

### Detailed Specification

Enquiry:MM/172/G30499

#### Contact Details

Name: Binduja Menon

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Email ID: binduja@factltd.com

Please submit your offer for supply of the following items as per the instructions, technical specifications and other terms and conditions specified herein/ attached.

#### Note:

1. The delivery period mentioned in the BoQ is our indicative requirement. You may offer your earliest delivery period.

Please refer our above referred enquiry number in all correspondence.

SL No.	Material Code	Detailed Specification/s	Quantity	Unit of Measure
1	691026900	Hand Held XRF Analyser(PMI) Specifications : HAND -HELD X-RAY FLUORESCENCE ANALYSER ( PMI) AS PER SPECIFICATION NO.TPS. CD-TSD-2024-15	1	Number



**SPECIAL CONDITIONS:**

1) **Calibration certificate.** (Hard copies)

Calibration Certificate (date of calibration shall not precede more than 2 weeks from the date of supply) as required in the Specification shall be furnished along with the supply/despatch documents.

2) **Guarantee Certificate** (Hard copy) shall be furnished along with the supply/despatch documents.

The items shall be guaranteed for 12 months from supply or 18 months from date of fitment, whichever is earlier, against performance/material/manufacturing defects.

3) **Operation and Maintenance manual** (1 Hard copy) shall be furnished along with the supply/despatch documents.

4) The PMI machine shall be delivered to FACT-CD with all the features and accessories as specified in the FACT-TPS.

5) Payment will be made after delivery of the equipment at the FACT-CD site and commissioning of the equipment by the authorised Engineer of OEM/ supplier at site as specified in the TPS . Commissioning involves demonstrating the features of the equipment on different grades of materials in FACT CD.

6) Inspection by FACT is required prior to supply after placement of PO.



DATA SHEET	SPECIFICATION FOR HAND-HELD X-RAY FLUORESCENCE ANALYSER (PMI)	CD-TSD-2024-15	
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### Scope of supply:

1) X- Ray fluorescence based Analyser with aesthetic, ergonomic, weather-proof rugged design for positive material identification of in process and newly purchased materials , predominantly consisting of Fe and Fe based alloys including stainless and alloy steels with technical specifications as mentioned below.

2) All Accessories including but not limited to Battery, Battery Charger, cables, programming tool etc. as detailed in the specifications below. If any other items other than the those mentioned are required for the proper functioning of the equipment then those shall be included in vendor scope of supply.

Sl. No.	Features	Specifications
1.	Analysis Range	<b>Range of elements:</b> Both light and heavy elements from Magnesium to Uranium. <b>Heavy elements:</b> Ti, V, Cr, Mn, Fe, Co, Ni, Cu, Zn, Zr, Nb, Mo, Pd, Ag, Cd, Sn, W, Pb, Bi etc. <b>Light element:</b> magnesium (Mg), aluminum (Al), silicon (Si), sulfur (S), & phosphorus (P)
2.	Anode	Silver(Ag)/ Rhodium (R)
3.	Excitation Source	2 - 4-watt X-ray tube
4.	Tube Voltage	30 to 50 KV
5.	Detector	Silicon Drift Detector (SDD)
6.	Protection	Protection against detector window damage
7.	X-ray Filtering	4-position filter (or higher) wheel for the optimized analysis of all elements including light and heavy elements.
8.	Calibration modes	Standard + automatic selection of empirical calibrations (traceable to certified reference materials)
9.	Drop Test	Instrument should comply (1.2 M) drop test
10.	Data Storage	Instrument should have 1GB(min.) in-built storage, micro SD slot for expandable storage
11.	USB Port	Instrument should have USB Port and should support following. (1) USB 2.0 type A host ports for accessories USB flash drives. (2) USB 2.0 type mini-B port for connection to computer.
12.	Weight	Less than 2.0 Kg. (with battery inserted in the equipment)
13.	Power Requirements	a. Rechargeable and removable Li-ion battery capable of minimum 6-8 hours backup.

