

PROPOSAL FOR A PSA BASED OXYGEN PLANT (ENGINEERED FOR DOCTORS)



PROPOSAL FOR A PSA BASED OXYGEN PLANT

Customer Details

Name: Mr. Devesh Mehrotra

Company: Mehrotra Biotech

State: Delhi/U.P.

Plant Capacity

60NM³/1000LPM

Proposal No

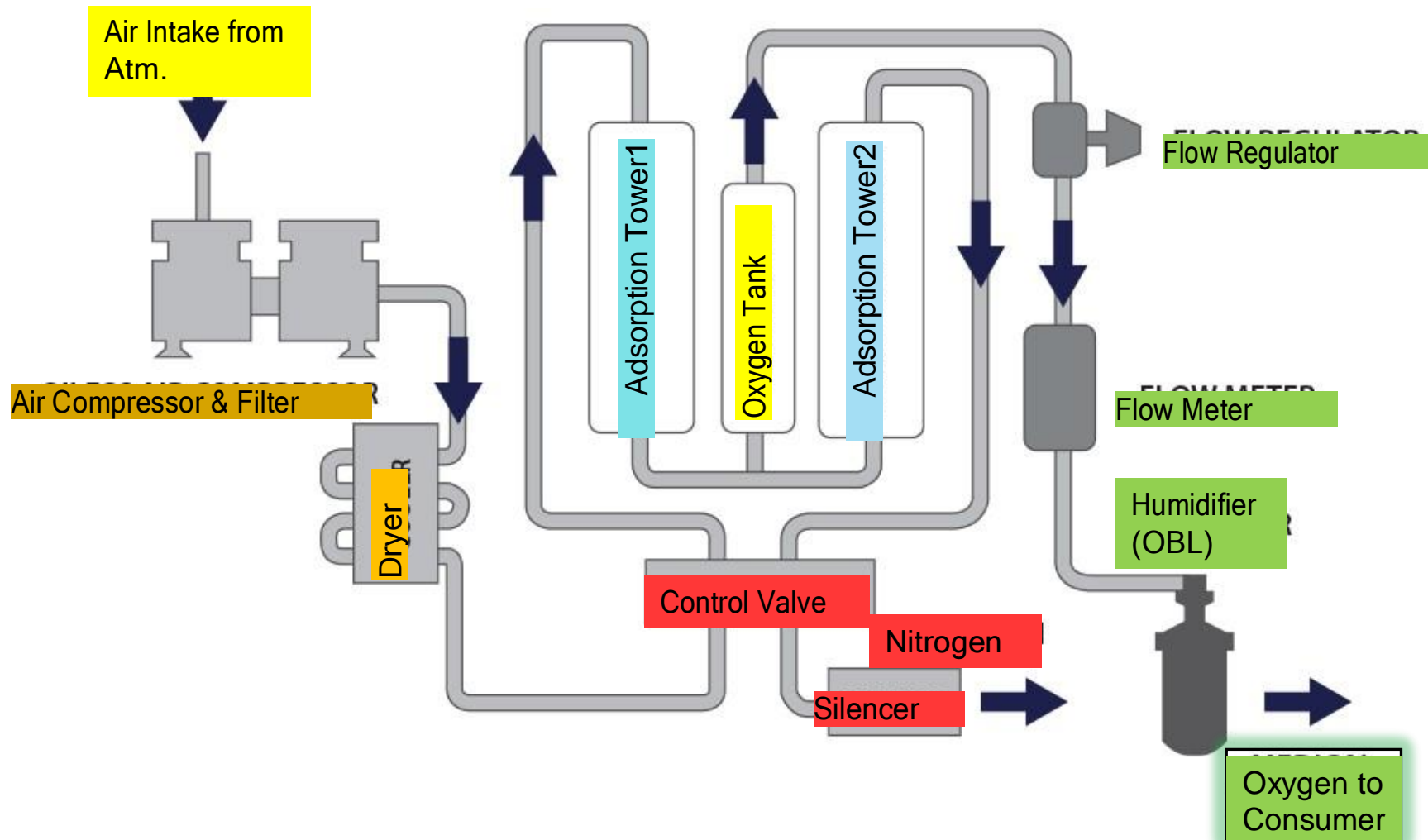
Ref No: PIPL/21/701

Date: 21/05/2021

Note:

- 1) This proposal is a confidential property of Mehrotra Biotech Pvt Ltd.
- 2) It is solely for the intended recipient and for the intended purpose.
- 3) It is not for external circulation to any one outside the customer's organization or to those who are not directly related to this discussion.

