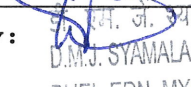
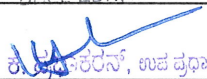




Purchase Specification for X-RAY COUNTER MACHINE

PS/202/SMT/25-
26/009 Rev. 00
Page 1 of 08

Purchase Specification for X-RAY COUNTER MACHINE

Issued by: SA/Production Dt.13.04.2026	Prepared by:  D.M.J. SYAMALA RAO, DY. MANAGER SUB ASSEMBLY-PROD BHEL-EDN, MYSORE ROAD, BENGALURU-56002
	Approved by:  P. PRABHAKARAN, DY. GENERAL MANAGER/SA-Production BHEL-EDN, MYSURU ROAD, BENGALURU-560026
Copyright and Confidential: The information on this document is the property of BHEL. It must not be used directly or indirectly in any way detrimental to the interest of the company.	



Purchase Specification for X-RAY COUNTER MACHINE

PS/202/SMT/25-
26/009 Rev. 00
Page 2 of 08

Pre-qualification criteria

1. A) The vendor shall be an Original Equipment Manufacturer (OEM) Based in India,
(OR)

Foreign OEM with Authorized Indian dealer(s) / representative(s) for sales, spares and service.
The authorization letter for the dealer/ representative shall be provided,

B) i) Offer can be submitted by the OEM or their authorized dealers in India along with a latest and valid authorization letter.

ii) MII certificate: For this tender, Non-Local supplier whose local content is less than 20% are not eligible to participate. (For details, refer Government of India Circular No. P-450212/2017-PP (BE-II) issued by ministry of Commerce and Industry, DPIIT (Public Procurement Section) dt 16.09.2020 and its subsequent revisions.) MII Certificate is given in Annexure TS 1 and vendors are required to fill and submit the signed / sealed copy of the same.

iii) If the offer is from an authorized representative in India, the Indian representative cannot quote for the same equipment from 2 or more different OEMs.

iv) Additionally, if an Indian dealer is submitting the offer, an authorization letter from OEM to submit the offer for this RFQ is also to be provided.

2. The offer shall be only for new equipment and not for any refurbished / used equipment. A declaration to the above effect to be furnished.
3. All the parts used in the machine shall also be new and not used / refurbished ones. A declaration to the above effect to be furnished.
4. The OEM should certify that the model offered is currently under production and will provide service / spares support for at least 10 years from date of supply of the machine.
5. The vendor should have already supplied and installed 3 nos. of Industrial X Ray inspection machines in India during the last five years. The details of the customers with contact details, machines installed, date of installations etc. to be provided.
6. The vendor shall be in a position to provide service and spares support for the installations in India.
7. The vendor or their authorized service representatives should have trained engineers in India for commissioning & service for the offered equipment. A declaration to the above effect to be furnished.
8. The vendor shall be in a position to undertake AMC for the equipment with BHEL after the expiry of the warranty/ guarantee period either directly or through a service representative with authorization from OEM for spares and service support.



Purchase Specification for X-RAY COUNTER MACHINE

PS/202/SMT/25-
26/009 Rev. 00
Page 3 of 08

9. The vendor shall arrange for a demonstration of the machine or a similar system operating in India, as required by BHEL.
10. The vendor shall furnish a comprehensive warranty for at least 24 months from the date of commissioning or 30 months from the date of delivery, whichever is early.
11. The vendor shall guarantee the performance of the equipment for at least 12 months from the date of commissioning.
12. The model proposed by the vendor should have got the approval of M/s AERB for selling the machine in India. Necessary proof to be submitted.
13. The vendor should provide all necessary support in obtaining AERB approval by BHEL for Procurement, Installation and operation of the machine.

NOTE:

1. Pre-qualification evaluation will be carried out based on the details furnished by the vendor / feedback from their customers / inspection of the company / product if required by BHEL and at its sole discretion.
2. Pre-qualification criteria are mandatory requirements and the technical bids will be evaluated only when the Pre-Qualification criteria are met.

A.) Scope:

Supply, Installation, Erection & Commissioning of X-RAY COUNTER MACHINE as per the following specifications.

B.) Technical Specifications:

The offer shall be corresponding to the parameters under the specifications below or better. Pointwise compliance to the following specification is required

SPECIFICATION FOR X-RAY COUNTER MACHINE

SL.NO.	Parameters	Requirement
1	Main System Requirements	
1.1	Application	X-Ray component counting machine to count SMT components



Purchase Specification for X-RAY COUNTER MACHINE

PS/202/SMT/25-
26/009 Rev. 00
Page 4 of 08

1.2	Component Packages	Chip, MELF, mini MELF, SOT, DPAK, SOIC, PLCC, QFP, BGA, CSP etc.
		Component packages are available in the form of Reels, Trays.
1.3	Component Range	
	Minimum component size (CHIP)	0402 metric (01005inch) or lesser
	Maximum size of component	55 X 55 Sq mm. or higher
1.4	Max reel dia	400 mm or better
1.5	Min reel dia	178 mm or better
1.6	Max height of component	100 mm or better
2	Performance requirements	
2.1	Counting Accuracy	>99%
2.2	Counting speed	<8 seconds (4 reels of 178mm at a time)
2.3	Feeding method	Manual placement
3	X-Ray Source	
3.1	X-Ray Type	Sealed Micro-focus tube
3.2	Voltage	130KV or more
3.3	Current	0.3mA or more
3.4	Power	39W or more
4	Image detector	
4.1	Detector Type	Flat panel detector
4.2	Active Area	430mmx430mm or better
4.3	Pixel Matrix	~ 3070x3070 or better
4.4	Pixel pitch	140 microns or better
5	Control System	
5.1	Operation System	Windows 10 or better
5.2	Monitor	24 inch, high resolution or better



