to 11mm.	Yes / No / Explain		
3	Oring dimension to be tested	Device should be capable of holding Oring with outer diameter of 5mm to 200 mm and Oring cut pieces of minimum 10mm length.	Yes / No / Explain		
4	Fixing mechanism	The device has to be applied to the standard plate of the instrument through magnetic fixing which allows rapid installation and removal The adjustment wheel allows you to set the distance between the cylinders according to the cross section diameter of the Oring. The fixing clip for the correct positioning of curved pieces. The integrated extension plate should allow holding large pieces of O ring up to 200mm ID.	Yes / No / Explain		

## 6. DATA ACQUISITION EQUIPMENT and Table

### Item specifications for DATA ACQUISITION EQUIPMENT

Sl No	Specification	Value	Compliance	Offered Specification	Remark
1	Data acquisition unit	Intel Core I5 Processor -9th Gen, 8GB Ram, 1 TB Hard disk, 19.5" Monitor, Keyboard Mouse, Windows 10 Professional, +LAN Card, MSOffice Home & Business 2019	Yes / No / Explain		

2	Printer	Color Lazer Printer	Yes / No / Explain		
3	Table	Wheel mounted Table (steel/wooden) for placing Multi-Unit Hardness Tester, PC and printer.	Yes / No / Explain		

**Common Specifications (Applicable for all items)**

Sl No	Specification	Value	Compliance	Offered Specification	Remark
1	Supply package shall include	<ul style="list-style-type: none"> <li>• Life time licensed software with data acquisition unit and laser printer</li> <li>• Wheel mounted steel/wooden table with bottom shelf/drawers for accommodating the machine, data acquisition unit (PC) and printer.</li> <li>• Free technical support &amp; yearly calibration during warranty</li> <li>• Required number of Anti-vibration mounts to be provided</li> </ul>	Yes / No / Explain		

**Supporting Documents required from Vendor**

1. Brochures/Catalogues of company with details
2. Unpriced Bid showing the split up of main equipment, accessories, essential spares as applicable
3. Detailed Techno commercial offer (without price details)
4. Unpriced AMC Quote in Split-up format for each year required.
5. Unpriced list of essential/ optional spares for 3 years maintenance.
6. Declaration regarding the percentage of local content (or value addition) in the item offered
7. Detailed Compliance Matrix vis-a-vis the item specification in tenders.

## 8. Additional Documents from Vendor.

5 additional documents can be uploaded by the vendor

## C.2 Commercial Terms / Bid

Sl. No.	Description	Compliance	Vendor Terms
1	Breakup cost of each item should be provided along with the quote.	Yes / No / Explain	
2	Installation, Commissioning, Demonstration and Testing at our site	Yes / No / Explain	
3	System has to be commissioned, calibrated and demonstrated with all features at user's site. Environmental conditions at installation site are as follows: 230 V +/-10%, 50 Hz, single phase, 50-90% relative humidity, 20 to 35 deg C ambient temperature.	Yes / No / Explain	
4	Detailed operational and service manuals in English including essential circuit diagrams for all systems and subsystems are to be provided.	Yes / No / Explain	
5	Training for 2 persons on the operation & day-to-day maintenance of all the systems and features has to be provided at user's site.	Yes / No / Explain	
6	Pre-installation site requirement like electrical shall be provided in the quotation.	Yes / No / Explain	
7	Supplier shall carry out the calibration of all the transducers and sensors traceable to national or international standards and due certificate has to be provided.	Yes / No / Explain	
8	Supplier shall provide Warranty for all the systems and sub systems at least 36 months from the date of commissioning and acceptance.	Yes / No / Explain	
9	AMC & calibration for 3 years after the warranty period shall be quoted separately	Yes / No / Explain	
10	Spares for the trouble free operation for a minimum of three years after the warranty period shall be provided.	Yes / No / Explain	
11	List and cost of essential spares during AMC has to be submitted along with quote.	Yes / No / Explain	
12	Guaranteed after sale service for a minimum of 10 years should be committed.	Yes / No / Explain	
13	Time required attending ON CALL basis service is to be mentioned.	Yes / No / Explain	