A PSA BASED OXYGEN GENERATING PLANT



PSA Technology:

The production of Oxygen from atmospheric air is based on Pressure Swing Adsorption (PSA) principle by adsorption of oxygen gas using a special grade of Molecular Sieves.

TECHNICAL SPECIFICATIONS

Description	Specification
Oxygen plant capacity M ³ /Hr	60
Oxygen plant capacity LPM	1000
Estimated O2 Beds Covered	86(76*+10**)
Space Requirements(Sq Mtr)	30
Installation	Indoor/Outdoor
Area of installation	Safe
Oxygen	93±3%
N2+others	Balance
Dew Point	Better than(-)40°C
Oxygen pressure at B/L	4.0kg/cm ² g
Electric power	415 V AC,3 Phase, 50Hz
Connected load for Air Compressor(KW)	100

**Covid-Non ICU Bed-Estimated average flow rate per bed for one patient is 10 LPM.*

****Covid ICU Bed-Estimated average flow rate per bed for one ICU patient is 24 LPM.**



TECHNICAL SPECIFICATIONS

Description	Specification		
Oxygen plant capacity M ³ /Hr	18	30	45
Oxygen plant capacity LPM	300	500	700
Estimated O2 Beds Covered	26(22*+4**)	42(35*+7**)	60(50*+10**)
Space Requirements (Sq Mtr)	15	18	24
Installation	Indoor/Outdoor	Indoor/Outdoor	Indoor/Outdoor
Area of installation	Safe	Safe	Safe
Oxygen	93 ± 1 %	93 ± 1 %	93 ± 1 %
N2 + others	Balance	Balance	Balance
Dew Point	Better than (-) 40 ⁰ C	Better than (-) 40 ⁰ C	Better than (-) 40 ⁰ C
Oxygen pressure at B/L	4.0 kg/cm ² g	4.0 kg/cm ² g	4.0 kg/cm ² g
Electric power	415 V AC, 3 Phase, 50 Hz	415 V AC, 3 Phase, 50 Hz	415 V AC, 3 Phase, 50 Hz
Connected load for Air Compressor (KW)	30	45	75

* Covid- Non ICU Bed-Estimated average flow rate per bed for one patient is 10 LPM.

** Covid ICU Bed- Estimated average flow rate per bed for one ICU patient is 24 LPM.

BEST IN CLASS COMPONENTS

Component	Brands	Warranty & Life Cycle
Compressor	Ingersoll Rand Kirloskar ELGI/ Equivalent	Warranty for 12months/life expectancy of these compressors are more than 6 yrs*
PSA(MS)	CECA UOP/Equivalent**	5 years*/replacement after life cycle
Filter inlet to PSA	Pre filter(>5 micron);Fine filters coalescing filter(0.1micron);and coal filter(coal activated carbon filter)	5-6 months*
Filter Outlet to PSA	(Bacterial Filter)	5-6 months*
Solenoid Valves	Rotex	Life expectancy is very high

* Subjected to usage, regular maintenance.

**As per availability due to surge in demand.

LICENSES AND COMPLIANCES

Design ISO-9001

Operations-
ISO 9001 & OHSAS 1
4001

Fabrication Shop

- EIL Enlistment letter
- Eil-Certificate
- IBR Approval Certificate
- ISO Certificate IPE
- R Certificate
- U2 Certificate
- U Certificate

Mehrotra Biotech has all necessary licenses in place to deliver the system as per the applicable regulations of our country.

