

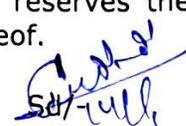
OFFICE OF THE CDM&PHO, KORAPUT
DISTRICT PROGRAMME MANAGEMENT UNIT, NHM

Advt .No: 2874 /DPMU/NHM/KPT/2023

Date: 14.09.2023

Short Tender Call Notice

Sealed tenders are invited from reputed Manufacturers/ Importers /Authorized Distributors / Agencies/Companies for Supply, Installation and Commissioning of Medical Gas Pipeline System at Koraput. Details regarding the eligibility, terms & conditions and formats for submission of tender may be downloaded from the website: www.koraput.nic.in. The tenders should reach the office of the undersigned by 27.09.2023 till 04:00 P.M. The undersigned reserves the right to reject any or all the tenders without assigning any reason thereof.


CDM & PHO -cum- District Mission Director, Koraput

OFFICE OF THE CHIEF DISTRICT MEDICAL & PUBLIC HEALTH OFFICER, KORAPUT

SHORT TENDER CALL NOTICE FOR SUPPLY, INSTALLATION & COMMISSIONING OF MEDICAL GAS PIPE LINE SYSTEM AT KORAPUT

Tender No: 2874 /DPMU/NHM/KORAPUT Date: 14.09.2023

Sealed Tenders are invited from reputed Manufacturers/ Importers /Authorized Distributors / Agencies/Companies for Supply, Installation and Commissioning of Medical Gas Pipeline System at Koraput through Courier Service/Speed Post /Registered Post only.

Period of Availability of Tender Document	(Downloadable from website: www.koraput.nic.in) In case of any bid amendment and clarification, responsibility lies with the bidders to collect the same from the above mentioned website before last date of submission of tender document and the tender inviting authority shall have no responsibility for any delay / omission on part of the bidder.
Date, time & place of Pre-bid meeting	Date : 21.09.2023, Time: 11.00 A.M. Place : OFFICE OF THE CHIEF DISTRICT MEDICAL & PUBLIC HEALTH OFFICER, KORAPUT
Last date & time for submission of Tender	Date: 27.09.2023, Time: 04.00 P.M. Address for Submission of Bid: OFFICE OF THE CHIEF DISTRICT MEDICAL & PUBLIC HEALTH OFFICER, KORAPUT, JAIL ROAD, KORAPUT-764020 (Through Speed post / Registered post/ Courier) only
Date, time and place of opening of Tender	A. Technical Bid (Cover A) opening: Dt: 27.09.2023 at 05.00 P.M. at the address mentioned above. B. Financial Bid (Cover B): <i>The date of opening of financial bid will be intimated to the bidders found successful in the Technical Bid Evaluation.</i> (Venue is mentioned at the address mentioned above) (Bidders / authorized representative may remain present at the time of opening of bid)

14/9
CDM & Public Health Officer
Koraput

1. SALE OF TENDER / BID DOCUMENT

- 1.1 The **Tender Paper Cost** of Rs. 1,180/- (Non-refundable) by way of **Demand Draft** drawn in favour of **CDM&PHO, Koraput Payable at Koraput** must be enclosed along with the Technical Bid.
- 1.2 The bidder shall submit **Earnest Money Deposit (EMD)** of Rs. 20,000/- (Refundable without interest) drawn in favour of **CDM&PHO, Koraput Payable at Koraput** along with the Technical Bid. As per Finance Department office memorandum no.21926 dtd. 12.8.2015, **Local micro & small enterprises** registered with respective DIC, Khadi, Village, Cotton & Handicraft Industries, OSIC and NSIC while participating in tenders of Government Departments & Agencies under its control shall be exempted from payment of earnest money (**EMD**). On conclusion of the bidding process, the local MSE bidder, if selected, shall be required to pay 25% of the value of Performance Security.
- 1.3 The Tender Paper Cost and the EMD shall be submitted separately in separate demand drafts. In case of any bid amendment and clarification, responsibility lies with the bidders to collect the same from the website or the office notice board before last date of submission of tender document and the **CDM & PHO, KORAPUT** shall have no responsibility for any delay / omission on part of the bidder.
- 1.4 The tender paper will be rejected if the bidder changes any Clause or Annexure of the bid document downloaded from the website.

