Oxygen Concentrator FAQ

How does PSA work?

PSA uses a material called molecular sieve for gas separation. This zeolite-based sieve has a preferential adsorption effect on nitrogen gas. Clean， dry air is passed through the sieve bed on the oxygen generator (PSA oxygen machine， oxygen generator) to produce an oxygen-rich gas.

What is Pressure Swing Adsorption (PSA) technology?

PSA is one of several technologies currently used to separate oxygen from air.

Does the equipment have to be air-conditioned?

PSA oxygen generators perform best at temperatures between 40 degrees Fahrenheit (4 degrees Celsius) and 80 degrees Fahrenheit (27 degrees Celsius).

Does the equipment room need humidity control?

PSA oxygen generators perform best when the dew point of the incoming air is 40 degrees Fahrenheit (4 degrees Celsius) or below. Depending on the model selected and the inlet air equipment provided (air compressor， dryer， air booster tank and inlet air filter)，the room may or may not require humidity control. Please consult the equipment for recommendations on specific applications.

Does the oxygen generator (PSA oxygen machine， oxygen concentrator) have to be in the room?

The standard XITE oxygen concentrators are designed for use indoors.

What are the maintenance requirements for PSA oxygen concentrators?

PSA oxygen concentrators have internal filters and it is recommended that the elements be replaced approximately every 6 months in 24/7 operation. In addition， the valves will need to be modified every few years. Most maintenance will involve service of the air compressor as recommended by the air compressor manufacturer.

Can the air preparation equipment be located in a separate area from the oxygen generator?

The air preparation or supply equipment can be located in a separate room from the oxygen concentrator.

Can an oxygen generator (PSA oxygen machine， oxygen concentrator) be operated with a contaminated screen and what are the consequences?

PSA oxygen generators can still be operated after contamination， but a reduction in oxygen purity and flow should be expected. This can be critical in many applications， such as hospitals where oxygen is being inhaled.

How long does a molecular sieve last?

The lifetime of a molecular sieve is based on the quality of the inlet gas. If the inlet gas quality always meets the recommended standards， the molecular sieve can be used indefinitely (20 years or more!) . If the molecular sieve is contaminated with oil， dust or water， can it be cleaned or replaced? If the molecular sieve is contaminated with oil， it must be replaced. Water contamination， depending on the degree， does not necessarily mean that the sieve needs to be replaced. Dirt is a rare reason to replace a sieve， but other contaminants such as ammonia can cause the sieve to fail. Consult the equipment for specific air contamination that may be present at the generator site.

Are molecular sieves easily available， or are they difficult to obtain in many locations?

There are several suppliers of molecular sieves around the world.

Is it easy to replace molecular sieves and what is the cost?

All XITE oxygen generators are designed to allow for sieve replacement in the field. The cost of replacing the sieve depends on the model and size of the generator.

Can I use a regular compressor， or do I need an oil-free compressor?

PSA oxygen generation does not require an oil-free compressor as long as the quality of the incoming air is maintained.

Are all zeolite molecular sieves the same?