

TENDER NOTICE

**Tender No.
MPPCB/Pur./04/2017-18**

TENDER DOCUMENT

**FOR SUPPLY OF
LABORATORY INSTRUMENTS**



Year: 2017 - 18

**M. P. Pollution Control Board
E-5 Sector, Paryawaran Parisar,
Arera Colony, Bhopal – 462016**

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M. P. POLLUTION CONTROL BOARD

PARYAWARAN PARISAR, E-5, ARERA COLONY, BHOPAL – 16

Phone: [0755] 2466191/2464428 Fax: [0755] 2463742 E-mail: it_mppcb@rediffmail.com

TENDER NOTICE

Sealed tenders are invited from the reputed manufacturers [approved by BIS/ISO for quality & precision] and / or their authorized dealer / agent /representatives, specially authorized for this tender, for the supply of laboratory instruments as per following details:

Sl. No.	PARTICULARS OF ITEMS	Qty.	EARNEST MONEY [Rs.]
1.	Aerosol Particle Monitor	01	10000.00
2.	Bio Safety Cabinet	01	2000.00
3.	Hot Air Oven	04	4000.00
4.	Heavy Metal Digestion Assembly	02	4000.00
5.	Micro Electronic Balance	01	30000.00
6.	PM _{2.5} Samplers	13	32500.00
7.	Portable Generating Set	30	50000.00
8.	Respirable Dust (PM ₁₀) Samplers	13	15600.00
9.	Stack Monitoring Kit	05	8500.00
10.	Ultra Pure Water Purification System	01	20000.00
11.	Water Current (Flow) Meter	14	21000.00

The tender document including technical specifications of equipments shall be downloaded from the website on or before up to 1.00 PM on dated 15.12.2017 on payment of Rs. 1500.00 [Rupees One Thousand Five Hundred only] by demand draft in favor of Member Secretary, M. P. Pollution Control Board, Bhopal towards downloading the tender document from Website. The Tender documents will not be available in physical form and any amendment required after the publication of this notice will be available on only Board's website. The earnest money of requisite amount shall be submitted in a separate sealed envelope mentioning the details thereof. No tender shall be considered without requisite tender fee and earnest money. The bidder shall submit sealed tenders on or before at 1.00 p.m on dated 15.12.2017 and shall be opened on the same date at 2.30 p.m. in the presence of bidders, who wish to participate. The detailed terms & conditions are available in tender document. For detailed tender document and any amendment (if required) regarding the said tender shall be available on Board's Web site www.mppcb.nic.in and www.govtenders.nic.in.

[Dr. Reeta Kori]
Chief Scientific Office



M. P. POLLUTION CONTROL BOARD

PARYAWARAN PARISAR, E-5, ARERA COLONY, BHOPAL – 16

Phone: [0755] 2466191 Fax: [0755] 2463742 E-mail: it_mppcb@rediffmail.com,
pur_mppcb15@rediffmail.com

To,

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Sub.: Sealed tenders for purchase of Laboratory Equipments & other articles.

Dear Sir,

M. P. Pollution Control Board desires to procure laboratory equipments for its and Head Quarter and laboratories spread over whole of the state. Sealed tenders are invited from the reputed manufacturers [approved by BIS/ISO] or their authorized representatives, specially authorized for this tender, who are capable of supplying laboratory equipment and aforesaid services which are shown in the tender notice. The detailed separated tender documents including terms and conditions are as follows:

[A] SPECIAL CONDITIONS:

1. All prices quoted should be CIF New Delhi for imported equipment. Other charges like transportation, insurance, F.O.R. destination and installation charges should be quoted separately. For indigenous equipment prices should be F.O.R. destination.
2. Prices should be quoted for complete set of equipment including the cost of installation, minor civil works, electrical fittings and cabling etc.
3. Accessories required [if any] for maintenance for a period of three years should be given separately.
4. Annual Maintenance charges for three years should be quoted separately in Annexure – 3.
5. The technical specifications of the offered equipment should be furnished in annexure –2. Schedule of requirement is annexed as annexure- 7. The check list is shown as annexure 6.

6. The equipment offered should necessarily contain a guarantee for its trouble free performance for a period of three year from the date of installation.
7. The offer should clearly mention make, name of the manufacturer, detailed specifications, detailed literature about the equipment/circuit diagram/drawing of the mechanism and any other information relevant to the equipment. For any printing error/mistake in final bid will be the responsibility of the bidder and no correspondence will be entertained by the Board in future.
8. The tenderer should furnish details of supplies made by him to important institutions, along with performance certificate, during last one year [Users' list]. The bidder must submit Client list along with the previous purchase order copies of similar item [s] supplied to any Central /State Pollution Control Boards / any CSIR Laboratory.
9. The firm / manufacturer submitting the offer shall only quote for one most suitable model of the offered equipment whose specification matches the Board's specifications. No alternate offers shall be considered and, if submitted, the offer shall be rejected.
10. Earnest money be furnished by a demand draft in favor of Member Secretary, M. P. Pollution Control Board, Bhopal in envelop "A". Offers without earnest money shall not be considered and the relevant envelops [B & C] will not be opened and their offer shall be treated as rejected.
11. Bidders using downloaded tender forms must submit tender fee by demand draft along with Earnest Money in Envelop "A" drawn of Member Secretary, M. P. Pollution Control Board, Bhopal. The tender will not be accepted from the firm to whom the document is not issued by the Board and the bid downloaded from net without tender fee will not be accepted.
12. The bidder shall have to submit the copy of GST registration number and Income Tax registration [PAN] along with envelop "B" otherwise the offer shall be liable for rejection.
13. An undertaking shall be submitted by the tenderer that they are not black listed in any Govt. organization / institutions along with envelop "B".
14. The bidder shall provide exclusive company profile including necessary certificates / license for manufacture the product from DGTD / SSI/SIA etc. The bidder shall also provide Bank Name, Account Name, Account Number, Account

Type, Branch IFSC Code for safer & easier payment transaction through RTGS/NEFT.

