

## The main differences between VSA and PSA Oxygen Generators

<i>PSA Generators</i>	<i>Air Products and Chemicals VSA Generators</i>	<i>Advantage of VSA Generator</i>
Compression process (1 barg to 8 barg)	Vacuum process (0.5 barg to 1.5 barg)	<ul style="list-style-type: none"> <li>The lower pressure swing difference in the VSA means that the whole process is “gentler” ensuring that no movement in the sieve bed results, so less likely to get powdering of the sieve</li> </ul>
Double zeolite sieve bed (2 vessel required)	Single zeolite sieve bed (1 vessel required)	<ul style="list-style-type: none"> <li>Simpler design</li> <li>Lower capital cost</li> </ul>
Has an air compressor	Does not have an air compressor	<ul style="list-style-type: none"> <li>No compressor maintenance, thus reducing costs</li> <li>Reduced electrical power running costs</li> </ul>
Creates water droplets	Dry machine	<ul style="list-style-type: none"> <li>No chance of water corrosion</li> <li>No chance of contamination of zeolite</li> <li>Alumina desiccant does not have to be changed (giving reduced maintenance)</li> </ul>
Condensate removal system required	No condensate removal system required	<ul style="list-style-type: none"> <li>Simpler system so lower cost and easier to maintain</li> </ul>
Does not have a vacuum blower	Has a vacuum blower	<ul style="list-style-type: none"> <li>The vacuum blower allows water vapour and hydrocarbons to be flushed from the generator, giving less chance of contamination of the sieve bed</li> </ul>
Many valves	1 valve	<ul style="list-style-type: none"> <li>Simpler system so lower cost and easier to maintain</li> </ul>
Requires instrument air	No instrument air required	<ul style="list-style-type: none"> <li>Simpler system so lower cost</li> </ul>
Alumina desiccant has to be changed out	Alumina desiccant regenerated by vacuum step	<ul style="list-style-type: none"> <li>Easier maintenance</li> </ul>

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