PRISM® VSA Oxygen Generators—T Series

Reliable on-site gas supply

Features/benefits

Low Capital Cost
- Outdoor installation on a concrete plinth
- Highly skidded and modular design

High Reliability
- Fully automatic controls
- Liquid oxygen backup available
- Oxygen analyzer as standard

Low operating costs and flexibility
- Power-efficient oxygen supply with turndown built-in
- Designed for unmanned operation

Proven, flexible solutions

Air Products supplies PRISM Oxygen VSA plants for capacities as large as 300 tons per day of oxygen. Building on its experience with state-of-the-art vacuum swing adsorption (VSA) technology, Air Products has added a compact VSA system, the T-Series, to its portfolio for requirements as large as 25 metric tons per day of oxygen.

Due to the modular design, multiple units can be supplied to customers to provide the required capacity. Together with liquid oxygen for backup, T-Series VSAs provide a reliable supply of oxygen for many applications.

Applications

Air Products' Prism VSAs are available to meet the needs of a variety of industries and applications, including:

- Environmental and wastewater treatment
- Glass
- Ferrous and nonferrous metals production
- Cement and lime production
- Pulp and paper

Customizing a solution for you

At Air Products, we don't have a "one size fits all" approach. Our PRISM T-Series VSA plant design is flexible, so the final system meets your specific requirements with the scope of supply tailored based on your interests.

Process description

The PRISM Oxygen VSA process utilized by these plants is a method of separating air into its two principal components—nitrogen and oxygen—using adsorption technology. The oxygen at 90%–93% purity is provided to the customer as product, and the impure nitrogen combined with any water and carbon dioxide is vented.

PRISM Oxygen VSA systems use a patented high-efficiency molecular sieve to selectively recover oxygen from air. This high-performance sieve significantly reduces the energy required to generate oxygen.

Oxygen VSAs operate in a batch process. During a cycle, the adsorber vessel(s) are alternately pressurized with air to produce oxygen, then evacuated to regenerate the adsorbent and remove nitrogen. Oxygen for customer use needed during the portion of the cycle when oxygen is not being produced is supplied from the product buffer tank, maintaining an uninterrupted, consistent oxygen flow.

Environmental commitment

Additionally, on-site gas generation helps sustainability-minded customers reduce their carbon footprint. It reduces the transportation of delivered products and makes the molecule directly as a gas thereby avoiding the energy needed for liquefaction. And our technology and engineering teams are constantly working to provide even higher levels of energy efficiency inour on-site gas generators.

Worldwide expertise at your doorstep

With local expertise around the world, Air Products can deliver reliable, cost-effective gas supply solutions by working with you to understand your needs. You can explore your gas supply options at: www.airproducts.com/gasgeneration or contact your local office to see how we can help you.

We welcome the opportunity to have a discussion with you. Please contact us at any of these locations:

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Figure 1: Process Flow Diagram
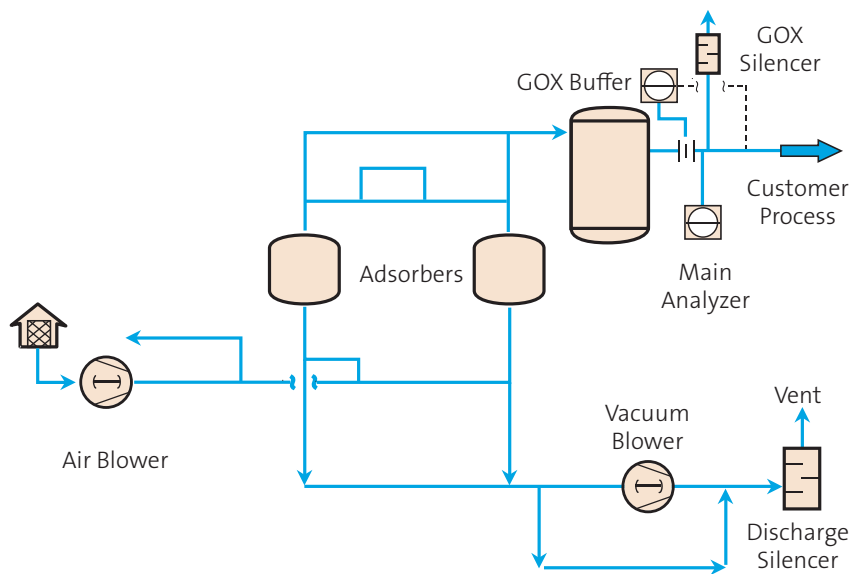
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