15. The specifications are clearly mentioned in the document and the Bidder is requested to submit Bid only if their offer strictly comply with these specifications. Please note that no deviation in the required specification will be permitted. The bidding for the instruments having different specification will be on Bidder's risk as the Board will not entertain such Bids.

16. **PROCEDURE FOR SUBMISSION OF TENDERS :**

Each bidders shall submit his offer in three sealed envelopes A, B and C. Envelop "A" shall contain earnest money and tender cost, if the tender document is downloaded from the web site. The Envelop "B" should contain technical specification, terms & conditions, company profile, copy of GST registration number, PAN number and authorization certificate from manufacturer for submission of offer for this tender, if offer is submitted by authorized representative. In case the manufacturer of any equipment authorizes more than one firm for submitting offer, then such offers shall be treated as rejected. Envelop "C" shall contain financial offer.

[a] Envelop – "A" : Envelop "A" should contain demand draft for the requisite amount of earnest money in favor of Member Secretary, M. P. Pollution Control Board, Bhopal. If the tender document is downloaded from web site, then separate demand draft for tender cost shall be submitted with envelop" A". The name of instrument and the amount of the demand draft should be inscribed on the top of envelop. Envelop "A" shall be opened on 15.12.2017 at 2.30 pm in the presence of the bidders or their authorized representatives. Insufficient amount furnished as earnest money and tender cost shall make the offer liable for rejection.

[b] Envelop – "B": Bidders, who have furnished the desired amount of earnest money and tender cost shall be liable for opening of the Envelop "B" of their offer. The Envelop "B" should contain detailed compliance of technical specifications in annexure -2, make & model of the equipment, functioning procedure of the equipment and other literature relevant to the equipment and company profile. If the offer is submitted by authorized representative, he should submit authorization letter in envelop "B" from the manufacturer for submitting offer for this tender, otherwise tender offer of the firm shall not be considered and liable for rejection. The tenderer should furnish users' list and details of supplies made by him to important institutions along with performance certificate. The bidder shall have to submit the copy of GST registration number and income tax no. [PAN] along with the envelop "B", otherwise the offer shall be liable for rejection. An undertaking shall be submitted by the tenderer, regarding whether they are not black listed in any Govt. organization / institutions, along with envelop "B". The details of service station in Madhya Pradesh and India should be furnished with other details.

1. **[c] Envelop – “C”** : The envelop “C” shall contain financial offer in annexure 4 or 5 [whichever is applicable] of the tender document. Offers received in due time shall be evaluated technically by a committee constituted by the Competent Authority, M. P. Pollution Control Board and as per the recommendation of committee , depending upon the suitability of equipment with respect to application, performance, after sale service and service centers in Madhya Pradesh or in India etc., the financial offer shall be opened. The date of opening of financial bids (Env.”C”) will be informed later. Notwithstanding anything stated above the competent authority of the Board reserves the right to assess the capability and capacity of the bidder to perform the contract, should the circumstances warrant such an assessment in the overall interest of the Board.

[B] OTHER CONDITIONS:

1. The Board reserves its rights to reject any or all the tenders without assigning any reason there for.
2. Tender found incomplete shall be rejected forthwith.
3. The indigenous equipment, for which an order has been placed, after acceptance of the tender, shall have to be delivered, installed & demonstrated to the consignee mentioned in the supply order within 60 days from the date of issue of supply order. In case of late supply of the material, 2% per month penalty shall be charged. The maximum penalty for late supply shall not exceed 10% of the total ordered value. In case of unavoidable delay in supply a prior permission shall be obtained for extension in delivery period.
4. The time limit for the supply of imported equipment shall be 90 days, which can be relaxed for additional 30 days by the Member Secretary. After scheduled time limit, 2% per month penalty or maximum penalty up to 10% of the total ordered value should be levied.
5. If the bidder is not a manufacturer himself, should have a facility for repairing and maintenance of the instrument. The details of service centers in Madhya Pradesh and India should be furnished along with other details.
6. It shall be the responsibility of the bidder to deliver the material to the consignee in sound condition without any damage. Any damage or loss during transit shall be on the account of the bidder.
7. The tenders shall be valid for a period of 360 days from the date of opening of envelop “A”.
8. The prices should include all taxes like sales tax, excise tax or any other tax.

