



केन्द्रीय प्रदूषण नियंत्रण बोर्ड  
CENTRAL POLLUTION CONTROL BOARD

पर्यावरण, वन एवं जलवायु परिवर्तन मंत्रालय, भारत सरकार  
MINISTRY OF ENVIRONMENT, FOREST & CLIMATE CHANGE, GOVT. OF INDIA

LB-12/6/2021-TECH-RD-BENGALURU-RD (Bengaluru)/

19th January, 2022

742

To

Notice Board and CPPP & CPCB Web Portal

Sub: Corrigendum to tender document inviting online bids for Supply, Installation and Commissioning of Noiseless/Silent Air compressor along with Air Purification System, SS Tubing, Pure Gas Handling Chamber and 19 inch Rack for Ring Test and Static Injection Facility at CENTRAL POLLUTION CONTROL BOARD, REGIONAL DIRECTORATE, Nisarga Bhawan, A-Block, 1st&2nd Floors, Thimmaiah Road, 7th D Main, Shivanagar, Bengaluru - 560079

Sir,

It is proposed to procure few Indigenous equipment/items through E-Bidding i.e. [www.eprocure.gov.in](http://www.eprocure.gov.in) for the development of Calibration Laboratory Facility (Ring Test), as part of on-going project at CPCB, Regional Directorate, Bengaluru. In this connection, the tender document has been uploaded in the CPP portal & CPCB website on 6th January 2022 and a pre bid meeting for clarifying queries/requirement and freezing specifications was conducted on 11th January 2021.

As per the discussions held in the pre bid meeting and further recommendations of the In-House Scientific & Technical Committee, the following corrigendum is issued to provide more clarity on specifications/requirements. Following amendments in the various clauses related of different items/equipment specifications shall be considered by the bid participants;

For Part A

**Item 1**

The point 10 to be read as "Other **required** features: Anti-vibration pad, earth protection, horizontal/vertical air receiver mounting, material/built of receiver tank shall be SS."

The point 11 to be omitted.

S. SURESH 19/1/2022  
REGIONAL DIRECTOR  
CENTRAL POLLUTION CONTROL BOARD  
REGIONAL DIRECTORATE (SOUTH)  
MIN. OF ENV, FORESTS & CC, GOVT. OF INDIA  
BENGALURU - 560 079. MOB : 9480672128

क्षेत्रीय निदेशालय (दक्षिण) : निसर्ग भवन, ए-ब्लॉक, प्रथम एवं द्वितीय तल, तिम्मय्या रोड, 7-डी मैन, शिवनगर, बेंगलूरु - ५६० ०७९.

Regional Directorate (South) : " Nisarga Bhawan ", A-Block, 1<sup>st</sup> & 2<sup>nd</sup> Floors, Thimmaiah Road, 7<sup>th</sup> D - Main, Shivanagar, Bengaluru - 560 079.

दूरभाष / Telephone : 080-23233739, 23233827, 23233996, 23233600, 23232559, 23226002, 23222539, Fax : 080-23234059

ई-मेल / E-mail : cpcbszo@yahoo.com, zobangalore.cpcb@nic.in

प्रधान कार्यालय : परिवेश भवन, पूर्वी अर्जुन नगर, दिल्ली- ११० ०३२.

Head Office : Parivesh Bhawan, East Arjun Nagar, Delhi - 110 032.

दूरभाष / Telephone : 011-43102030, Fax : 22305793, 22307078, 22307079, 22301932, 22304948

ई-मेल / E-mail : cpcb@nic.in वेबसाइट / Website : www.cpcb.nic.in

### Item 3

The **point 3** to be read as "Description: 2 Stages, Solenoid valve alternatively operated on 230 V  $\pm$  10 %, 50 Hz supply to remove the 100 % moisture in the compressed air. The working conditions shall be limited to **ambient room temperature** conditions only and hence no need for refrigeration."

**For Part A**, The additional note shall be included "The Entire installation, commissioning and performance testing of all three items in Part A will be within the scope of the supplier and compatibility of all three items has to be ensured by the supplier."

### For Part B

### Item 1

The **point 3** to be read as "Pipe Description: SS 316 pipe (or higher grades with corrosion resistance to acidic fumes) of 6.3mm outer diameter on wall surface for flowing of various calibration gases such as SO<sub>2</sub>, NO, CO and SS 304/copper pipe of 12 mm outer diameter for N<sub>2</sub>, zero air with:

- (i) Colour Coding: Colour coding/sleeves/tagging for SS tubes for individual gas pipe identification.
- (ii) Control Valve: Control valve (ON-OFF type) on both sides of SS tube i.e. gas in and gas out sides.
- (iii) Pressure gauges: Pressure gauges of the range of 0 to 150 bars at the outlet/exit of each calibration gases"
- (iv) Testing of quality of tube: Random piece selected by this office shall be sent to NABL accredited lab for testing the quality of SS tubes and the expense to be borne by successful bidder.