PRPD. BY: <i>S. Vishwarath</i>	CHKD. BY: <i>JTS</i>	APPRD. BY: <i>DGM(TS)</i>
FACT – COCHIN DIVISION		TECHNICAL SERVICES



**SPECIFICATION FOR HAND-HELD  
X-RAY FLUORESCENCE ANALYSER  
(PMI)**

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		b. The power adaptor for battery charging must be rated to 230V / 50 Hz input supply
14.	Data Display	a. Integrated display screen of size 4 inches(min.) b. Colour, high-resolution touch screen with provision to adjust brightness level.
15.	Dimensions	Vendor to specify
16.	Intended Usage	Positive Material identification of in process and newly purchased metals and alloys (predominantly Fe based)
17.	Operating parameters	1) -10°C to 50°C 2) 0% to 80% relative humidity non-condensing
18.	Operating Environment Conditions	Instrument should have minimum IP 54 ratings protected against dust and water splashing from all directions.
19.	Integrated camera	Optional
20.	Software features	Software with interface in English & must have following features: a) Analysis Results to be stored in CSV format and reports to be generated through software in PDF or DOC. format. b) Default alloy libraries based on SAE, AISI, ASTM, AA standards, Users may create and edit libraries, System Check Built-in standardization via automatic system check.
21.	Data Storage & Transfer	a. Internal memory capable of holding minimum 10,000 test results b. Provision to transfer data through USB c. Software backup and relevant drivers to be supplied.
22.	Standard Accessories	a) Li-ion Battery- 1 No. (Power On board rechargeable Li-ion battery, rechargeable inside device or with external charger.) b) Battery Charger - 1 No. c) Carrying case - 1 No. d) 220/230V AC, 50 Hz battery charger/ AC adaptor - 1 No. e) Check samples. f) Belt holster/Safety lanyard g) Instrument cleaning kit
20.	Warranty	Standard Warranty of Twelve (12) months from the date of commissioning at FACT site or 18 months from date of supply whichever is earlier.
21	Compliance	The equipment must Comply with American Petroleum Institute (API) Recommended Practice (RP) 578—Material Verification Program for New and Existing Alloy Piping Systems.

PRPD. BY : <i>S. Vishwarathna</i>	CHKD. BY : <i>JS</i>	APPRD. BY : <i>Dom (TS)</i>
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**Specifications for Programming Tool - to be supplied along with the analyser**

Sl.No.	Features	Specifications
1.	Processor	Intel Core i7, or an AMD Ryzen 7 processor, or above
2.	Memory (RAM)	DDR5 16GB or above
3.	Storage	Solid State Drives (SSD) with storage 512GB or above
4.	Graphics Card	4 GB Graphics/NVIDIA, GeForce RTX 3050 or above
5.	Display	15.6 Inch with Full HD (1920x1080) resolution or above
6.	Operating system	Windows 10 or above
7.	Features	M.S Office included with lifetime validity, Webcam Resolution 720p, Wi-Fi Supported, Dual Speakers, Aux Port Type 3.5mm Headphone
8.	Make & Model	HP, DELL, ACER, ASUS and MSI

PRPD. BY :

*S. Vishwarathna*

CHKD. BY :

*[Signature]*

APPRD. BY :

*[Signature]*  
DGM (S)

