

ISO 13485 : 2016



Registration Certificate

This is to Certify That The Management Systems Of

NEOMETRIX ENGINEERING PRIVATE LIMITED

E-148 SECTOR-63 NOIDA UP-201301 (INDIA)

for their

QUALITY MANAGEMENT SYSTEMS - MEDICAL DEVICES

ISO 13485:2016

For the following scope

Design, Development, Manufacturing, Installation, Commissioning & Long Term On Site Support of PSA Technology Oxygen Generation Plants for Hospitals/ Medical Use (1 NM3/Hr to 500 NM3/Hr), Oxygen Gas Panels, Pipelines & Distribution Circuits for Hospitals, High Pressure Oxygen Boosting Systems (Up to 350 Bar), Design Development Manufacturing Maintenance Repair & Support of Onboard Oxygen Generation Systems (OBOGS), Oxygen Boosting Systems, Oxygen Charging Storage & Distribution Systems (UGSSO2), Oxygen Charging Hoses (up to 350 Bar WP), Oxygen Breathing Systems (Oxygen Pressure Regulators, Masks and Diving Equipments).

Certificate no.	:	EUAC/MD/10024-2021
Issued on	:	02/03/2021
Validity Date	:	01/03/2024
1 st Surveillance Due On	:	02/02/2022
2 ND Surveillance Due On	:	02/02/2023

THE VALIDITY OF CERTIFICATE IS SUBJECT TO REGULAR SURVEILLANCE AUDIT ON OR ABOVE MENTIONED DATES AND IT'S ONLY VALID AFTER SUCCESSFUL SURVEILLANCE WITH CONTINUATION LETTER ISSUED BY PCMS.

**AUTHORISED BY
CHAIRMAN/DIRECTOR
P.C. MANAGEMENT SYSTEM PVT. LTD.**

TO VERIFY THIS CERTIFICATE STATUS PLEASE VISIT ACCREDITATION BOARD WEBSITE www.europeanaccreditationservices.com



Acc No.:- EUAC110



Address : Kemp House, 160 City Road,
London, EC1V2NX, United Kingdom
www.pcmsworld.com

The Certificate Remains The Property Of PCMS As Per Certificate Audit Contract

NOTIFICATION OF AWARD
M/s Neometrix Engineering Pvt. Ltd.

E-148 Sector-63, NOIDA,

UP-201301, INDIA

Phone: 0120-4500800

contact@neometrixgroup.com

Sub: Supply, Installation, Testing & Commissioning of PSA Oxygen Generation Plant at Public Health Facilities.
Ref: Tender Enquiry No. HITES/PCD/MHFW/OGP-01/2021-22 Dated 25-04-2021 & Your Bid submitted for the in CPP portal.

Dear Sir,

We are directed by the Ministry of Health and Family Welfare (MOHFW) to inform you that your bid for Supply, Installation, Testing & Commissioning of PSA Oxygen Generation Plant against **Tender Enquiry No. HITES/PCD/MHFW/OGP-01/2021-22 Dated 25-04-2021** has been accepted and we are hereby placing the order on behalf of Ministry of Health and Family Welfare for the following plant/equipment to be supplied as per the Terms and Conditions as indicated below in continuation to the General Conditions of the Contract and Special Conditions of Contract and all the other sections as detailed and forming part of the Bid Document. The equipment should be brand new, unused and as per the Technical Specification of our bid document along with amendments, if any and your offer along with technical clarification and negotiations, if any attached at Annexure - I. The bid document along with amendment, if any forms an integral and inseparable part of this NOA.