9. The approved firm / manufacturer shall have to submit 5% security deposit of the ordered value in the form of Bank Guarantee for a period of 12 months, other wise 5% amount shall be deducted from the bill.
10. In case the approved bidder fails to effect supply, within the specified period as per supply order, the earnest money is liable to be forfeited.
11. The consignee or any other officer authorized by the Board shall have the right to reject any or all the items of the supply, if they do not confirm to specifications mentioned in the supply order. The rejected items shall be lifted by the bidders at their own cost. The consignee will not be responsible for the custody and safety of such items.
12. The Board reserves its rights to affect any reasonable increase or decrease in the quantity or number of items at the time of issue of supply order in the interest of the Board.
13. All the clearance including the obtaining NMI [Not manufactured in India] certificate, custom clearance and custom duty will be the responsibility of the tenderer. This office will open the letter of credit [L/C] as may be required and will only sign the documents wherever required.
14. In case, if any supplier quote their rates in Indian Rupees for imported equipment and do not require custom duty exemption certificate from the Board, then the supplier has to submit import document like bill of entry, custom duty paid and NMI [Not manufactured in India] certificate from the manufacturer.
15. The bidder is expected to examine all instructions, forms, terms and conditions and specifications mentioned in the bid document. Failure to furnish all information required by the bid documents of submission of a bid not substantially irresponsive to the bid document in every respect will be at the bidder's risk and may result in the rejection of it's bid.
16. The terms of payment shall be as under:
 - [A] **Indigenous Items:** 75% of the cost of material would be paid after receipt of the material by consignee and balance 25% payment shall be released only after satisfactory installation and demonstration of the equipments / material at site.
 - [B] **Imported equipments:** The letter of credit will be opened for total ordered value, but 75% of the cost will be released on shipment of the material and balance 25% payment shall be released only after satisfactory installation & demonstration of the equipments / receipt of material at site.
17. Conditional offers will not be accepted and liable for rejection.

18. In case of human error regarding labeling of envelop, the committee constituted for the opening of envelop shall take appropriate decision.
19. In case of any dispute the decision of Chairman, M. P. Pollution Control Board shall be final & binding.
20. In order to comply the instructions of Department of Commerce & Industries, Govt. of M.P., minimum 30% of the quantity of the items shall be reserved for the manufacturers / entrepreneurs from Scheduled castes/ scheduled tribes based at Madhya Pradesh.

NOTE: The tenders shall be liable for rejection in breach of any of the special or other general conditions of the tender document and no correspondence in this regard shall be entertained in future.

**[Dr. Reeta Kori]
Chief Scientific Officer**



M. P. POLLUTION CONTROL BOARD

TENDER AND CONTRACT FOR SUPPLY OF MATERIALS GENERAL RULE AND DIRECTIONS FOR THE GUIDANCE OF SUPPLIERS

- (1.) All suppliers proposed to be obtained by contract will be notified in a form of invitation to tender posted in public places/News Paper.
- (2.) The tender form will State the supplies to be made, as well as the date for submitting and opening tenders and the time allowed for supply, also the amount of earnest money to be deposited with the tender.
- (3.) In the event of tender being submitted by a firm it must be signed separately by each member thereof or in the absence of any partner, it must be signed on its behalf by a person holding a power of attorney authorizing him to do so, such power of attorney should be produces with the tender and it must disclose that the firm is duly registered under the partnership Act.
- (4.) Any person who submits a tender shall fill up usual printed form stating at what rate he is willing to undertake supply of each items. Tender which propose any alteration in the work/supply specified in the said form of invitation to tender, or time allowed for carrying out work/supply will be liable for rejection.
- (5.) The Member Secretary or his duly authorized assistant will open tenders in the presence of any tenderer who may be present at the time and will enter the amount of several tenders in a comparative statement in a suitable form. Receipts for earnest money will be given to all tenderers except those whose tenders are rejected and whose earnest money is refunded on the day that the tenders are opened.
- (6.) The officer competent to dispose of the tenders shall have the right of rejecting all or any of the tenders.

CONDITIONS OF CONTRACT

1. The time allowed for the supply of materials as entered in the tender shall be strictly observed by the supplier and reckoned from the data of which the order to commence supply of materials shall throughout the stipulated period of the contract be proceeded with allude diligence (time being deemed to be the essence of contract) on the part of the supplier and the supplier shall pay as liquidated damage an amount equal to one percent or such smaller amount as the Member Secretary, M.P. Pollution Control Board, may decide on the amount of estimated cost of the whole of the materials as shown in the estimated cost of the that the supply remains un commenced or unfinished after the proper dates. In the event of the contractor failing to comply with this condition shall be liable to pay as liquidated damage an amount equal to one percent or such smaller amount as the Member Secretary may

decide on the said estimated cost of the whole of the materials for every day that the due quantity of supply remains incomplete to, provided that the due quantity of liquidated damage to be paid under the provisions of this clause shall not exceed ten percent on the estimated cost of the supply of materials as shown in the tender.