2. TERMS AND CONDITIONS

- 2.1 Sealed tenders for "**Supply, Installation & Commissioning of Medical Gas Pipe Line System at Koraput**" will be received on or before the last date & time of the submission of bid at the O/o CDM & PHO, Koraput. Any tender received after the due date & time will be rejected / returned to the sender unopened. The tenders will be received through **Courier services / Speed Post/Registered Post** only. No tender paper submission through the person/persons by hand is accepted.
- 2.2 The bidder(s) must submit their tender in separate sealed covered envelopes for Technical Bid and Financial Bid by super-scribing Cover "A" (Technical Bid) & Cover "B" (Financial Bid) respectively and both the covers must be put into a third Cover, which must be super-scribed as "**Supply, Installation & Commissioning Of Medical Gas Pipe Line System at Koraput**"
- 2.3 The Sealed tenders "Cover A" (Technical Bid) submitted by the bidders will be opened at the office of the CDM & PHO, Koraput on scheduled date & time. The bidders or their duly authorized representatives are allowed to be present during the opening of the tenders if they so like.
- 2.4 No tender documents can be accepted after the expiry of scheduled date and time for receipt of bids.
- 2.5 The scope of work shall include Supply, Installation, Commissioning, & Satisfactory demonstration. This will also include testing, packing, transportation, scheduling of transportation, transit insurance, delivery

at sites, unloading, storage, job site storage, insurance, installation any other services associated with the delivery of the equipment and materials providing warranty of services and operation and maintenance of other related equipment / items required for complete installation. The successful bidder will assume full responsibility of the complete system until final acceptance.

2.6 The bidders are required to have a survey including the site visit before furnishing the bid.

2.7 The bidder must adhere to the specification of MGPS (**Annexure-IV**) and submit an undertaking to comply the Technical Specification of MGPS.

3. ELIGIBILITY CRITERIA

3.1 Manufacturers/ Importers /Authorized Distributors / Agencies/Companies are eligible to participate in the tender provided, they have:

For Manufacturer

- (i) Valid Manufacturing License copy/MSME Certificate
- (ii) Valid ISO certificate
- (iii) Valid CE certificate
- (iv) Successfully completed supply, installation and commissioning of Medical Gas pipeline system at atleast 05 (five) District Headquarter Hospitals (DHH) in Odisha in last 06 (six) years. The bidder must submit Performance Certificate from the appropriate authority in support of the required experience.
- (v) Not been black-listed either by the Tender inviting authority or by any state Govt, or Central Govt organization. The bidder must submit a latest (i.e. on or after the publication of the bid) notarised affidavit in support of this.
- (vi) Registered Service Centre for Medical Gas Pipeline System (MGPS) in Odisha.
- (vii) Average annual turnover not less than 03 (Three) Crores in last three financial years i.e. 2019-20, 2020-21 & 2021-22. The bidder must submit a Turnover Certificate duly signed by a Chartered Accountant as per **Annexure-III**

For Authorized Distributors / Agencies/Companies

- (i) Valid Manufacturer's Authorization Certificate from the manufacturer as per the **Annexure -II**.
- (ii) Valid ISO certificate.
- (iii) Valid CE certificate as per Annexure
- (iv) Successfully completed supply, installation and commissioning of Medical Gas pipeline system at atleast 05 (five) District Headquarter Hospitals (DHH) in Odisha in last 06 (six) years. The bidder must submit Performance Certificate from the appropriate authority in support of the required experience.
- (v) Not been black-listed either by the Tender inviting authority or by any state Govt, or Central Govt organization. The bidder must


CDM & Public Health Officer
Koraput

submit a latest (i.e. on or after the publication of the bid) notarised affidavit in support of this.

