

Our E-Tender Notice No. IPR/TN/ET/F/19-20/20 dated 31st July, 2019 for Supply of ION-Chamber, Pre-Amplifier, Controller alongwith Mandatory Accessories as per technical specifications mentioned in our tender documents

SECTION - C

TECHNICAL SPECIFICATIONS OF STORES AND DRAWINGS.

Technical Specifications of ION-Chamber, Pre-Amplifier, Controller alongwith Mandatory Accessories

1. Active Volume: Between 750 to 2000 cc
2. Minimum Measurable tritium concentration: $\leq 10 \mu\text{Ci}/\text{m}^3$ of Tritium
3. Detection Range : From $10 \mu\text{Ci}/\text{m}^3$ to $10 \text{Ci}/\text{m}^3$ or better
4. Response time: ≤ 10 sec
5. Measurement Type: Measure ions with a biased Anode
6. Detection volume Type: Solid Wall – maximum sensitivity
7. Flow rate: Between 750 cc/s to 2000 cc/s
8. Leak Tightness: $\leq 1 \times 10^{-8}$ sml/s
9. Operating Temperature: From 15 to 50°C
10. Pressure: Vacuum to 150 Psig
11. External Gamma source Signal should be provided.
12. Carry over protection should be provided.
13. Chamber should be Electro polished
14. Chamber should be bakeable ≥ 300 °C
15. Should have Gamma compensation option
16. Digital output : RS232/ RS485/ Ethernet
17. Power Requirements: $230 \pm 10\%$ VAC , $50 \pm 5\%$ Hz
18. Control Unit & Display Unit Capable of controlling two detectors
19. Size of control unit : $\leq 5\text{U}$
20. Mandatory Accessories: Preamplifier, connectors, fittings (1/4" VCR for gas in and out along with 10 Nos. of spare gaskets) 5 mtrs. long power as well as signal cables should be provided
21. Ion Chamber Controller should have following features:
 - a) Auto Zeroing, Auto Ranging
 - b) Digital Range Indication
 - c) Dual set point Alarms
 - d) Visual and Audible local alarm
 - e) Remote Alarm,
 - f) It should have Real Time Measurement
 - g) Flat panel touch screen with LCD display
22. Factory Acceptance Criteria: Vendor should submit the test report of following test before shipment.
 - i. Ion chamber should be calibrated in the entire range for minimum 10 points and calibration certificate should be provided
 - ii. Leak Tightness: $\leq 1 \times 10^{-8}$ sml/s should be certified
23. Vendor should provide Installation commissioning, testing and training at site to three persons.
24. Site Acceptance Criteria
 - i. Ion chamber should be tested and demonstrated for following features.
 - a) Auto Zeroing, Auto Ranging
 - b) Digital Range Indication
 - c) Dual set point Alarms
 - d) Visual and Audible local alarm
 - e) Remote Alarm,
 - ii. Leak Tightness: $\leq 1 \times 10^{-8}$ sml/s should be certified

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25. Compliance: DOE Tritium Monitor Standard Rev 4 June 1999 or latest version.
26. Warranty of one year from the date of installation at IPR
27. Operating, instruction and troubleshooting manual with detailed circuit diagram and connection diagram may be provided along with the shipment of instruments.
28. Vendor must submit the valid authorization certificated from Original Equipment Manufacturer, if vendor is not OEM.

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Compliance Sheet

Compliance Statement ION-Chamber, Pre-Amplifier, Controller alongwith Mandatory Accessories

Bidder must submit compliance statement dully filled with exact technical values of each specifications (Not with OK, CONFIRM, COMPLY, ACCEPTABLE) alongwith official seal and signature with their offer.

Sr. No.	IPR SPECIFICATION	Vendor Specifications
1.	Volume: Between 750 to 2000 cc	
2.	Minimum Measurable: $\leq 10 \mu\text{Ci}/\text{m}^3$ of Tritium	
3.	Detection Range : From $10 \mu\text{Ci}/\text{m}^3$ to $10 \text{Ci}/\text{m}^3$ or better	
4.	Response time: ≤ 10 sec	
5.	Measurement Type: Measure ions with a biased Anode	
6.	Detection volume Type: Solid Wall – maximum sensitivity	
7.	Flow rate: Between 750 cc/s to 2000 cc/s	
8.	Leak Tightness: $\leq 1 \times 10^{-8}$ sml/s	
9.	Operating Temperature: From 15 to 50 °C	
10.	Pressure: Vacuum to 150 Psig	
11.	External Gamma source Signal should be provided.	
12.	Carry over protection should be provided.	
13.	Chamber should be Electro polished	
14.	Chamber should be bakeable ≥ 300 °C	
15.	Should have Gamma compensation option	
16.	Digital output : RS232/ RS485/ Ethernet	
17.	Power Requirements: $230 \pm 10\%$ VAC , $50 \pm 5\%$ Hz	
18.	Control Unit & Display Unit Capable of controlling two detectors	
19.	Size of control unit : $\leq 5\text{U}$	
20.	Mandatory Accessories : : Preamplifier, connectors, fittings (1/4" VCR for gas in and out along with 10 Nos of spare gaskets) 5 mtr long power as well as signal cables should be provided	
21.	Ion Chamber should have following features:	
	a) Auto Zeroing	
	b) Digital Range Indication	
	c) Dual set point Alarms	
	d) Visual and Audible local alarm	
	e) Remote Alarm,	
	f) It should have Real Time Measurement	
	g) Flat panel touch screen with LCD display	
22.	Factory Acceptance Criteria	
	i. Ion chamber should be calibrated in the entire range for minimum 10 points and calibration certificate should be provided	
	ii. Leak Tightness: $\leq 1 \times 10^{-8}$ sml/s	
23.	Vendor should provide Installation commissioning, testing and training at site to three persons.	
24.	Site Acceptance Criteria	
	a. Ion chamber should be tested and demonstrated for following features.	
	a) Auto Zeroing, Auto Ranging	
	b) Digital Range Indication	

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	c) Dual set point Alarms	
	d) Visual and Audible local alarm	
	e) Remote Alarm,	
	b. Leak Tightness: $\leq 1 \times 10^{-8}$ sml/s should be certified	
25.	Compliance: DOE Tritium Monitor Standard Rev 4 June 1999 or latest version.	
26.	Warranty of one year from the date of installation at IPR	
27.	Operating, instruction and troubleshooting manual with detailed circuit diagram and connection diagram may be provided along with the shipment of instruments.	
28.	Vendor must submit the valid authorization certificated from Original Equipment Manufacturer, if vendor is not OEM.	

Note:

- ***Do not write yes/compliance/ok/agree/word in compliance table,.***
- ***Compliance table must be filled with the technical value wherever it requires and technical terms supported by datasheet of the quoted model.***

Authorised Signatory

Official Seal

Date :-