2. If the Tenderer shall be hindered in the supply of the materials so as to necessitate an extension of the time allowed in this tender he shall apply in writing well in advance or immediately after the cause occur to the Member Secretary, M.P. Pollution Control Board who shall if in his opinion (which shall be final) reasonable grounds be shown therefore authorize such extension for a period not exceeding in 15 days. Any further extension shall be subject to the previous sanction of the Chairman.
3. The supplier shall give notice to the consignee officer of his intention of making delivery of materials and on the materials being approved a receipt shall be granted by him to the Consignee Officer or his assistant, and no material will be considered for payment until so approved.
4. On the completion of the delivery of the materials the supplier shall be furnished with a certificate by the Consignee Officer of M.P. Pollution Control Board.
5. The material shall be of the best description and in strict accordance with the specification and the supplier shall receive payments for such materials only as are approved and passed by the Member Secretary/Consignee Officer.
6. In the event of materials being considered by the Consignee Officer to be inferior to that described in the specification the supplier shall on demand in writing forth with remove the same at his own charge and cost and in the event of his neglecting to do so within such period as may be named by the Consignee officer that officer may have such rejected material removed at the contractor's risk and expense incurred being liable to be deducted from any sum due or which may become due to the supplier.
7. Receipts for payment made on account of a supply when executed by a firm must also be signed by several partners except where the contractors are described in their as a firm in which case the receipt must be signed in the name of firm by one of the partners or by some other person having authority to give effectual for the firm.
8. Under no circumstances whatever shall the contractor be entitled to any compensation from Board on any account.
9. The supplier shall supply at it own expense all tools, plant & implements required for the due fulfillment of his contract and the materials shall remain at his risk till the date for final delivery, unless it shall have been in the mean time removed for use by the Consignee Officer.

10. No materials shall be brought to site or delivered on Sunday/holiday without the written permission of the Consignee Officer.
11. The supplier shall not sublet this contract without the written permission of the Member Secretary, M.P. Pollution Control Board. In the event of the contractor subletting his contract without such permission, he shall be considered to have thereby committed a breach of the contract, and shall forfeit his earnest money and shall have no claim, for any compensation for any loss that may occur from the materials he may have collected or engagements entered into.
12. The decision of the Chairman, M.P. Pollution Control Board, Bhopal shall be final, conclusive & binding on all parties to the contract upon all questions relating to the meaning of specification and instructions herein before mentioned and as to qualify of materials or as to any way arising out of, or relating to the contract specifications, instruction orders of these conditions or otherwise concerning the supplies whether arising the progress of after the completion or abatement thereof.
13. On the breach of any term of condition of this contract by the supplier, the said Chairman shall be entitled to forfeit the earnest money, security deposit and the balance thereof that may at that time be remaining and to realize and retain the same as damages and compensation for the said breach but without prejudice to the right of the said Board to recover any further sums as damages from any sums due or which may be come due to the contractor by M.P. Pollution Control Board, or otherwise howsoever.

[Dr. Reeta Kori]
Chief Scientific Officer

TECHNICAL SPECIFICATIONS

Aerosol Particle Monitor

Light Source	Laser diode (>100,000 hours)
Sensitivity	0.3 μ m
Size Range	0.3 μ m to 10 μ m
Channels	All three channels are user configurable (size selections from 0.3 μ m, 0.5 μ m, 0.7 μ m, 1.0 μ m, 2.0 μ m, 2.5 μ m, 5.0 μ m and 10 μ m)
Counting Efficiency	50 \pm 20% @0.3 μ m ,100 \pm 10% @0.45 μ m
Zero Count	<1 count per 5 minutes
Flow Rate	2.83 L /min (0.1cfm)
Sampling Time	User defined: (up to 59m59s) and auto repeat (up to 99 times)
Sampling Mode	Cumulative, differential, concentration (counts/liter), mass concentration (μ g/m ³ , can be interpreted as PM1, PM2.5, PM10 or TSP)
Error Indications	Excess count limit, optics contamination, loss of laser power, insufficient battery power
Power	Li-ion polymer rechargeable battery (7.4V/2800mAH) or 9VDC AC, Adapter (100~240V input)
Max. Operating Time	Continuous operation > 5 hours with Li- ion battery, Storage: -20 ~ 65°C, < 90%RH
Dimensions	180 (H) \times 93 (W) \times 46 (D) mm
Weight	< 950 grams (including battery)
Environmental Conditions	Operating: 5 ~ 45°C, < 90%RH
Optional Accessories	Zero-count filter, digital temperature and humidity sensor probe, mini printer, printer cable, tripod, portable carry case

Bio- Safety Cabinet

Specifications	Requirements
Laminar Flow Bench Type	Horizontal Laminar Flow confirming to class 100 conditions of the U.S. Federal Standard 290 B to provide an environment, where air supply is free of bacteria, fungi, pollen and practically all air borne dirt.
Material of Construction	Main Body and rear panel should be perfectly electro galvanized steel or mild steel, oven backed epoxy powder coated finish.
Front & Side Door	Made up of transparent thick Perspex sheet or UV resistant thick poly carbonate sheet
Work Table	Work table with work top of stainless steel 304
Work Table Size	120 cm x 60 cm x 60 cm
Principle	Double filtration of air
Pre – Filters	Pre filters of dry fiber washable type with frame on all sides confirming to the international standards 209 E
HEPA Filters	HEPA filters with at least 99.97 % efficiency for particulates of 0.3 micron or larger size on all the sides. Made up of glass fiber with pleats back and fro in an anodized aluminium frame. DOP tested for leaks and certified.
Air Flow Output	90 ± 20 FPM (feet per minute)
Pressure Display	Perfectly Digital static pressure indicator for air flow measurement (Option: in case, it could not be supplied then static pressure manometer for air flow measurement may be quoted).
Noise Level	Less than 65 db 'A' scale at work area
Fluorescent Lamp / UV lamp	Normal working fluorescent lights 120 cm length The light intensity should exceed 800 – 1000 Lux / 75 – 90 feet candles at work area. Imported germicidal ultraviolet light of Philips (Holland) or reputed make UV Light intensity > 40 micro watt / sq. cm over the work area.
Vibration	Less than 0.00005 cm average displacement of work table.
Motor Blower	Dynamically balanced Heavy duty 0.25 HP or more high RPM electric motor blower assembly operating on 230 ± 10 V AC / 50 Hz power supply.
Gas cock / burner, switches & Indicator	Provision for gas cock / burner. Industrial switches and indicator lamps for blower motor fluorescent lamp and UV lamp.
Accessories	One no. additional Ultra violet Lamp, spare digital static pressure display, spare Air / Vacuum petcock, burner. Technical / Maintenance Manual in English to be provided.
Calibration / Certification	The HEPA Filter and Digital pressure meter should be certified / calibrated from NABL Accredited or equivalent Calibration Laboratory. The certificates be provided along with the equipment. The Laminar Flow Bench should be calibrated for Particle Count within flow bench area from NIST certified / NABL Accredited Calibration Laboratory.