- (vi) Registered Service Centre for Medical Gas Pipeline System (MGPS) in Odisha.
- (vii) Average annual turnover not less than 03 (Three) Crores in last three financial years i.e. 2019-20, 2020-21 & 2021-22. The bidder must submit a Turnover Certificate duly signed by a Chartered Accountant as per **Annexure-III**

If any of the above documents is not submitted by the bidder, then the bid will be liable for rejection.

The following documents should be enclosed in Cover "A" (Technical Bid) by the Bidder. All the photocopies are to be self attested by bidder.

4. COVER-A (TECHNICAL BID)

- 4.1 The Original Tender Book with Conditions and the schedules signed by the bidder at the bottom of each page with his official seal duly affixed.
- 4.2 Leaflets, photographs & literatures relating to the product / item quoted and matching the specification of the tender in a tabular form.
- 4.3 The Declaration Form in **Annexure -I** duly signed by the bidder before Notary Public.
- 4.4 Valid Manufacturing License copy/MSME Certificate
- 4.5 Valid ISO Certificate Copy
- 4.6 Valid CE Certificate Copy
- 4.7 Proof of Experience i.e. Work Order & Work Completion Certificate, Performance Certificate
- 4.8 Details of Registered Service Center for MGPS In Odisha.
- 4.9 Affidavit regarding non-blacklisted from Tender inviting authority or by any state Govt, or Central Govt organization in Non Judicial stamp paper with appropriate value of Rs. 20.00/-on or after the date of Publication of Bid.
- 4.10 Turnover Certificate duly signed by a Chartered Accountant
- 4.11 Details of name, address, telephone no., e-mail of the manufacturer / authorized distributor / service centre / contract person / office in Odisha.

N.B. Valid means the certificate should be valid on or after the date of opening of tender (Cover-A).

5. COVER - B (PRICE BID)

- 5.1** The bidder must submit the Price Bid in the prescribed format only. Any deviation in the format by the bidder will be liable for rejection.
- 5.2** The price of the item should be quoted inclusive of excise duty, insurance, packing, forwarding, freight (door delivery), installation, warranty for 1 (one) year and AMC for 3(three) years but exclusive of taxes. The rate should be quoted for each item both in figures and

words. In case of difference in words and figures, words will be taken into consideration for evaluation.

5.3 Cover -B (Price Bid) of the successful bidders who qualify in Technical Bid evaluation will be opened in the presence of Purchase Committee.

5.4 The date of opening of Cover "B" (Price Bid) of the successful bidders will be intimated later on.

6. REJECTION OF TENDER

6.1 The tender paper will be rejected, if any of the above documents are wanting / not submitted with the tender:

7. Specifications

7.1 The quoted product should be recent one and as per the specification enclosed at **Annexure -IV**.

7.2 Required catalogue on the product description should be attached with the tender.

8. Earnest Money Deposit:

8.1 The tender should be accompanied with Earnest Money Deposit (refundable without interest) amounting 20,000/- (Twenty Thousand) only in shape of Bank Draft from any Nationalised/ Scheduled Bank in favour of CDM & PHO, Koraput payable at Koraput failing which tender will be rejected. As per Finance Department office memorandum no.21926 dtd. 12.8.2015, **Local micro & small enterprises** registered with respective DIC, Khadi, Village, Cotton & Handicraft Industries, OSIC and NSIC while participating in tenders of Government Departments & Agencies under its control shall be exempted from payment of earnest money (**EMD**). On conclusion of the bidding process, the local MSE bidder, if selected, shall be required to pay 25% of the value of Performance Security.

8.2 The EMD of the unsuccessful bidders will be returned back after finalization of tender. For return of EMD the bidders will submit along with the bid the address of the bidder and bank details in their letter head.