14	Detailed compliance matrix of our specifications and supplier specifications item by item has to be filled and provided along with the quotation.	Yes / No / Explain	
15	The instrument and accessories must be designed with all necessary safety interlocks and earthing for operators' safety.	Yes / No / Explain	
16	Machine maintenance kit with all necessary tools has to be supplied free of cost.	Yes / No / Explain	
17	Any software used for the system has to be supplied to VSSC in installable CD media, so that the software can be reinstalled at VSSC in case of a system crash.	Yes / No / Explain	
18	If the software is upgraded within 5 years from installation the same shall be done free of cost.	Yes / No / Explain	
19	Party shall submit technical brochures, catalogues for all the subsystems proposed (including bought out items, if any) with full features and capabilities.	Yes / No / Explain	
20	The equipment shall be provided with a warranty certificate and calibration certificate with traceability.	Yes / No / Explain	
21	Taxes and other costs, if any . [Note: VSSC is a Public Funded Research Institution under the administrative control of Department of Space and is eligible for partial exemption of IGST @5% vide Notfn No. 45/2017, 47/2017 dt 14.11.2017 respectively. Necessary IGST EXEMPTION CERTIFICATE shall be issued.]	Yes / No / Explain	
22	Security Deposit (Applicable if Offer Value is Rs. 5 Lakhs or above. MSME/NSIC Units are NOT EXEMPTED from the payment of SD. Bank Guarantee @ 3% of Order Value valid till 60 days from the date of supply to be submitted. Mandatory compliance required. Only Government Bodies/PSUs/PSEs can submit Indentity Bond in lieu of BG. In the event of non-performance of contractual obligations, SD will be forfeited).	Yes / No / Explain	
23	Delivery Terms.	Yes / No / Explain	
24	Delivery Period	Yes / No / Explain	



25	Liquidated Damages (Applicable beyond the delivery period mentioned in this tender @ 0.5% per week or part thereof on the undelivered portion subject to a maximum of 10% of the contract value. Mandatory compliance required).	Yes / No / Explain	
26	Warranty (for a period of 36 months. Confirm)	Yes / No / Explain	
27	Performance Bank Guarantee (PBG) Bank Guarantee @ 3% of Order Value valid till the completion of warranty period plus 2 months claim period to be submitted. Mandatory compliance required. Only Government Bodies/PSUs/PSEs can submit Indemnity Bond in lieu of BG. In the event of non-performance of warranty obligations, PBG will be forfeited).	Yes / No / Explain	
28	Payment Term: (Our Default payment term: For indigenous orders: 100% within 30 days after receipt and acceptance of item at our site. For import cases: 100% by Sight Draft with Bank Charges to respective accounts. NOTE: CONSEQUENT TO COVID 19 PANDEMIC AND AS PER EXTANT GUIDELINES FROM DEPARTMENT OF SPACE, NO ADVANCE PAYMENT IS PAYABLE TO THIS TENDER).	Yes / No / Explain	
29	Definitions: A supplier or service provider, whose goods, services or works offered for procurement, has local content: a) Equal to or more than 50% : Class-I local supplier. b) More than 20% but less than 50% : Class-II local supplier. c) Less than or equal to 20% : Non-local supplier. Mention your category.	Yes / No / Explain	
30	Local content means the amount of value added in India (i.e. indigenous items/services added in the offered products/services/works) be the total value of the item offered (excluding net domestic indirect taxes) minus the value of imported content in the item (including all customs duties/IGST) as a proportion of the total value (excluding net domestic indirect taxes), in percent. Indicate extent of Minimum Local Content in offered product/service and location of such value additions.	Yes / No / Explain	

31	The Class-I & II local supplier should provide a Self Certification along with your offer in PDF format indicating that the item offered meets the minimum local content as called for in the tender as mentioned above and provide the % of local content along with details of the location(s) at which the local value addition is made. In case of two part tenders, it is mandatory to indicate compliance to MLC(minimum local content) in technical bid itself. Confirm attachment of Self declaration along with the offer.	Yes / No / Explain	
32	PO Placement Address (with Name and Contact Details of sales person concerned).	Yes / No / Explain	
33	Any Other Terms	Yes / No / Explain	

### C.3 Price Bid

Sl. No.	Item	Quantity	Unit Price	Currency	Total Price	Remark
1	Multiunit automatic hardness tester with multi indentors	1.00 Nos.		-		
2	SHORE A MEASURING HEAD and ACCESSORIES	1.00 Nos.		-		
3	MICRO SHORE A MEASURING HEAD and ACCESSORIES	1.00 Nos.		-		
4	SHORE D MEASURING HEAD AND ACCESSORIES	1.00 Nos.		-		
5	O RING HOLDING DEVICE FOR HARDNESS MEASUREMENT	1.00 Nos.		-		
6	DATA ACQUISITION EQUIPMENT and Table	1.00 Nos.		-		

**Common charges (Applicable for all items)**

<b>Annual Maintenance Contract Charges</b>	
<b>Optional Spares Cost (lumpsum)</b>	
<b>Any Other Charges</b>	
<b>Essential Spares Cost (lumpsum)</b>	
<b>Packing and Forwarding Charges</b>	
<b>Freight charge</b>	
<b>Installation &amp; Commissioning Charges</b>	