Hot Air Oven

Specifications	Requirements
Internal Chamber Size	75cm x 75cm x 120cm (L x W x H)
Outer Body	Powder Coated Mild steel, White stoned enamel
Inner Chamber	Double walled construction inner chamber made of stainless steel
Trays	4 nos. stainless steel , perforated adjustable
Door	Single door fitted with heavy brass chorme plated hinged and door lock
Cabinet	Cabinet double walled mild steel
Insulation	Minimum thickness 5 cm of glass wool
Air Circulation	Ventilated through internal fan with ISI marked motor to assist circulation or air
Operating Temperature Range	Ambient to 300°C
Temperature Control	Digital temperature controller cum indicator with accuracy of $\pm 0.5^{\circ}\text{C}$, installation should be on top towards door side. The supplier will have to provide Calibration Certificate for Digital Temperature Controller from NABL recognized Calibration Laboratory
Timer	Digital with rage upto 999 minutes, installation should be at top towards door side, Automatic to control ON/OFF cycle.
Power	230 \pm 10 Volts AC 50 Hz
Heaters & heating load	ISI marked heating elements 2 KW
Ventilator	Two adjustable air ventilator on both upward side of the instruments
Standards	The apparatus should confirm to IS 6365 – 1971 (Reaffirmed 1995) with latest amendments in Indian Standard Specification for laboratory Electric Ovens or equivalent International Standards covering marking tests and safety requirements.

Heavy Metal Digestion Assembly

Features	Requirement
Glassware	15 Reaction Vessels & Water Condensers
Vessel Size	Dia 39 mm (approx), Volume 500 ml
Temperature	Upto 250 °C ±1%
Capacity	15 samples at a time
Display	Graphic LCD module with large fonts
Timer	Programmable up to 99 Hrs. 50 Min
Dimension (Approx.)	350 mm X 350 mm X 210 mm
Power	230 V 50 Hz
Accessories	Glassware Handling Kit
Warranty	Three years including replacement of equipment / part found manufacturing fault / malfunctioning. Periodically re calibration (before expiry of the previous) from accredited authorities is mandatory under this warranty.

MICRO ANALYTICAL BALANCE

Capacity	22g
Readability	0.001mg
Repeatability	0.0007 mg
Linearity Deviation	0.003mg
Eccentricity (test load)	0.006 mg (10 g)
Sensitivity offset (test weight)	0.04 mg (20 g)
Weighing Pan	40 X 40 mm or better. Hanging Grid Pan to avoid impact of air draft of weighing. Weighing Cell should be at the back side and Linkage between weighing cell and pan should be at the level above that of weighing pan
Door Cleaning	Door cleaning should be Dishwasher Safe
Inner Draft Shield Opening	Balance should have inner and outer draft shield to protect filter paper weighing from air turbulence. Inner draft shield should have micro opening to restrict for only small opening to dose directly into flask. Flask should be mounted on balance pan with restricted opening of inner draft shield such a way that dosing can be done in directly in flask
Moving the balance	Balance should be equipped with Handle to move balance
Hands free Operation	Sensors should be provided for hands free operation such as auto door opening. These sensors should be configurable for zeroing, taring
Dosing Guide	Balance display should be with graphical trac to guide dosing
Direct Dosing	Balance pan should be capable for attachment to keep flask, test tube etc so that balance can be used for other application such as sample weighing along with filter weighing
Touch Screen	TFT
Status Light	Balance should have Light indication for various status of balance like Ok, calibration over due, leveling error and other such warnings.
Level Adjustment Guide	Graphical Level Bubble
Internal Adjustment	Time and Temperature based adjustment with internal weights
Static Detect	Balance should be capable of detecting static charge collected on sample filter. Balance should display suggestions about possible error due to static charge on sample as well as light indication for static charge detection after keeping the filter paper on balance pan
Antistatic Solutions	Balance should be capable of attaching antistatic kit to remove static charge on filter paper, flask or tare

	container
Data Transfer	Balance should be compatible for secure data transfer via either software and RFID. Capable of connecting to RFID smart tag solutions for secure transfer of data to your Titrator and from Pipettes. Should be capable of reading and writing via RFID option.
Operation	<ul style="list-style-type: none"> • Balance should be supplied with Software which can be configured and customizable with method for various applications such as sample preparation etc as per customer SOP. It will not allow user to deviate from any step of SOP. • Software should allow user to enter process parameters such as batch number, site details etc on balance display. • Entire data should be stored in PC and will not allow any modification, changes or deletion of any data. • Software should perform all mathematical operations. • User management should be available • All system related activities such as log in, log out etc should be recorded in software • Software should be capable of generating csv, txt etc file with data which can be further analyzed. • Software should be capable to interface barcode scanner and barcode printer