### Item 2

The Item Description to be read as

"Chamber of size 1200mm  $\times$  1200mm  $\times$  800mm (H  $\times$  W  $\times$  D) feet close from all sides with build material of SS or MS (Epoxy/Powder coated), front side open with sliding acrylic door with handle and locking arrangement should be equipped with following items:

1. Double tube light fitting of 20 W = 1 No and Three Electrical Points (min) shall be provided.
2. 9" exhaust blower with proper hood for exhausting the gases outside the chamber and room where it is to be installed.
3. Cylinder holding arrangement for holding 02 nos. gas cylinders.
4. Proper space shall be available inside the chamber for keeping 2 no. gas cylinders (approximate height of 5 ft.), 1 no. gas vacuum pump etc. The base of the chamber should be sturdy to bear the load of these system/accessories.
5. **Mandatory accessories** like Airflow monitor, Temperature Indicator, Extra Utility Line etc. shall be provided.
6. Noise level should be less than 70db at 1 metre from the fume hood.

एस. सुरेश  
S. SURESH  
REGIONAL DIRECTOR  
CENTRAL POLLUTION CONTROL BOARD  
REGIONAL DIRECTORATE (SOUTH)  
MIN. OF ENV, FORESTS & CC, GOVT. OF INDIA  
BENGALURU - 560 079. MOB : 9480672128

7. The chamber shall be used for working with 100 % concentrated gases such as SO<sub>2</sub>, NO<sub>2</sub> etc.
8. The chamber shall be placed on a concrete slab/platform of at least a height of 4 feet. The design drawing of pure gas handling chamber shall be mutually agreed.
9. The design of the chamber shall be of modular type to accommodate at earmarked location or fabricated at site suitable to the requirement.
10. The chamber dimensions specified shall be considered as basic requirement and any standard chamber size with 20% additional dimension shall also be considered provided that the same can be accommodated in the static injection room.

### **Item 3**

The **point 3** to be read as

“Dimension


- (i) The dimensions of the rack without doors, with Aluminium/ MS with powder coating or equivalent section and rear of 2 mm steel sheet, one removable roof plate, fitted with 4 filling eyebolts, One gland plate three part, one pair of 480 mm (19”) mounting angles depth adjustable in 25 mm pitch pattern fitted on two fixing angle approximately 150 mm unit from the front standard shall be; Overall Dimensions: Width-800mm, Height-1400mm, Depth-800mm
- (ii) The rack dimensions specified shall be considered as basic requirement and any standard chamber size with 20% additional dimension shall also be considered.”

The amended Technical specifications & Technical Bid format attached as Annexure 1 & 3 of the tender document, is enclosed for reference.

Sh. Vivek K, Scientist D (Mob No: +919990300758/ Mail id: [vivek.cpcb@gov.in](mailto:vivek.cpcb@gov.in)) and Sh. Nikhil Y Kumar, JLA (Mob. No: +918129169081/ Mail id: [nikhil.cpcb@gov.in](mailto:nikhil.cpcb@gov.in)) may also be contacted for further clarifications, if any.

Yours faithfully

Encl: As Above

  
(S Suresh) 19/11/2022

Regional Director

([ssuresh.cpcb@nic.in](mailto:ssuresh.cpcb@nic.in), +91988067212128)

**S. SURESH**  
REGIONAL DIRECTOR  
CENTRAL POLLUTION CONTROL BOARD  
REGIONAL DIRECTORATE (SOUTH)  
MIN. OF ENV, FORESTS & CC, GOVT. OF INDIA  
BENGALURU - 560 079. MOB : 9480672128



**TECHNICAL SPECIFICATIONS - PART A**

**Scope of work:** Supply, Installation and Commissioning of Noiseless/Silent Air Compressor along with Air Purification System for Ring test & Static Injection Facility (Calibration lab) at CPCB, Regional Directorate, Bengaluru