1) Prices –

Sl. No.	Brief Description of item/goods	Qty. per Set	Unit Price excl. GST (in INR)	GST %	GST Amount (in INR)	Unit Price incl GST (in INR)	Total Price incl GST (in INR)
i.	PSA OXYGEN GENERATION PLANT 100 LPM Make – Neometrix Engineering Pvt. Ltd. Model - MOX-PSA-100LPM-D						
ii.	PSA OXYGEN GENERATION PLANT 200 LPM Make – Neometrix Engineering Pvt. Ltd. Model - MOX-PSA-200LPM-D						
Total Price (INR)							
Total Value in Words: INR			Creore	lakh	Thousand only		

**Reference Purchase Order
For
Medical Oxygen PSA Plants
For
HOSPITALS**

Purchaser reserves the right to place the balance quantity under tolerance clause at the same price and terms and conditions till the validity of this contract.



 एचएलएल इन्फ्रा टेक सर्विसिज लिमिटेड
 (एचएलएल लाइफकेयर लिमिटेड की समनुषंगी,
 भारत सरकार का उद्यम)

 निगमित कार्यालय: बी-14ए, सेक्टर-62,
 नोएडा-201 307, उत्तर प्रदेश, भारत

ई मेल: enquiry@hllhites.com

वेबसाइट: www.hllhites.com

दूरभाष: +91 120 - 4071500

फैक्स: +91 120 - 4071513

सीआईएन: यू45200केएल2014जीओआई038617

 HLL Infra Tech Services Ltd.
 (Subsidiary of HLL Lifecare Ltd,
 A Government of India Enterprise)

 Corporate office: B-14 A, Sector-62,
 Noida - 201 307, Uttar Pradesh, India

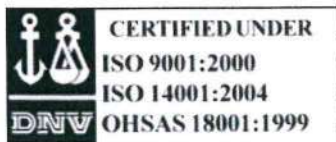
Email: enquiry@hllhites.com

Website: www.hllhites.com

Tel.: +91 120 - 4071500

Fax: +91 120 - 4071513

CIN: U45200KL2014GOI038617



NUMALIGARH
REFINERY
LIMITED



A GOVERNMENT OF INDIA ENTERPRISE

CIN: U11202AS19993GOI003893

NRL GSTIN No.: 18AAACN6984B1ZD

Purchase Order No: 4500023016
(To be used in all future correspondence)

May 5, 2021

M/s Neometrix Engineering Pvt. Ltd.
E-148 Sector-63, NOIDA,
UP-201301, INDIA
Phone: 0120-4500800
contact@neometrixgroup.com

Sub: **Supply, Installation, Testing & Commissioning of 05 (Five) numbers of 500 LPM Capacity Pressure Swing Adsorption (PSA) Oxygen Generation Plant in various locations of Bihar Public Health Centres against the below referred Tender [File Ref: PUR-HRNUM-1001418].**

Ref: **HITES Tender No. HITES/PCD/MHFW/OGP-01/2021-22 dated 25-04-2021**

We are directed to inform you that your bid for **Supply, Installation, Testing & Commissioning of 04 numbers of 500 LPM Capacity Pressure Swing Adsorption (PSA) Oxygen Generation Plant in various locations of Bihar Public Health Centres against Tender No. HITES/PCD/MHFW/OGP-01/2021-22 dtd. 25-04-2021** has been accepted and we, **Numaligarh Refinery Limited (NRL)**, are hereby placing the order for the following equipment to be supplied as per the Terms and Conditions as indicated below in continuation to the General Conditions of the Contract and Special Conditions of Contract and all the other sections as detailed and forming part of the above Tender Enquiry Document. The equipment should be brand new & unused and as per the Technical Specification as per the bid document along with the amendments, if any, and your offer along with technical clarification, if any, submitted by you. The bid document along with amendment, if any, forms an integral and inseparable part of this NOA / Supply Purchase Order (PO).

1. Prices:

Sl.	Brief Description of item/goods	Qty. per Set	Unit Price excl. GST (in INR)	GST %	GST Amount (in INR)	Unit Price incl. GST (in INR)	Total Price incl. GST (in INR)
i.	<u>PSA OXYGEN GENERATION PLANT</u> <u>500 LPM</u> Make – Neometrix Engineering Pvt. Ltd. Model - MOX-PSA-500LPM-D	5	1,25,00,000	18%	22,50,000	1,47,50,000	7,37,50,000.00
	Total Price (INR)						7,37,50,000.00

Total Value in Words: INR Seven Crore Thirty seven Lakhs & Fifty thousand Only

➤ **Note:** NRL reserves the right to place the balance quantity under tolerance clause at the same price & terms and conditions till the validity of this contract.