PM_{2.5} Sampler

Design compliance should be as per USEPA norms. The instrument should possess following specification:

Flow Rate	Fixed, 1M ³ /hour (16.7 lpm) controlled by Mass Flow Calibrator.
Elapsed time indicator	Up to 9999 hours with two decimals
Vacuum Pump	Diaphragm type, Brush Less motor
Flow Recorder	Chart Type / Memory based downloadable to computer and or manually displayed on screen.
Dry Gas Meter (Volume totalizer)	For measuring total volume of air sampled.
Volumetric Flow rate compensation	Ambient temperature and pressure sensors to control volumetric flow rate.
Power Requirement	220 to 300 Volts ± 10 volts AC, 50 Hz ± 3%
Size Selective inlets	Opposed jet impaction for PM ₁₀ cut and Cyclonic / WINS impactor for PM _{2.5} cut off.
Special Features	The system should have an option to be used for PM ₁₀ sampling.
Calibration Unit	Calibration unit to calibrate the flow rate of the instrument.
Additional supply	Manufacturers standard operation kit including all required items, fittings for start up / regular operation of instrument. Operation and Maintenance Manual for each unit. Spares and consumables for three year operation.
Optional Accessories	Pure Nylon membrane (1µm, 47 mm) developed specially for acidic dry deposition measurements. PTFE membrane filter with PMP (poly methyl pentene) support ring (1µm, 47 mm). Pure Quartz filter (Max. operating temp > 1000°C) 47 mm

Portable Generating Set

S.No	Requirement	Specifications
1.	Starting and Running	Petrol Start, Petrol Run
2.	Rated Out put at Unity Power Factor at STP	2800 VA
3.	Starting Type	Recoil
4.	Efficiency of alternator	80%
5.	Power Uotput	220 VAC
6.	Noise Level	75dB
7.	Approx. Weight	Less than 60 Kgs
8.	Limits of vibration	5.3 m/second square at control pannel mm per sec
10.	Fuel Tank Capacity	Atleast 12.0 litres
11.	<ul style="list-style-type: none"> • Provision of Voltmeter and Ammeter in the Output Circuit. • Generator should comply Temperature rise limit given in IS:4722/92 • The generator set shall be fitted with Fuel Tank of a capacity to give continuous operation for atleast 6.5 hours at rated full load and fuel should not spill out of the lid of the tank due to the vibration. • Generator should have low lubricating oil alert system. 	
12.	<ul style="list-style-type: none"> • Test Report from Central Government/NABL/ILAC Accredited Laboratory to prove conformity to the specification for each rating for portable generator set. • COP and TAC declaring make & model of engine/portable generator sets should be provided. • The generator set should comply with the latest requirement of Environment (Protection) Rules, 1986 as and when ammended by Ministry of Environment & Forests in respect of emission & noise norms. 	
13	<ul style="list-style-type: none"> • Warranty: One year from the date of installation. 	

Respirable Dust (PM₁₀) Sampler

Specifications	Requirements
Blower	0.8 to 1.4 meter cube per minute free flow with flow controller and brushless motor operated at 230 Volts preferable noiseless.
Particle Size	Particles of 10 microns and below collected on filter paper, Filter holder designed to accept any standard filter sheet of 203 mm x 254 mm. Separate provision for collecting particles bigger than 10 microns under the cyclone.
Sampling Time	0 to 24 hours flexible to set any time interval.
Time Totalizer	0 to 9999.99 hours. Time totalizer circuit detects blower stoppage due to any reason including brush failure.
Automatic Sampling	24 hours programmable timer to automatically shut off the system after pre – set time intervals.
Power	Normal 230 ± 10 V, single phase, 50 Hz AC, Built in requirement voltage stabilizer with automatic shut off beyond 220 – 300 V range.
Handling	Portable and as sleek as possible
Housing	Sturdy aluminum cabinet consists of blower, filter case assembly, time totalizer, real time timer, flow meter, flow controller & flow measurement device. RSPM should be collected on filter paper and coarse dust should be collected in a cup under cyclone.
Flow Measurement	Glass Manometer tube accurately graduated directly in M ³ / Min and calibrated across orifice.

Gaseous Sampling Attachment:

Flow Rate	0.3 to 3 lpm, 2% accuracy
Flow Control	Four Inlet and one outlet manifold with built in needle valve for flow control of each inlet.
Sampling Train	4 nos. of 35 ml. Borosilicate glass impingers kept in a ice tray. Dimension as per IS: 5182 Part V

Stack Monitoring Kit

The In – Stack monitoring Kit (USEPA Method 17) should be Portable, Compact, Light Weight and user Friendly. Control Module, with Multi – Function Electronic Unit, Digital Electronic Manometer, Programmable Start and Stop facility for Sampling Pump, Digital Display for Stack Gas & Dry Gas Meter Temperatures, Light Weight Sampling Pump and Impinger Module Design Complies with Specifications, recommended by USEPA. The facility for mounting of thermocouple, pitot tube and probe together to keep all the components functional during the period of sampling is mandatory.