8.3 The successful bidder has to complete the installation and commissioning within 45 days of issue of Purchase Order/Work Order. If the successful bidder fails to supply and install the item/s in time or supplies are not up to the standard, his EMD shall be forfeited and the firm will be blacklisted.

9. Performance Security

9.1 10% of the purchase order value will be submitted by the successful bidder towards performance security within 21 days of receipt of purchase order in shape of Demand Draft /Bank Guarantee.

9.2 The Security deposit will be refunded to the successful bidder after expiry of Warranty period.

10. PRICE EVALUATION:

10.1 The Price Bid of the Bidders, who qualify in the Technical Bid evaluation will be evaluated.

10.2 The cost of Item (inclusive of the excise duty, transportation, insurance, packing & forwarding & warranty for one (1) years and AMC of 3(three) years) + cost of the Turnkey job i.e. installation, cabling,


CDM & Public Health Officer
Koraput

electrical fittings ,civil work etc, (including all taxes) taken together will be evaluated and the lowest bidder will be selected.

11. Warranty

11.1 All the items should be covered under one year warranty from the date of installation & commissioning.

11.2 The successful bidder has to submit an undertaking to provide atleast 01 (one) year warranty and 03 (three) years AMC in non-judicial stamp paper (Rs. 100/-) attested by Notary Public.

12. Payment:

12.1 100% payment shall be made after submission of stock entry certificate (s) duly certified by the concerned officer/installation & demonstration certificate/s and warranty certificate.

12.2 The approved value of AMC (Annual Maintenance Contract) payment will be made year wise after signing the AMC agreement.

13. General Conditions:

13.1 In the event of the date being declared as a holiday for the purchaser's office, the due date of submission of bids and opening of bids will be the following working day & time.

13.2 The authority reserves the right to accept /reject all the bids or any part thereof without assigning any reason thereof.

13.3 No conditional tender will be accepted.

13.4 The qualified bidder, who according to terms and conditions will not supply and install the items in the stipulated time period and of specified quality, will be black listed by the purchase committee.

13.5 Any matter will be finalized in Koraput Jurisdiction only.


CDM & Public Health Officer
Koraput

Cover-B (Price Bid)

SI.	Name of the Item	Quantity	Unit Cost(Rs)	Total Cost (Rs.)
1	Gas outlets [Terminal units] for	Each		
2	Oxygen Manifold 6+6 With Tail Pipe & Nrv	Each		
3	Emergency Oxygen Manifold 2+2 Emergency With Regulator	Each		
4.	Oxygen Fully Automatic Control Panel	Each		
5.	Oxygen Flow Meter With Humdifire	Each		
6.	Oxygen , Vaccum & Air Adopter	Each		
7	Ward Vaccum Regulator with 600ml	Each		
8	Vaccum System (02 Nos Of Vaccum Pump With 01 Nos Of Vaccum Receiver	01 Set		
9	Compressed Air System (02 Nos Of Air Compressor With 01 Nos Of Air Receiver Along With Air Dryer &	01 Set		
10	Medical grade copper tubes, fittings and fixtures.			
a	28 mm x 0.9 OD	Per Mtr		
b	22 MM X 0.9 OD	Per Mtr		
c	15 MM X 0.9 OD	Per Mtr		
d	12 MM X 0.7MM OD	Per Mtr		
11	Zonal Isolation valves with pressure gauges(Oxygen/Vaccum/Air)			
a	Isolation Ball valves 12 MM	Each		
b	Isolation Ball valves 15 MM	Each		
c	Isolation Ball valves 22 MM	Each		
d	Isolation Ball valves 28 MM	Each		
12	Valve With Valve Box 02 gases	Each		
13	Valve With Valve Box 03 gases	Each		
14	Area Alarm System 2 Gas	Each		
15	Area Alarm System 3 Gas	Each		
16	Pressure Reducing Station	Each		
a.	Total			
b.	Labour Cess on (a) above	@ _____%		
c.	Overhead Charges on (a) above	@ _____%		
d.	Agency Margin on (a) above	@ _____%		
e.	Taxable Value (a+b+c+d)			
f.	GST on (e)	@ _____%		
Grand Total (e+f)				
Grand Total Amount in words:				