**Item No. 1. Technical Specifications For "Noiseless/Silent Air Compressor"**

1. **Equipment Name:** Scroll type, air cool and oil free Noiseless/Silent Air Compressor with Dryer
2. **Quantity required:** One (01)
3. **Description:** Pure Oil-free Air, Energy efficient, inbuilt low noise level (Maximum 65 dBA), Simple & Reliable.
4. **Capacity:** Minimum capacity for air compressor buffer tank should be 250 Litres.
5. **Working Pressure:** Working pressure should be 10 bar.
6. **Motor:** Air compressor should be driven by 5HP TEFC electric motor suitable for 230 or 440 volts, single or 3-phase, 50Hz, AC supply.
7. **Noise Level:** With sound insulated canopy to ensure sound levels of about 65 dBA.
8. **Air inlet filter:** High efficiency to eliminate dust and particles below 1  $\mu\text{m}$ .
9. **Automatic Regulation:** Provision of automatic stop when the required pressure is reached avoiding unnecessary energy cost.
10. **Others required feature:** Anti-vibration pad, earth protection, horizontal/vertical air receiver mounting, material/built of receiver tank shall be SS.

**Item No. 2. Technical Specifications For "Charcoal Filter"**

1. **Equipment Name:** Activated Charcoal Filter
2. **Quantity Required:** One (01)
3. **Dimension:** Activated charcoal should be filled in two feet long and 3" (inches) outer diameter.
4. **Description:** i) Acrylic Cylinder, acrylic cover on both sides with threading arrangement for closing and opening. ii) Arrangement of nozzles on both sides of acrylic covers (in and outside) for connection of flexible pipe/ rubber pipe of internal diameter 9mm for compressed air should be made.  
iii) The charcoal should be of superior quality to purify the compressed air.



**Item No. 3. Technical Specifications For “Regeneration Drier”**

1. **Equipment Name:** Electronic Regeneration Dryer
2. **Quantity Required:** One (01)
3. **Description:** 2 Stages, Solenoid valve alternatively operated on 230 V  $\pm$  10 %, 50 Hz supply to remove the 100 % moisture in the compressed air. The working conditions shall be limited to ambient room temperature conditions only and hence no need for refrigeration.
4. Arrangement of nozzles of outer diameter 9mm on both sides of dryer (in and outside) for connection of compressed air and dry zero air should be made.

*Note: The Entire installation, commissioning and performance testing of all three items in Part A will be within the scope of the supplier and compatibility of all three items has to be ensured by the supplier*

**TECHNICAL SPECIFICATIONS - PART B**

**Scope of work:** Supply, Installation and Commissioning of SS tubing, Pure Gas Handling Chamber and 19-inch rack for mounting ambient air quality analysers in Ring test & Static Injection Facility (Calibration lab) at CPCB, Regional Directorate, Bengaluru

**Item No. 1. Technical Specifications For “Stainless Steel Tubing For Calibration Gas flow”**

1. **Equipment Name:** Stainless Steel (SS) Pipes for Calibration Gas Flow
2. **Quantity Required:** As per actual measurements, after supply and fixing.
3. **Pipe Description:** SS 316 pipe (or higher grades with corrosion resistance to acidic fumes) of 6.3mm outer diameter on wall surface for flowing of various calibration gases such as SO<sub>2</sub>, NO, CO and SS 304/copper pipe of 12 mm outer diameter for N<sub>2</sub>, zero air with:
  - (i) **Colour Coding:** Colour coding/sleeves/tagging for SS tubes for individual gas identification.
  - (ii) **Control Valve:** Control valve (ON-OFF type) on both sides of SS tube i.e. gas in and gas out sides.
  - (iii) **Pressure gauges:** Pressure gauges of the range of 0 to 150 bars at the out let / exit of each calibration gases.
  - (iv) **Testing the quality of tube:** Random piece selected by this office shall be sent to NABL accredited lab for testing the quality of SS tubes and the expense to be borne by successful bidder.

*Note: The tenderer may like to see the existing system in Air Laboratory of CPCB Head Office at Delhi for better understanding, if so desire.*

*Supply, installation and commissioning of Noiseless Air Compressor along with Air Purification System, SS tubing, pure gas handling chamber and 19-inch rack for ring test and static injection facility*



**Item No. 2. Technical Specifications for Pure Gas Handling Chamber: Type Modular and Customised Fabrication**

**Quantity Required:** 01 No

**Item Description:**

Chamber of size 1200mm × 1200mm × 800mm (H × W × D) feet close from all sides with build material of SS or MS (Epoxy/Powder coated), front side open with sliding acrylic door with handle and locking arrangement should be equipped with following items:

1. Double tube light fitting of 20 W = 1 No and Three Electrical Points (min) shall be provided.
2. 9" exhaust blower with proper hood for exhausting the gases outside the chamber and room where it is to be installed.
3. Cylinder holding arrangement for holding 02 nos. gas cylinders.
4. Proper space shall be available inside the chamber for keeping 2 no. gas cylinders (approximate height of 5 ft.), 1 no. gas vacuum pump etc. The base of the chamber should be sturdy to bear the load of these system/accessories.
5. Mandatory accessories like Airflow monitor, Temperature Indicator, Extra Utility Line etc. shall be provided.
6. Noise level should be less than 70db at 1 metre from the fume hood.
7. The chamber shall be used for working with 100 % concentrated gases such as SO<sub>2</sub>, NO<sub>2</sub> etc.
8. The chamber shall be placed on a concrete slab/platform of at least a height of 4 feet. The design drawing of pure gas handling chamber shall be mutually agreed.
9. The design of the chamber shall be of modular type to accommodate at earmarked location or fabricated at site suitable to the requirement.
10. The chamber dimensions specified shall be considered as basic requirement and any standard chamber size with 20% additional dimension shall also be considered provided that the same can be accommodated in the static injection room.

**Item No. 3. Technical Specifications For "Racks (19"-Inch) For Housing Analysers, Calibrators, MF Controller And Ozone Generator."**

1. **Equipment Name:** Rack Cabinet

2. **Quantity Required:** 02 Nos

3. **Dimension:**

- (i) The dimensions of the rack without doors, with Aluminium/MS with powder coating or equivalent section and rear of 2 mm steel sheet, one removable roof plate, fitted with 4 filling eyebolts.

**Width-800mm**

**Height-1400mm**

**Depth-800mm**

One gland plate three part, one pair of 480 mm (19") mounting angles depth adjustable in 25 mm pitch pattern fitted on two fixing angle approximately 150 mm unit from the front standard.

*Supply, installation and commissioning of Noiseless Air Compressor along with Air Purification System, SS tubing, pure gas handling chamber and 19-inch rack for ring test and static injection facility*



(iii) The rack dimensions specified shall be considered as basic requirement and any standard chamber size with 20% additional dimension shall also be considered

4. **Description:** Suitable 19" rack cabinet to accommodate all analysers in one rack and Mass flow meters and other items in second rack, etc. The rack should be of reliable frame structure with strong extendibility.
5. Rack should be wheel mounted with locking arrangement for easy movement within the room.
6. The rack should be powder coated and all nuts and bolts should be cadmium coated. All the cut-outs should be blanked to ensure safe working environment.



TECHNICAL BID FORM-PART A (To be submitted in Technical bid folder)

Item No.	Name	Quantity	Specifications	Deviation if any
1	Air Compressor 250 lit Capacity (Noise Less).	01	Scroll type, air cool and oil free Air Compressor with Dryer, Pure Oil-free Air, Energy efficient, inbuilt low noise level (Maximum 57 dBA, Simple & Reliable, Minimum capacity for air compressor buffer tank should be 250 Litres. Working pressure should be 10 bars. Air compressor should be driven by 5HP TEFC electric motor suitable for 230 or 440 volts, single or 3-phase, 50Hz, AC supply. With sound insulated canopy to ensure sound levels of about 57 dBA It should have high efficiency filter to eliminate dust and particles below 1 µm. Provision of automatic stop when the required pressure is reached avoiding unnecessary energy cost. Mandatory anti vibration pad, earth protection, horizontal/vertical air receiver mounting arrangements, material/built of receiver tank be SS.	
2	Charcoal Filter	01	Activated charcoal should be filled in two feet long and 3" (3inch) outer dia. Acrylic Cylinder, acrylic cover on both sides with threading arrangement for closing and opening. Arrangement of nozzles on both sides of acrylic covers (in and outside) for connection of flexible pipe/ rubber pipe of internal dia. 9mm for compressed air should be made. The charcoal should be of superior quality to purify the compressed air.	





CENTRAL POLLUTION CONTROL BOARD  
REGIONAL DIRECTORATE, BENGALURU  
Nisarga Bhawan, A-Block, 1<sup>st</sup>&2<sup>nd</sup> Floors  
Thimmaiah Road, 7th D Main, Shivanagar, Bengaluru-560079

Item No.	Name	Quantity	Specifications	Deviation if any
3	Regeneration Dryer	01	Electronic regeneration dryer, 2 stages, solenoid valve alternatively operated on 230V±10%, 50 Hz supply to remove the 99.9% or 100% moisture in the compressed air. Arrangement of nozzles of outer dia. 9 mm on both sides of dryer (in and outside) for connection of compressed air and dry zero air should be made. The working conditions shall be limited to ambient room temperature conditions only and hence no need for refrigeration.	