Purchase Specification for X-RAY COUNTER MACHINE

PS/202/SMT/25-
26/009 Rev. 00
Page 5 of 08

5.3	MES	Should support MES Integration. Barcode scanner and Label Printer to be provided. The reels put inside machine had to be asked for barcode scanning and the machine should print label with counting result and relevant data.
6	Safety	
6.1	Door interlock	Once user open the door, X-Ray tube should Power off immediately. When the door open user should not be able to turn on the X-ray.
6.2	safety Curtain	Safety light curtain covers the whole drawer; the X Ray should stop immediately when something enters
6.3	Radiation safety	< 1 μ Sv/hr at 100 mm from the cabinet surface
7	Dimension	
7.1	Machine Size	1000x1100x2200mm or lesser
7.2	Weight	850 kg or less
8	POWER	
8.1	Input Power	Single phase 210-230 VAC 50/60 Hz
8.2	Typical Power Consumption	2.5 KW or less
9	WORKING ENVIRONMENT	
9.1	Operating Temperature	15-30°C
9.2	Humidity	<85% (non-condensing)
10	General requirements	
10	Emergency stop	To shutdown system in case of any emergency
10	Radiation Safety	Compliance to Radiation Safety standards and CE regulation is required
10	Signal Tower / X-ray on caution light	Signal Tower / X-ray on caution light with interlock



Purchase Specification for X-RAY COUNTER MACHINE

PS/202/SMT/25-
26/009 Rev. 00
Page 6 of 08

Note:

1. Specify the machine parameters and briefly explain features wherever applicable.
2. If more than one configuration is quoted, separate offers shall be submitted.

Warranty & AMC

1. The vendor shall provide a comprehensive warranty (Which includes, Preventive maintenance as recommended by the OEM) for X-RAY COMPONENT COUNTER for a period of 24 months from date of successful commissioning or 30 months from date of delivery at BHEL EDN whichever is earlier.
2. Vendor shall quote separately with this tender for non-comprehensive AMC (Annual maintenance contract) for a period of at least 5 years after the expiry of warranty. (With 4 Preventive Maintenances or as recommended by OEM, whichever is higher and unlimited breakdown Calls per year)
3. The AMC prices and spare parts prices shall also be considered for evaluating cost to BHEL and for cost comparison to arrive at L1 vendor. The ordering of AMC after the end of warranty period shall be at the discretion of BHEL.



Purchase Specification for X-RAY COUNTER MACHINE

PS/202/SMT/25-
26/009 Rev. 00
Page 7 of 08

Details to be furnished along with the offer

- 1) If more than one configuration is quoted, separate offer with complete technical details shall be submitted.
- 2) Unpriced Price bid (i.e. Offer with prices blanked out) is to be submitted along with the techno-commercial offer.
- 3) Clause-wise deviations, if any, have to be brought out clearly. If there are no deviations, the vendor has to indicate clause-wise compliance with the specifications.
- 4) The complete technical information and catalogue shall be given.
- 5) If the offer is from foreign OEM, Details of Authorized service agents in India to be furnished
- 6) With regard to the handling and operations of the equipment being supplied to BHEL, vendor should provide details of the identified hazards and assessed risks (HIRA), and the precautions and control measures to be adopted.
- 7) Vendor shall spell out any aspects which can pollute the environment, and assessment of their impact on environment.
- 8) Vendor shall provide details of disposal mechanism of the equipment at the end of the lifecycle.

GENERAL TERMS

- 1) Operation, Maintenance, Service & spare parts manual has to be supplied in hard copy and soft copy along with the equipment. Detailed Electrical and Electronic circuit diagram if any have to be provided as part of the manuals. Routine maintenance schedules and the activities shall be provided in the manual.
- 2) The machine shall be installed at BHEL-EDN by the vendor. The cost of installation and commissioning if extra need to be included in the price bid.
- 3) Training shall be provided for operation & maintenance to BHEL personnel at BHEL premises. Training cost, if any is to be included in the Price Bid as a separate line item, which will be considered for arriving at L1 Vendor.
- 4) Certificate of conformance along with test results should be furnished to BHEL along with the equipment.



Purchase Specification for SMT- PICK & PLACE SYSTEM

PS/202/SMT/25-
26/002 Rev. 00
Page 8 of 08

Annexure TS 1

On Bidder Letter Head

Date:

To,

M/s Bharat Heavy Electricals Ltd.
Electronics Division, Mysore Road,
Bangalore – 560026

Sub: Model Clause / Certificate as per clause 9 (a) of Revised Public Procurement (Preference to Make in India Order, 2017 of DPIIT dated 13.06.2020.

Ref: BHEL Tender / RFQ / NIT Number

I (authorized signatory
for M/s) a 'Class-I Local Supplier' / 'Class-II Local Supplier' at the time
of tender, bidding or solicitation hereby confirm that the item meets the Local Content requirement for
'Class-I Local Supplier' / 'Class-II Local Supplier' (Tick appropriate option & cut the other one) and the
Local Content percentage is

The address is as below, where the local content / value addition is made:

[Factory Address]

For M/s

Authorized Signatory
(with company seal & Name)