Signature with Seal:

Date :

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Koraput

BIDDER DECLARATION FORM

I/We having our office at _____do declare that I/We have carefully read all the terms & conditions of tender of O/o CDM&PHO, Koraput for the Supply, Installation and Commissioning Of Medical Gas Pipeline System.

I/we will abide with all the terms & conditions set forth in the tender paper Reference no. _____/DPMU/NHM/KPT, Dated: _____.

I/we do hereby declare, we have not been de-recognised / black listed by any State Govt. / Union Territory / Govt, of India / Govt, organisation / Govt. Health Institutions for supply of Not of Standard Quality (NSQ) items / part-supply / non-supply.

I/we agree that the Tender Inviting Authority can forfeit the Earnest Money Deposit and or Security Deposit and blacklist me/us for a period of 2 years if any information furnished by me/us proved to be false at the time of inspection / verification and not complying with the Tender terms & conditions.

I/We further declare that I/we possess valid manufacturing license /authorized distributor bearing no _____ valid upto _____. I/We do hereby declare that, I/we will Supply, Installation and Commissioning of Medical Gas Pipeline System as per the terms, conditions & specifications of the tender document. I/We further declare that we have a service centre/will establish a service centre within one month of installation of the equipment in Orissa.

Signature with Seal of the bidder:

Date:


CDM & Public Health Officer
Koraput

Manufacturer's Authorization Form (MAF)

No. _____

dated _____

TO

Dear Sir,

Tender Reference No & Date: _____

We _____ who are established and reputable manufactures of _____ having factories at _____ and _____ do hereby authorize M/s _____ (Name and address of Agent/Dealer) to offer their quotation, negotiate and conclude the contract with you against the above invitation for tender offer.

We hereby extend our full guarantee and warranty as per terms and conditions of the tender and the contract for the equipment and services offered against this invitation for tender offer by the above firm. In case of M/s _____ is out of service due to any reason, we will make alternative arrangement for the service and maintenance of our product on same terms and condition.

Yours faithfully,

For and on behalf of
M/s _____
(Name of manufacture with seal)

Note: This letter of authority should be on the letterhead of the manufacturing concern and should be signed by a competent person of the manufacturer.


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Korumbur

Annexure-III

(To be submitted in **Cover A -Technical Bid**)

(To be furnished in the **letter head** of the Auditor/ Chartered Accountant firm in original refer to this tender call notice No)

ANNUAL TURN OVER STATEMENT

The Annual Turnover for the last three financial years of M/s _____ who is a Manufacturer /Distributor/Importer (Pl. tick whichever is applicable) are given below and certified that the statement is true and correct.

Sl.No.	Financial Year	Turnover in (Rs.)
1.	2021-22	
2.	2020-21	
3.	2019-20	

Average Annual Turnover (for the above three years) in (Rs.) _____

Date:

Place:

Signature of Auditor/
Chartered Accountant

(Name in Capital)

Seal

Membership No.-
Registration No. of Firm

Note:

- a) To be issued in the **letter head** of the Auditor/Chartered Accountant mentioning the Membership no.


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Koraput

Specification of Medical Gas Pipeline System

Gas Outlets (Terminal Units), Oxygen, Air & Vacuum:

- Integral check valve
- All the terminal units shouldn't be interchangeable.
- Two level locking mechanisms i.e. equipped with both primary and secondary valve
- Operating pressure more than six bar
- Minimum withstand pressure = 13 bar
- Should be cleaned de-greased for medical gas service, factory assembled and tested.
- All metal construction.
- Individually tested & certified.
- Full range of mounting.
- Color coding as per existing standard/any international standard
- The model should be CE/ISO approved.
- Pressure test certificate of the coated model should be provided.