OUR SCOPE OF SUPPLY

- Screw Lubricated compressors from International brands such as *Ingersoll Rand/ Kirlosker/ ELGI* with d/ soil Filter to ensure oil free air (low maintenance)
- Filtration systems and refrigerated type air dryer before PSA system
- Twin tower packaged PSA Unit with first charge of Zeolite Molecular Sieves of International Standards
- PLC based automatic change over valves and sequence programmer from an international brand such as *Allen Bradely*
- Oxygen Surge Vessel to stabilize purity and flow
- Control panel with audio-visual alarm
- Online percentage Oxygen Analyzer (Range: 0 -100%)
- 3-way vent valve and pressure holding valve
- On skid inter connected cabling, piping and fittings
- 2-Coats of Primer and 2-Coat of epoxy paint on all fabricated items
- Supervision of installation & Commissioning of the gas plant at your site.
- Any item which is not explicitly mentioned in the scope of supplies is deemed excluded

CUSTOMER'S SCOPE

- Any civil and erection work at site
- Any electrical power cabling and earthing connections for all Utilities
- Any piping outside the gas battery limit
- Cylinder manifold & booster pump
- Tools and tackles, welding sets, gas cutting etc.
- Power supply to control panel of air compressor and oxygen gas plant
- Unloading and shifting of equipment to the foundation/sites.
- Provide skilled/ unskilled manpower during installation & commissioning under the supervision of our engineer
- Power Back Up/DG Sets

DELIVERY SCHEDULE

Plant capacity(M ³ /LPM)	Timelines*
10-30M ³ /83-500 LPM	26-30 days
40-60M ³ /664-1000 LPM	40-55 days
75-100M ³ /1250-1630 LPM	60-80 days
150-200M ³ /2500-3260 LPM	80-100 days

*Timelines are applicable from the date of receipt to clear work order with advance, and subject to our acceptance at the time of placing the order.

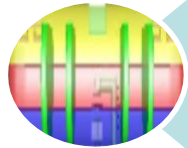
ABOUT OUR TECHNOLOGY PARTNER

Priserve are technology partner for Mehrotra Biotech

- ❖ Priserve has experience of working with some of the world's largest multinational oil exploration companies
- ❖ Over a decade of experience in Design, Engineering, Procurement and Construction of complex system deployed.
- ❖ Priserve's Management comes from the best of education institutions of India viz IIT Roorkee, IIM Ahmedabad, and other top institutions of the country bringing you the best quality of workmanship and import quality components
- ❖ Priserve team of Planning, Project management, Process, Mechanical, Electrical, Instrumentation, Piping, Structural, HSE, HVAC Engineers and designers have expertise on all latest softwares, codes and standards with expertise in the area Process simulation, equipment and line sizing Mechanical equipments design Piping experts PDS/ PDMS/ Stress analysis/ layout etc.

- ❖ Electrical and instruments engineers with experience in tools/ ETAP and other softwares Experts capable of providing services related to Detailed 2D/ 3D Modeling& Design including PDS Support/ Administration and Customization.
- ❖ Mehrotra Bioetch has engineer team for the project implementation and installation
- ❖ Mehrotra Biotech cater all medical field requirement related to PSA Oxygen Generators under technical collaboration with Priserve
- ❖ Our team comprises world class Fabricators and Engineers involved in the manufacturing as well as engineering facilities.