**FACT – COCHIN DIVISION**

**TECHNICAL SERVICES**

<b>PRE-QUALIFICATION CRITERIA FOR BIDDERS</b>		
Offers meeting the PQ criteria shall only be considered for bid evaluation.		
<b>Sl.No.</b>	<b>Conditions</b>	<b>Documents required</b>
	<b>TECHNICAL CRITERIA:</b>	
1	a) Bidder shall be an original equipment manufacturer (OEM) or b) The bidder shall be the Authorized dealer/ distributor/Channel partner of the OEM of the offered Positive material identification machine (PMI) for a period of minimum three years continuously as on date of Notice Inviting Tender (NIT).	a) In case of OEM, Self-declaration by the Bidder.  b) In case of Dealers / distributor/ channel partners an authorization letter from the OEM indicating that they are Authorized dealer/ distributor/ Channel partner of the OEM for the Positive material identification machine (PMI) offered for a period of minimum three years continuously as on date of NIT.
2	The bidder shall submit guarantee issued by the OEM for supply of spares and service support for a minimum period of 5 years from the date of supply.	Guarantee from OEM for Spare and Service support for a period of minimum 5 years.
3	The bidder shall have executed 2 Purchase/ work orders as per the conditions given below for supply of Positive material identification machine (PMI) in any Major Industrial establishments in sectors like Cement / Fertiliser / Oil and Gas /Petro Chemical/ Steel / Mining/Power in India during the last Seven years ending on the date of Enquiry:  1) A Positive Material Identification (PMI) machine with X-Ray Fluorescence technology, featuring a Silicon Drift Detector and an analytical range for both heavy and light elements with Ag/Rh anode.	Copies of relevant Purchase order, Invoice and Payment receipt / Completion certificate /Recommendation of the payment of bill /Satisfactory Performance certificate from the end user in order to prove the execution of the work.
4	a) Average annual turnover of the bidder for the last three financial years ending on 31-03-2024 shall be at least Rs. 40/- Lakhs or above and b) Annual turnover for each year shall be at least Rs. 6 /- lakhs or above during the last three financial years ending on 31-03-2024	Self-attested copies of audited financial statements (Profit & Loss Account and Balance Sheet) for the last three financial years ending on 31-03-2024

**NOTE: -**

- 1) All the documents submitted in proof of the PQ criteria shall be attested by the authorized signatory of the bidder. FACT shall be at liberty to verify the data / documents s submitted by the Bidders with clients / users.
- 2) Pre-Qualified bids will only be considered for Technical Evaluation. Technically and commercially acceptable Bids will only be considered for Price Bid opening.
- 3) Submission of authentic documents for meeting the above technical and financial criteria is the prime responsibility of the Bidder. Wherever FACT has concern or apprehension regarding the authenticity/ correctness of any document, FACT reserves the right of getting the documents cross verified from the document issuing authority.
- 4) In case the bidder is submitting FACT P.O as testimonials for meeting PQ criteria, the bidder needs to mention only the P.O. No. Document submission is not mandatory in such cases.
- 5) **IMPORTANT:** In case of ambiguity or incomplete or non submission of required relevant documents along with bid, FACT reserves the right, at its option, to reject the Bidders Bid without assigning any reason and without notice.



### COMPLIANCE STATEMENT

Sl. No.	Terms	Bidder confirmation
1	Offer shall be strictly as per the TPS attached.	
2	<b><u>Calibration certificate.</u></b> (Hard copies) Calibration Certificate (date of calibration shall not precede more than 2 weeks from the date of supply) as required in the Specification shall be furnished along with the supply/despatch documents.	
3	<b><u>Guarantee Certificate</u></b> (Hard copy) shall be furnished along with the supply/despatch documents. The items shall be guaranteed for 12 months from supply or 18 months from date of fitment, whichever is earlier, against performance/material/manufacturing defects.	
4	<b><u>Operation and Maintenance manual</u></b> (1 Hard copy) shall be furnished along with the supply/despatch documents.	
5	The PMI machine shall be delivered to FACT-CD with all the features and accessories as specified in the FACT-TPS.	
6	Payment will be made after delivery of the equipment at the FACT-CD site and commissioning of the equipment by the authorised Engineer of OEM/ supplier at site as specified in the TPS . Commissioning involves demonstrating the features of the equipment on different grades of materials in FACT CD.	
7	Inspection by FACT is required prior to supply after placement of PO.	
8	Please mention shortest possible delivery period.	
9	Please confirm : Price Basis – FOR FACT Stores (as per Gem T & C)	
10	Please confirm : Taxes and Duties - The Price offered in GEM is all inclusive of TAX. (as per Gem T & C)	
11	Please confirm : Payment Terms : 100% payment will be released within 10 days of the issue of consignee receipt-cum-acceptance certificate (CRAC) and on-line submission of bills as per GEM terms and conditions. (as per Gem T & C)	
12	Please confirm : Liquidated Damages: As per GeM – “@ 0.5% of the contract value of delayed quantity per week or part of the week of delayed period as pre-estimated damages not exceeding 10% of the contract value of delayed quantity without any controversy/dispute of any sort whatsoever”(as per GeM T & C)	

Note : All the above columns shall be filled properly, without leaving blanks. Please upload / return this document duly filled-in, along with your bid.