Medical grade copper tubes, fittings and fixtures:

- All copper pipes & fittings should be made of phosphorous de-oxidized, non arsenic & fully degreased. All pipes should be of Copper and Copper alloys-Seamless, round copper tubes for Medical gases, Oxygen, vacuum and Air.
- The chemical composition of the copper tubes should confirm to BS13348:2008.
- The Lloyd test certificate should be attached and the certificate should be from the manufacturer and Lloyd.
- Copper pipes should be solid drawn seamless half hard tempered & degreased for medical use Copper to copper joints should be made on site using a 5°A silver copper phosphorus brazing alloy.
- Copper to brass or gunmetal joints shall not be made on site. The joint should be made by using 43°A silver alloy.
- Pipelines should be supported at the intervals specified in HTI#I2022 using suitable Non-ferrous material.
- Fitting shall be end feed type & manufactured from the same grade of copper on the pipes as per BS EN 13348.
- Fittings shall be degreased suitable for oxygen use and supplied sealed in protective polythene bags.
- Gauges Should be

<u>O.D.</u>	<u>Wall Thickness of tube</u>
28 mm	0.9mm
22 mm	0.9mm
15 mm	0.9 mm
12 mm	0.7 mm

- Manufacturer should be ISO/CE certified.

INSTALLATION & TESTING

Installation of piping shall be carried out with utmost cleanliness. Only pipes fittings and valves which have been degreased and fittings brought in polythene sealed

bags shall be used at site. Pipe fixing clamp shall be of non-ferrous or non-deteriorating plastic suitable for the diameter of the pipe.

Inert gas welding technique should be used by oxygen free Nitrogen gas inside copper pipes while brazing to avoid carbon deposition.

Adequate support should be provided while lying pipelines to ensure that the pipe do not sag. Suitable sleeves shall be provided where ever pipe cross through walls/slabs. All pipe clamps shall be non-reactive to copper. After erection, the pipes cross should be flushed and then pressure tested with dry air at a pressure equal to 1.5 times of the working pressure or 150 psig, whichever is higher for a period of not less than 24 hours.

PAINTING:

All exposed pipes should be colour coded a IS: 1279 of 1963/Equivalent standard.

Zonal Isolation valves with pressure gauges:

- Full bore valves for minimum pressure loss.
- Non-lubricated with 90 degree turn ball valve with PTFE seals suitable for oxygen service.
- The valve should be factory degreased before supply. Certificated from the manufacturer should be attached.
- Should have pressure gauges at specified place to monitor pressure drop.
- Tested for double working pressure (120 PSI]. Test certificate should be attached for Oxygen, Air & Vacuum
- Manufacturer should be ISO & CE certified.

Medical gas Alarm system:

- Three gas alarm
- Individual gas status LED indicator-showing NORMAL, HIGH and LOW conditions for each service.
- Audio alarm Indicator by Piezo electric buzzer.
- Alarm test / check / mute Facility needed.
- Working pressure display via digital gauges.
- Aesthetic design and Powder coated aluminum construction.
- Manufacturer should be ISO, certified.
- Product should be **ISO/ CE CERTIFIED.**
- Necessary accessories:

BPC Flow meter with humidifier:

- Back pressure compensated flow meter will be of accurate gas flow measurement with following features.
- Control within a range of 0-15 lpm (calibration within $\pm 10\%$)
- It should meet strict precision and durability standard.
- The flow meter body should be made up of brass chrome plate material.
- The flow tube and shroud components should be made up of clear, impact resistant polycarbonate.
- Flow tube shall have large and expanded 0-5 lpm range for improved readability at low flows.
- Inter filter of stainless steel wire mesh to prevent entry of foreign particles.
- The humidifier bottles shall be made of polycarbonate material and auto-clavable

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at 121 degree centigrade temperature.