Please reply to Refinery Office:

PO No: 4500023016

Page 1 of 5

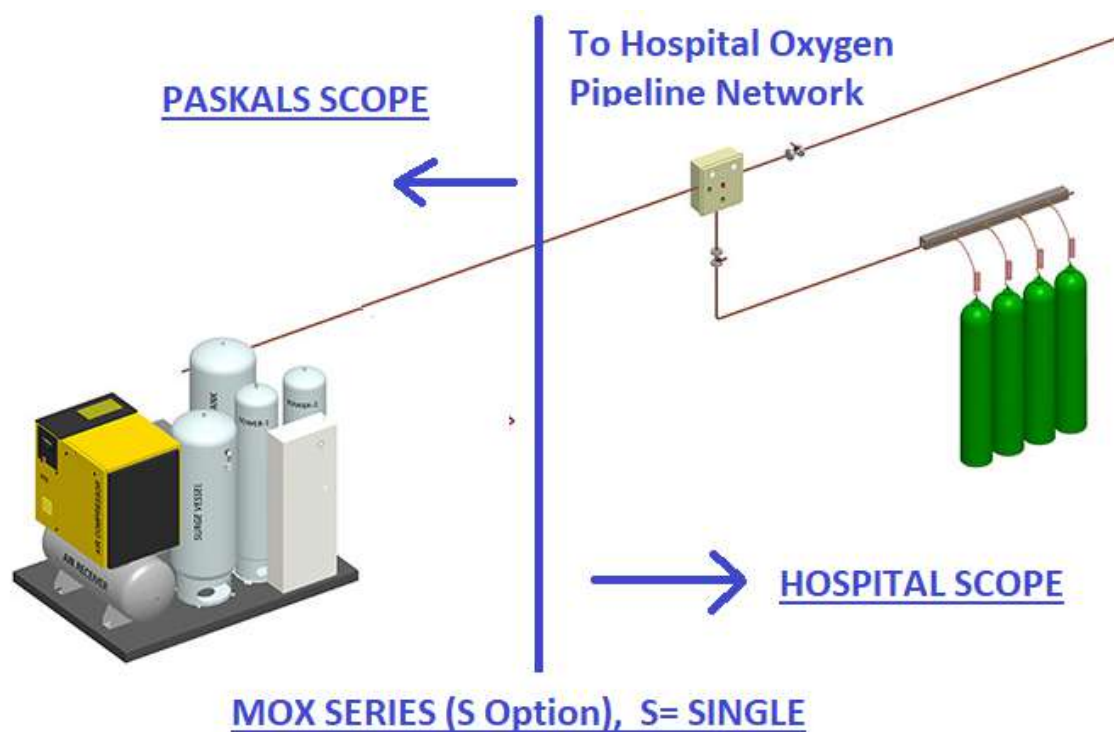
REFINERY OFFICE : Pankagrang, P.O : Numaligarh Refinery Complex, Dist. : Golaghat, Assam, Pin – 785 699, Fax : 0376-265461, EPABX – 03776-265-593 / 594 / 413,

REGISTERD OFFICE
122A, GS Road, Christian Basti,
Guwahati, Assam, PIN: 781005.
Phone : (0361) 2203140
Telefax : (0361) 2203146

COORDINATION OFFICE
Tolstoy House, 6th Floor, 15-17, Tolstoy Marg
New Delhi – 110 001 (India)
Phone : (011) 3739411, 3343902
Telefax : 3739412

KOLKATA OFFICE
4th Floor, Bharat Bhawan - Plot No: 31,
Prince Gulam Md Shah Road ,
Golf Green, Kolkata-700095
Phone : 033-24293054/5; Telefax : (033) 22212361
PO Neometrix Engineering Pvt Ltd Latest