**Note:** The Entire installation, commissioning and performance testing of all three items in Part A will be within the scope of the supplier and compatibility of all three items has to be ensured by the supplier

**TECHNICAL BID FORM-PART B (To be submitted in Technical bid folder)**

Item No.	Name	Quantity	Specifications	Deviation if any
1.	Supplying and fixing of Stainless Steel pipes for Calibration gas flow	As per actual measurements, after supply and fixing.	Supplying and fixing SS 316 pipe (or higher grades with corrosion resistance to acidic fumes) of 6.3 mm outer dia. on wall surface for flowing of various calibration gases such as SO <sub>2</sub> , NO, CO, & SS 304/copper pipe of 12 mm outer dia. for N <sub>2</sub> , zero air with: <ul style="list-style-type: none"><li>- Colour coding/sleeves/tagging in laid SS pipes for individual gas identification.</li><li>- Control valve (ON-OFF type) on both sides of SS pipe i.e. gas in and gas out sides</li><li>- Pressure gauges of the range of 0 to 150 bar at the outlet / exit of each calibration gases</li></ul>	

*Supply, installation and commissioning of Noiseless Air Compressor along with Air Purification System, SS tubing, pure gas handling chamber and 19-inch rack for ring test and static injection facility*



Item No.	Name	Quantity	Specifications	Deviation if any
1.	Supplying and fixing of Stainless Steel pipes for Calibration gas flow	As per actual measurements, after supply and fixing.	The total quantity of SS pipe and its associated accessories shall be calculated as per actual site requirement. <b>Testing the quality of tube:</b> Random piece selected by this office shall be sent to NABL accredited lab for testing the quality of SS tubes and the expense to be borne by successful bidder.	
2.	Pure Gas Handling Chamber	01	Chamber of size 1200mm × 1200mm × 800mm (H × W × D) feet close from all sides with build material of SS or MS (Epoxy/Powder coated), front side open with sliding acrylic door with handle and locking arrangement should be equipped with following items:  1. Double tube light fitting of 20 W = 1 No and Three Electrical Points (min) shall be provided. 2. 9" exhaust blower with proper hood for exhausting the gases outside the chamber and room where it is to be installed. 3. Cylinder holding arrangement for holding 02 nos. gas cylinders. 4. Proper space shall be available inside the chamber for keeping 2 no. gas cylinders (approximate height of 5 ft.), 1 no. gas vacuum pump etc. The base of the chamber should be sturdy to bear the load of these system/accessories. 5. Mandatory accessories like Airflow monitor, Temperature Indicator, Extra Utility Line etc. shall be provided. 6. Noise level should be less than 70db at 1 metre from the fume hood.	



CENTRAL POLLUTION CONTROL BOARD  
REGIONAL DIRECTORATE, BENGALURU  
Nisarga Bhawan, A-Block, 1<sup>st</sup>&2<sup>nd</sup> Floors  
Thimmaiah Road, 7th D Main, Shivanagar, Bengaluru-560079

Item No.	Name	Quantity	Specifications	Deviation if any
2.	Pure Gas Handling Chamber	01	<p>7. The chamber shall be used for working with 100 % concentrated gases such as SO<sub>2</sub>, NO<sub>2</sub> etc.</p> <p>8. The chamber shall be placed on a concrete slab/platform of at least a height of 4 feet. The design drawing of pure gas handling chamber shall be mutually agreed.</p> <p>9. The design of the chamber shall be of modular type to accommodate at earmarked location or fabricated at site suitable to the requirement.</p> <p>10. The chamber dimensions specified shall be considered as basic requirement and any standard chamber size with 20% additional dimension shall also be considered provided that the same can be accommodated in the static injection room.</p>	
3.	19" (inch) rack for housing Analysers, calibrators, MFC Controller and Ozone Generator.	02	<p>Suitable 19" rack cabinet to accommodate all analysers, zero air generators etc. The dimensions of the rack without doors, with Aluminium/MS with powder coating or equivalent section and rear of 2 mm steel sheet, one removable roof plate, fitted with 4 filling eyebolts is <b>Width-800mm Height-1400mm, Depth-800mm</b>. Four gland plate three part, one pair of 480 mm (19") mounting angles depth adjustable in 25 mm pitch pattern fitted on two fixing angle approximately 150 mm unit from the front standard. The rack dimensions specified shall be considered as basic requirement and any standard chamber size with 20% additional dimension shall also be considered</p>	

*Note: Separate technical specification brochure / leaflet must be uploaded for justification.*

(Signature with Date & Stamp of the Bidder)

*Supply, installation and commissioning of Noiseless Air Compressor along with Air Purification System, SS tubing, pure gas handling chamber and 19-inch rack for ring test and static injection facility*