- Manufacturer should be ISO certified.
- Model should be **ISO/CE** certified

Ward Vacuum Units:

- Ward vacuum unit shall be up light weight and compact.
- The unit should consist of a regulator.
- A six hundred ml reusable collection jar made up polycarbonate material at 134 degree centigrade.
- A wall bracket for mounting the jar assembly on the wall.
- The vacuum regulator shall be adjustable and have vacuum gauge which indicates suction supplied by the regulator.
- Safety trap shall be provided inside the jar to safeguard the regulator from overflowing.
- Pressure line adopter pins to be supplied in adequate nos.
- Manufacturer should be ISO certified
- Model should be **ISO/CE** certified

COMPRESSD AIRSYSTEM (Consist Of 02 Nos Of Air Compressor , 01 Nos Of Air Receiver & 01 Nos Of Air Dryer With Accessories)

Air Compressor system (2nos. of compressor unit) Oil Free Reciprocating Air Compressor of 7.5Hp capacity of each having 24.4 CFM, 692:- LPM, 8.5 bar, Dimenson: - 1394X646X741

The compressor having 01 Nos of Vertical Air reservoir tank of 500 Itrs capacity .Any reputed make I.S.I./CE Standard two stage oil free reciprocating type splash air-cooled air compressor base mount type.

The Medical Air system shall conform to NFPA 99/EN ISO 7396-1/HTM02-01. Medical quality air, delivered at pressures of 700 kPa (7 bar) gauge for supply of the hospital medical or surgical air systems.

Automatic On-Off for maintaining the air pressure and volume of the receiver.

7.5 HP electric motor foot mounted, dryer, filter, starter, water cooled after cooler with moisture separator and air dryer.

Inline filters 2 nos. three stages of filtration to remove oil vapour, hydrocarbons, dust particles and free from moisture to make the air supplied medical grade.

To remove maximum contamination and minimum pressure drop.

Other hardware complete with wiring, switches, interconnecting pipes and isolation valve(s).

Air receivers shall comply with BS EN 286-1/BS5169/ASME/ Equivalent, supplied with relevant test certificates. Each air receiver shall be hot dip galvanized inside and out and fitted with a zero loss electronic drain valve.

The receiver assembly shall be fitted with a pressure safety valve capable of passing the maximum flow output of the compressor at 10⁴ receiver over pressure. The receiver shall be further protected by a safety pressure relief valve and include a pressure gauge.


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The system shall consist of 1 receiver vessel of 500 litres.

There shall be the followings available for enhanced operation of the air plant system:- Phase sequence relays that prevent unintentional reverse operation of the compressors. Synthetic oil for increased compressor life

Tropical thermostatic sensors for high humidity Reputed make I.S.I marked/CE marked Standard

Manufacturer should be ISO certified.

Vacuum System (Consist Of 02 Nos Of Vacuum Pump , 01 Nos Of vacuum Receiver With Accessories)

Vacuum (suction) supply system (2nos. of vacuum pump) Reciprocating Lubricated Vacuum Pump of , 1707 lpm & 60.3 CFM flow capacity for each vacuum unit having suitable motor rating of oil lubricated No Of Cylinder :- 02 Nos. The system should be fully compliant to NFPA 99/EN ISO 7396-1/HTM02-01 standards.

The **Medical** Vacuum System shall **ensure** to **maintain** the **minimum pipeline vacuum** level of 745 mmHg at each vacuum outlet.

The pump should be Reciprocating lubricated reciprocating type

The pump should be set to be in operation when the vacuum level of the system drops to 29.4 inch Hg (745 mmHg) and ceases operation when the level reaches.

The pump shall be fitted with anti-vibration pads between the pump foot and **mounting** frame.

Reputed make ISO /CE marked Standard oil free air-cooled vacuum pump.

