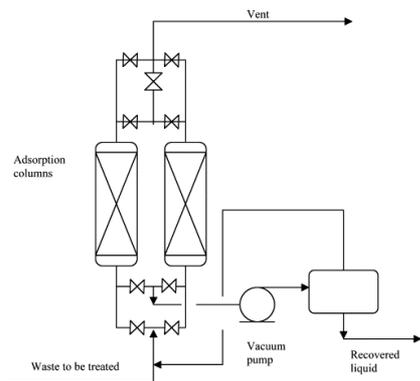


# VPSA OXYGEN PLANT



MARUTI CORPORATION having a modern facilities with over 50000 square feet of manufacturing space near Vadodara (Gujarat, India).

Vadodara is one of the biggest industrial and chemical complexes hub in India making us ideal for easy availability of specialized skilled engineers, man power, spares & instruments availability also.



Maruti corporation is the leading manufacturer of VPSA Oxygen gas Plants. We are having a great experience of custom made VPSA (Vacuum Pressure Swing Adsorption system) and PSA (Pressure Swing Adsorption) custom-made Vacuum Pressure Swing Adsorption (VPSA) Oxygen Systems designed to the specific requirements , with capacities from 3,600 SCFH (100 Nm<sup>3</sup>/hr) to 53000 SCFH (1500 Nm<sup>3</sup>/hr). Highly -efficient, 2-4 bed VPSA oxygen process (4 beds for higher capacity requirement). these technology offers extremely low energy consumption, on stream efficiency of 99%, easy operation, and long-term equipment life.

### VPSA plant working Principle:

In This process consists of 2 or 4 beds filled with Molecular Sieves. These cycle alternately in Production and in Regeneration. Feed air pressure is supplied with air blowers at 0.25 to 0.5 Bar, which gives Oxygen production at 0.20 to 0.45 Bar. Regeneration of Molecular sieves is achieved by a highly efficient water cooled Vacuum pump at 0.6 Bar pressure. in a result Product Oxygen gas purity is achieved around 90 to 95% The waste gas is 80-85% Nitrogen and 11-15% Oxygen which is vented to atmosphere via discharge silencer. Specialized X type molecular sieves are used as adsorption agents when producing oxygen from the air by adsorptive

means. They adsorb nitrogen, water vapor, and carbon dioxide to a much higher degree than oxygen. This means that a product flow comprising essentially only oxygen and argon can be removed from the process air being passed through the adsorption bed. The compressed air enters the adsorbers. The nitrogen is adsorbed while the oxygen product leaves the vessels. After a certain time the adsorption is interrupted and evacuation by a vacuum pump desorbs the enriched nitrogen. The oxygen product flow is compressed to the required discharge pressure, if required.

**VPSA Oxygen Systems standard features include:**

- Critical process parameters monitored and recorded every 250 milliseconds with digital logshut generator.
- Remote location monitoring of system operation with scada and dcs system.
- Flexible turndown capability from 100% to 30% oxygen flow design capacity.
- \* Continuous, uninterrupted supply and guaranteed purity.
- Designed in accordance with international safety standards.
- \* Lower power consumption.
- \* Fast Startup.
- \* Modular Design.
- \* Long life, low maintenance.
- \* Scada and Dcs Options available.

## VPSA Oxygen Applications:

- |   |  |
|---|--|
| <ul style="list-style-type: none"><li>• Chemical industries for oxidation reactions and for incinerators.</li><li>• Metallurgical industries for oxygen enrichment of furnaces.</li><li>• Oxybleaching and Delignification for Pulp and Paper Mills.</li><li>• Water/Waste-Water Treatment.</li><li>• Ozone gas Generation.</li></ul> | <ul style="list-style-type: none"><li>• Oxygen Fuel Burners.</li><li>• Furnace Enrichment.</li><li>• Gold purification.</li><li>• Uranium Recovery.</li><li>• Glass Industry.</li><li>• Steel Mills.</li></ul> |
|---|--|