Stack Velocity range	3 to 30 m/sec
Stack temperature range	0 to 600 °C and 500°C to 1000°C [shall be quoted separately]
Particulate Sampling	At 6 to 60 lpm
Gaseous Sampling	At 0.6 to 6 lpm collection on a set of impingers, containing selective reagents.

Pitot Tube: Modified S- type pitot shall be fabricated from SS 304 or equivalent. The construction features should be as per USEPA method 1 to 4 & 17 (or) CPCB Doc. No. Emission Regulation [Dec. 1985] Part – III.

Sampling Probe: Fabricated from SS 304 tube of suitable diameter [not less than 15mm ID]. The lengths of the pitot tube and the sampling probes shall be decided by the users. The supplier have to quote separately for all sizes available.

Nozzles: A set of nozzles (min. 04 nos.) fabricated from SS 304 or equivalent material with internal diameter suitable to cover the full range of stack velocities. The leading edge of the nozzle should be sharp and tapered. The minimum internal diameter of the nozzle should not be less than 4mm

Thimble Holder: Filter holders fabricated from SS 304 suitable to hold cellulose/ glass fibre or other thimbles.

Thermocouple:

1. Thermocouple sensor with digital display capable of measuring temperature from 0 to 600 °C covered with acid resistant proper casing and appropriate length (same as length of pitot tube)
2. A separate suitable thermocouple with digital display capable of measuring temperature from 500 °C to 1000 °C covered with acid resistant proper casing and appropriate length (same as length of pitot tube)

Stack Gas Sampling Module:

The stack sampling console shall contain the following:

- Timer (Stop Watch)
Range 0 to 60 minutes
Minimum resolution - one second
Residual Battery Backup facility
- Temperature sensor at metering point (0 to 50 °C)
- Temperature displays with select toggle switches for display of ambient, Stack (Flue Gas) and temperature at metering point

- Rotameter (separate for Particulate and Gas)
 - a) 6 to 60 lpm for particulate monitoring and
 - b) 0.6 to 6 lpm for gaseous monitoring
- Vacuum gauge Digital or Analog, Dual Scale, range 0 to 30 psi & 0 to 1552 mmHg
- Dry gas meter should be in built. The minimum resolution of digital Dry Gas Meter should be 1 L
- A cold box with a capacity to hold at least 6 to 8 impingers shall be provided with glass impingers.
- Control panel (Console) shall have the facility for leak check with orifice or other type of control knobs.

Stack Gas Velocity Module:

For velocity measurements the module should have provision for housing of:

- Digital manometer (capable to measure in the range 0 to 1300 mm of H₂O)
- Digital pyrometer suitable for measuring ranges (0 to 600°C and 500°C to 1000 °C)

Vacuum pump: Compatible, portable, light weight, heavy duty pump capable to ensure 60 lpm effective gas flow with single phase motor, 220 ± 10 V AC, 50 Hz ± 3%.

Sample Collection Tubes (Hose) : All the sample collection hose / conduits should have push fit system to prevent leakages. The hose should be flexible and protected from outer shocks and aberrations. The length of the hoses is user selectable. Two separate sizes (10 m and 30 m) shall be quoted.

Calibration Certificates: Third party (any Nationally or Internationally Accredited Calibration laboratory) Calibration Certificates for Manometer, Rotameter, Pitot Tube, Nozzles, Thermocouple and Dry Gas Meter etc. with a validity of at least one year should be provided along with the supply.

Impingers: Four numbers of 120 ml and two numbers of 250 ml capacity Borosilicate glass impingers. Facility should be there for keeping ice at the bottom of impinger box.

Tools: A kit containing the essential tools required for connecting various components and routine maintenance shall be provided with the equipment.

Spares and consumables: The supply shall include spares and consumables for at least three years trouble free operation.

Warranty: All the components and whole kit will be under warranty for three years.

ULTRA PURE WATER PURIFICATION SYSTEM

Specifications	Requirements
General	Microprocessor controlled Water Purification System should comprise of primary continuous electro – de – ionization system attached to tank followed by secondary ultrapure polishing system of similar make.
Power Supply	230 ± 10 Volts, 50 Hz
1 st Stage System	The system should operate on municipal water supply, which will be made available to the system from an overhead tank Should be able to operate further inlet water quality of Total Dissolved Solids (TDS) upto 1000 ppm and free chlorine up to 0.5 ppm
1 st State System Output water requirement	Resistivity: 10 – 15 meg Ohms cm
	Total Organic Carbon: < 50 ppb
	Flow Rate: At least 10 Litres / hr
	Silicate rejection: 99.9 %
1 st State System should comprise	Free Chlorine: Nil
	(Activated carbon with anti – scaling compound
	TFC Polyamide RO cartridge with > 100 Dalton cut off having 95-99% of organic and inorganic rejection
	EDI module having nuclear grade MB ion exchange resin where there is continuous regeneration of resin with simultaneous removal of the cation and anion giving product water in a single pass through the module.
	254 mm UV Lamp or suitable filters for < 1 CFU / ml bacteria count.
	Automatic cut off when there is inadequate water in the feed water line and when the intermittent tank is full to the capacity.
	Should display conductivity , Resistivity, temperature etc. for feed water and product water.
Intermittent Tank	Compact suitable shape storage tank of HDPE or inert material, enabling better maintenance and non – contamination of stored water. The tank bottom should be conical or tapering with storage capacity of 100 Litres.
	Tank of same manufacturing make must be fitted with built in sensors for low / medium / high water level and vent filters having CO ₂ and volatile organic absorbent and membrane filter for particle / biological removal.
2 nd Stage System	Ultra Purification Water System should take feed water from stage 1 via intermittent tank and provide output water of following quality:
	Resistivity: 18.2 meg Ohms cm
	Total Organic Carbon: 1 - 5 ppb