5HP motor with suitable starter, mounted on base frame, complete with wiring, switched, inter connecting pipes and isolation valve(s).

Vacuum Receiver (Vertical type) capacity 01 Nos X 500 liters with inter-connecting pipes.

The receiver tank should be designed to withstand a pressure of minimum 150 PSIG. The vacuum receiver should be hot dip galvanized inside and out.

Equipped with pressure gauge, safety relief valve, 3 way bypass, gauge glass and tank drain Control panel

The vacuum system should have control panel for automatic lead /lag sequencing.

Automation of reserve vacuum pump. Action of automatic alarm for any adverse event and for safe running of the system. The system should be provided with pressure gauges.

The system should be provided with pressure gauges.

The medical vacuum system should be manufactured as fully compliant to the latest international standard NFPA 99C/ISO certification.

Manufacturer should be ISO/CE certified.


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Koraput

Oxygen Manifold - to comply with relevant standards, with minimum maintenance:

- Open manifold system.
- 6X 6 oxygen cylinder: Oxygen manifold.
- High **pressure** connecting pipes made up of annealed copper pipes with integrated **non-return** valves for connection of 8 gas cylinders on the left and right **cylinder bank side** each.
- End of the pipe shall be capped to accommodate future expansion.
- The cylinders are to be connected to the high-pressure connecting **pipe** using **high-pressure connecting bend made up of annealed** copper pipes **using brass connections** with **washers with** individual shut-off valve for easy replacement.
- All should be brazed construction for maximum leak prevention.
- The cylinders are to be wall mountable.
- Filters must be provided to protect the control panel from foreign particles.

Fully-automatic control panel

The manifold must be provided with a fully automatic control panel for monitoring and controlling the oxygen flow.

The control panel should be integrated with pressure gauges, regulators and control switching components which should be installed inside a cabinet to minimize tampering with regulators.

The reserve bank should be automatically adjusted once the running bank reached near exhaustion to minimize supervision and to offer stability and safety having 3 stage audio & visual warning in case of an emergency and has a pressure outlet of around 4.2kg/cm²

Manufacture shall be ISO & CE Certified

- Pressure switch ,alarm facility
- Check valves must be provided to prevent back flow from one bank to another
- Removable cabinet enclosure for easy installation and service
- Manufacturer should be ISO / CE certified.

Emergency Standby manifold for medical oxygen:

- Open manifold system.
 - 2 X2 oxygen cylinder: Oxygen manifold.
- High pressure connecting pipes made up of annealed copper pipes within tegrated non-return valves for connection of 2 gas cylinders on the left and right cylinder bank side each.
- End of the pipe shall be capped to accommodate future expansion.
 - The cylinders are to be connected to the high-pressure connecting pipe using high-pressure connecting bend made up of annealed copper pipes using brass connections with washers with individual shut-off valve for easy replacement.
 - All should be brazed construction for maximum leak prevention.
 - The cylinders are to be wall mountable.
 - Filters must be provided to protect the control panel from foreign particles

Air Dryer/Filter/Regulator System:

The filter and heatless Air dryer module shall incorporate high efficiency water separators, oil filters, heatless regenerative desiccant dryer, dust/activated carbon filters, hopcolite filters and bacterial filters with auto clavable element.

Maximum Operating Pressure	:-	16kg/Cm2(g)
Air Inlet Temperature	:-	38' C /Max
Operating Pressure	:-	7kg/Cm2(g)
Pre-Filter Rating	:-	0.01 Micron
Cycle time	:-	4 Minutes
Operating Voltage	:-	100-240 VAC 50/60 Hz 1 Ph
Flow Capacity	:-	76 m3/hr
End Connection BSP	:-	½"
Dimension(HXWXD)	:-	999 X 497 X 313
Weight in Kgs	:-	49 Kg

Arav
CBM & Public Health Officer
Koraput