OUR CORE COMPETENCIES



Design and Engineering



Procurement



Construction/Fabrication
Management



Project Management



Logistics

ADD ON VALUE ADDED SERVICES



AMC

WORK IN PROGRESS

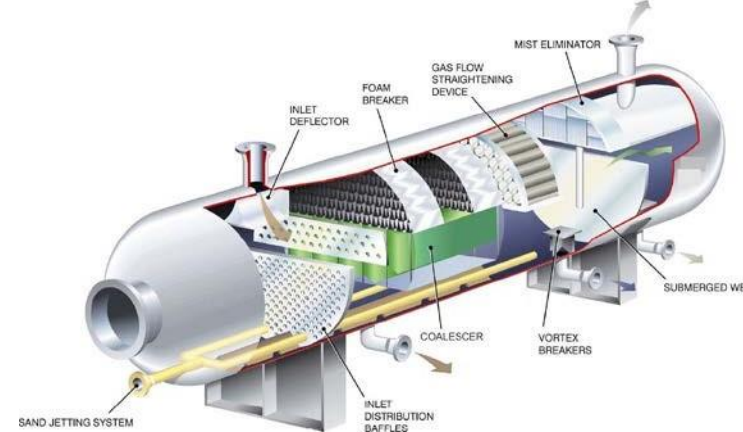
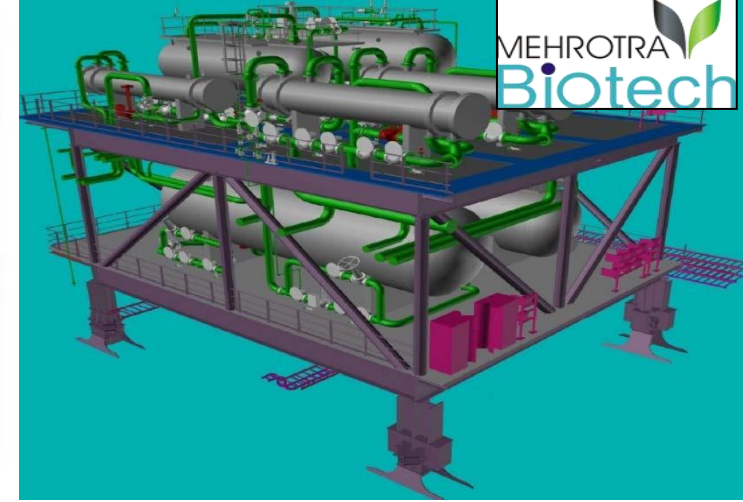
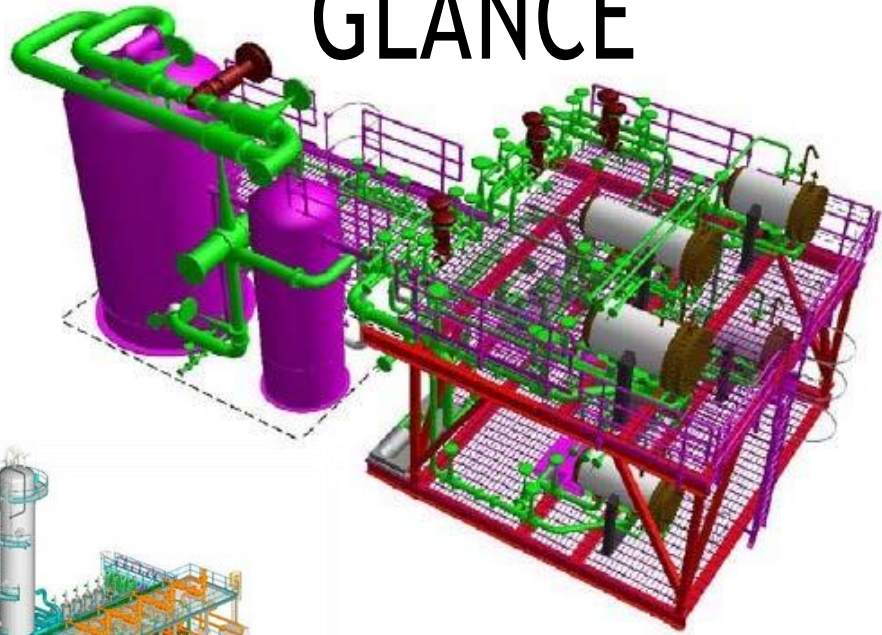


CONCEPT TO COMMISSIONING

21 Days



VARIOUS PROJECTS AT A GLANCE



OUR SERVICE NETWORK IN INDIA

Our team of service engineers is located in such a way that they can reach any part of the country within 48 hours.



CONTACT DETAILS

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<https://www.mehrotrabiotech.com>