	Microorganism : < 1 cfu/ml
	Flow Rate: 1 Litre / min
	Cell Constant (Resistivity Cell): 0.01cm ⁻¹
2 nd Stage System should comprise	Should have two separate polishing cartridge where initial one should be feed specific and secondary cartridge application specific capable of effectively removal volatile organic and inorganic to trace levels.
	On line TOC monitor capable of measuring 1 – 300 ppb.
	A dual – wavelength UV Lamp (185 nm and 254 nm) for low TOC
	Attached with volumetric dispensing.
	Display panel to provide system performance and operating parameter including alarm signals to enable auto diagnostics.
Additional items	Operation and Maintenance manual – two sets
	Two sets of each cartridges for both 1 st and 2 nd stage system with two nos. of spare UV lamps. If filter used for microbes filtration then two sets of filters to be provided.
	One maintenance kit for each system.
Other Requirements	Company / authorized distributor must provide five satisfactory performance / installation certificate during last three years.
	Minimum three years comprehensive warranty from the date of installation.

Water Current (Flow) Meter

Specifications	Requirements
Velocity Meter (Water)	Portable cup type water velocity meter / flow meter with cable and sinking weight confirming to IS 3910 specification for measurement of velocity / flow of water & waste water in rivers, canals, drains, waste channels etc.
Measurement	Water current flow speed
Display	Digital Meter / Indicator
Flow Velocity	0.3 meter / second to 3.5 meter / second or better
Operation Manual	Two sets with CD
Instrument case & accessories	Rugged wooden carrying case, instrument oil, cleaning cloth, screw drivers etc complete
Installation & training	Onsite by trained personnel
Warranty	Three years comprehensive warranty with free maintenance.

Annexure – 2

(Tender No. MPPCB/Pur./04/2017-18)
(Laboratory Equipments)

TENDER SPECIFICATIONS VS OFFERED SPECIFICATIONS

Sl. No.	Tender Specifications	Offered Specifications	Documentary evidence/ leaflet enclosed

Signature of Bidder -----
Name -----
Business Address -----

Place: -----

Date : -----

(Tender No. MPPCB/Pur./04/2017-18)
 Laboratory Equipments & Other Atricles)

**PRICE SCHEDULE FOR ANNUAL MAINTENANCE AND REPAIR
 CHARGES AFTER WARRANTY PERIOD**

Sl. No.	Item Description	Qty.	Annual Maintenance & Repair charges for each unit including supply of spares [Price to be quoted either in Indian Rupees or in Foreign currency] Excluding guarantee period	Maintenance and Repair charges for 3 years, including supply of spares.

Note: In case of any discrepancy between unit price and total price, the unit price shall prevail.

Signature of the Bidder -----
Name -----
Business Address -----

Place -----
Date -----

(Tender No. MPPCB/Pur./04/2017-18)
(Laboratory Equipments)

PRICE SCHEDULE FOR GOODS IMPORTED

1	2	3	4	5	6	7
Sl. No.	Description	Country of origin	Quantity	Unit Price CIF New Delhi	Total CIF price per item	Unit price pf Inland delivery to final destination and unit price of other incidental services.

Note: In case of discrepancy between unit and total price, the unit price shall prevail.

Signature of the Bidder.....
Name
Business Address
.....

Place:

Date:

(Tender No. MPPCB/Pur./04/2017-18)
(Laboratory Equipments)

PRICE SCHEDULE FOR GOODS INDIGENOUS

Sl. No.	Name of equipment with make & model	Unit Price in Rupees	GST or any other Tax/duty	Unit price including all taxes up to final destination

Note: In case of discrepancy between unit and total price, the unit price shall prevail.

Signature of the Bidder
Name
Business Address
.....

Place:

Date:

CHECK LIST
[Tender No. MPPCB/Pur./04/2017-18]
(Laboratory Equipments)

ENVELOP "A"	Earnest Money of requisite amount and tender cost in case of tender document is downloaded from web site.
ENVELOP "B"	<ul style="list-style-type: none"> • Technical compliance details in Annexure "2" • Company Profile. • Leaf let / brochure of the applied item. • Copy of GST registration number. • Copy of PAN No. • Undertaking regarding not being blacklisted. • User's List & Performance reports etc. • Manufacturer's authorization certificate, in case the offer is not submitted by Manufacturer. • Commercial Terms & conditions • Information regarding Bank Name, Account Name, Account Number, Account Type,, Branch IFSC Code for safer & easier payment transaction through RTGS/NEFT.
ENVELOP "C"	<ul style="list-style-type: none"> • Price schedule for AMC in annexure "3" • Price schedule for Imported items in annexure "4" • Price schedule for Indigenous items in annexure "5" • Copies of at least two supply orders of the similar nature indicating detailed price schedule in order to examine reasonability of the quoted rates in te present bid.