PSA MEDICAL OXYGEN GENERATORS For HOSPITALS



Model Selection (S Series)

STANDARD MODELS

S. No.	Model No.	Medical oxygen Flow Rate NM3/Hr	Medical Oxygen Flow Rate (LPM)
1	MOX-05-S	5	83
2	MOX-06-S	6	100
3	MOX-10-S	10	166
4	MOX-12-S	12	200
5	MOX-15-S	15	250
6	MOX-20-S	20	332
7	MOX-30-S	30	500

TECHNICAL SPECIFICATION

OF

PSA MEDICAL OXYGEN GENERATOR

FOR

HOSPITALS

NEOMETRIX	REV-01-May 02, 2021	Medical Hospital O2 Plants
------------------	----------------------------	-----------------------------------

Neometrix Engineering Private Limited; **GSTN: 09AACCN2254N1Z6**

Office/ Factory: E-148 Sector-63, NOIDA, UP-201301, INDIA

Phone: 0120-4500800 (100 Lines), Fax: 0120-4500888,

www.neometrixgroup.com, contact@neometrixgroup.com

Registered Address: 104, First Floor, National Arcade, Main Ghazipur Road, Delhi - 110096



Document Prepared and Published By

Neometrix Engineering Private Limited
E-148, SECTOR-63, NOIDA, UP, INDIA - 201301
PHONE: 0120-4500 800, FAX: 0120-4500 888

NEOMETRIX

REV-01-May 02, 2021

Medical Hospital O2 Plants

Neometrix Engineering Private Limited; **GSTN: 09AACCN2254N1Z6**

Office/ Factory: E-148 Sector-63, NOIDA, UP-201301, INDIA

Phone: 0120-4500800 (100 Lines), Fax: 0120-4500888,

www.neometrixgroup.com, contact@neometrixgroup.com

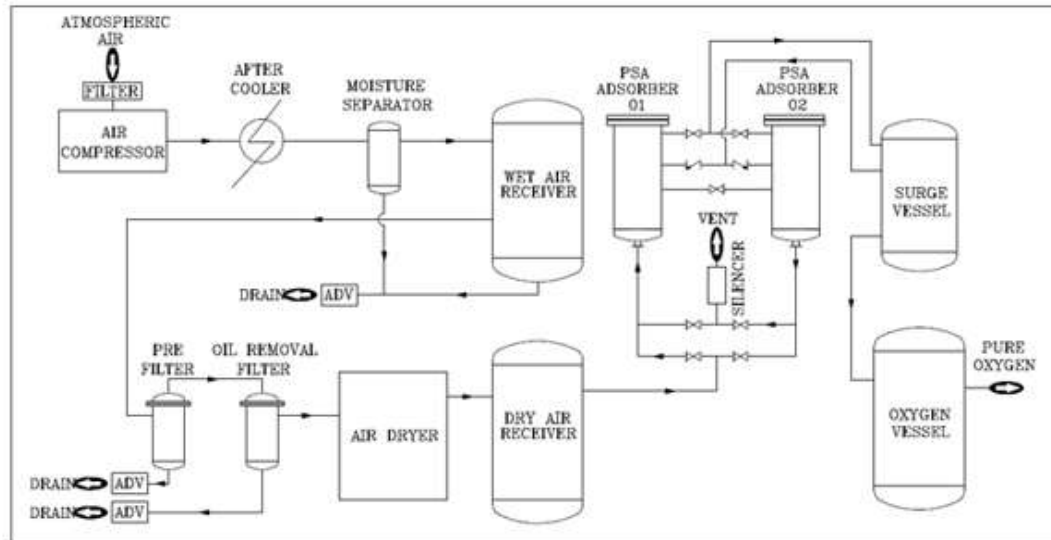
Registered Address: 104, First Floor, National Arcade, Main Ghazipur Road, Delhi - 110096

PSA Oxygen Generator

Air contains 21% Oxygen, 78% Nitrogen, 0.9% Argon and 0.1% other trace gases. **PASKLS Oxygen generator** separates this oxygen from Compressed Air through a unique process called Pressure Swing Adsorption. (PSA).

The Pressure Swing Adsorption (PSA) process for the generation of enriched oxygen gas from ambient air utilizes the ability of a synthetic Zeolite Molecular Sieve to absorb mainly nitrogen. While nitrogen concentrates in the pore system of the Zeolite, Oxygen Gas is produced as a product.

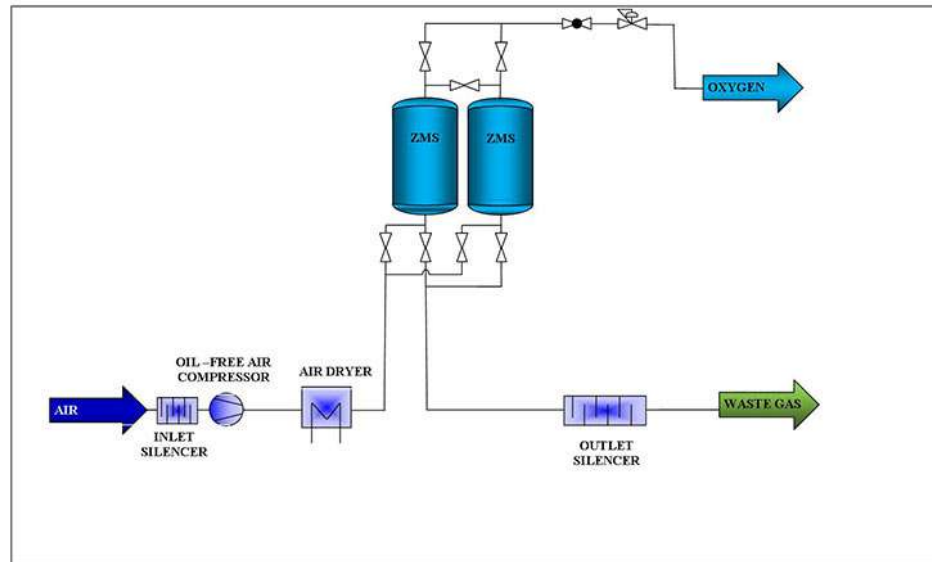
PASKLS Oxygen Generation plant's use two vessels filled with Zeolite Molecular sieve as adsorbers. As Compressed Air passes up through one of the adsorbers, the molecular sieve selectively adsorbs the Nitrogen. This then allows the remaining Oxygen to pass on up through the adsorber and exit as a product gas. When the adsorber becomes saturated with Nitrogen the inlet airflow is switched to the second adsorber. The first adsorber is regenerated by desorbing nitrogen through depressurization and purging it with some of the product oxygen. The cycle is then repeated and the pressure is continually swinging between a higher level at adsorption (Production) and a lower level at desorption (Regeneration).

**CIRCUIT DRAWING****PSA Process 5 Main Stages**

1. Compressed air (78% nitrogen, 21% oxygen, < 1% argon) is filtered, degreased and dried and the production pressure is automatically regulated.
2. Air passes through the molecular sieves where nitrogen is adsorbed by the zeolite, increasing oxygen concentration up to 95%.
3. Out of the molecular sieve, the oxygen produced is sent through the buffer tank via a multifunction block. Nitrogen is released via a silent escape and forced back outside.
4. Part of the oxygen produced is used to help the nitrogen desorption of one vessel while the other ensures oxygen production (and vice versa).

An automatic and pneumatic vessels balance system ensures a continuous oxygen flow.

PSA — O₂ — PLANT



NOTE: The nominal rating of the generators are at 68°F; 0% RH and at 14.5 Psia. Flow and pressure values are averages throughout a cycle with tolerances of $\pm 4\%$. Purity values are $\pm 2\%$. Performance based on Inlet pressure of 109 PSIG (7.5barg).