



YS-N-IC60 Box type



PSA

<http://www.ys-gas.com>

NITROGEN GENERATOR

We have R&D cooperation with Japan to develop nitrogen generator of miniaturized volume, lightest weight, highest efficiency and space saving. This is the most advanced and leading model in the world, and the usage lifetime is enhanced by two times as compared to that in the industry.

Spec table for YS-N-IC series

Item	Purity	Flow rate	Pressure	Dimension (W*D*H) mm	Weight	Compressor demand
YS-N-IC10	99%	25M ³ /Hr	5kg/cm ²	1050x700x1780	640kg	11kw
	99.9%	14M ³ /Hr				
	99.99%	10M ³ /Hr				
YS-N-IC20	99%	45M ³ /Hr	5kg/cm ²	1200x700x1900	800kg	15kw
	99.9%	27M ³ /Hr				
	99.99%	20M ³ /Hr				
YS-N-IC30	99%	70M ³ /Hr	5kg/cm ²	1490x700x1900	1050kg	22kw
	99.9%	40M ³ /Hr				
	99.99%	30M ³ /Hr				
YS-N-IC40	99%	95M ³ /Hr	5kg/cm ²	1750x870x1900	1320kg	30kw
	99.9%	55M ³ /Hr				
	99.99%	40M ³ /Hr				
YS-N-IC60	99%	145M ³ /Hr	5kg/cm ²	2110x1160x2060	1600kg	45kw
	99.9%	90M ³ /Hr				
	99.99%	60M ³ /Hr				
YS-N-IC100	99%	220M ³ /Hr	5kg/cm ²	1800x1715x2100	3100kg	75kw
	99.9%	130M ³ /Hr				
	99.99%	100M ³ /Hr				
YS-N-IC120	99%	250M ³ /Hr	5kg/cm ²	1800x1750x2310	3400kg	93kw
	99.9%	160M ³ /Hr				
	99.99%	120M ³ /Hr				
YS-N-IC150	99%	400M ³ /Hr	5kg/cm ²	2100x1550x2290	3800kg	112kw
	99.9%	200M ³ /Hr				
	99.99%	150M ³ /Hr				

※ The above spec is for reference only, please refer to the real data. However, we can customize our product for our customers.



Molecular sieve is the most important component of nitrogen generator (PSA). However, for the PSA users, how do you judge the quality of the molecular sieve used by the manufacturer? The following is very simple method to judge the quality of the molecular sieve used in PSA.



Select the box type nitrogen generator of YS

Item	Description
<p>★ PSA equipment is the smaller the better! The fewer the molecular sieve quantity the better!</p>	<p>The size of PSA equipment is directly related to the molecular sieve adopted. The molecular sieve with better performance will have better nitrogen generating efficiency. For PSA equipment of the same nitrogen generating quantity, if high performance molecular sieve is adopted, the volume of the PSA equipment will be smaller.</p>
<p>★ The smaller the air compressor the better! Because the energy consumption will be smaller.</p>	<p>Good PSA equipment will consume less quantity of compressed air. The quality of the molecular sieve adopted plays a very important role. If molecular sieve of bad quality is adopted, then larger air compressor is needed to generate nitrogen. And the user cost is then greatly enhanced. The electricity cost and maintenance fee of the air compressor is the largest consumptive area in the use of PSA nitrogen generator.</p>

Energy consumption difference calculation: (Generation quantity: 100NM³/Hr, generation concentration: 99.99%, peak and off-peak electricity usage: 3 NTDs/KWH of electricity)

General nitrogen generator available in the market: 100NM³/Hr with the use of 100 Hp 75KW air compressor, then the daily electricity cost: 5400x365=\$ 1971000 NTDs.

Yes-Sir's energy saving nitrogen generator: 100NM³/Hr with the use of 75 Hp 55KW air compressor, then the daily electricity cost: 3960x365=\$ 1445400 NTDs.

When high performance molecular sieve of nitrogen generator of Yes-Sir is used, the annual saving as compared to the machine of general suppliers will be more than half a million NT dollars. (C+plus class)

Omni-bearing and multi-function human machine interface

1. Self-diagnosis and maintenance time setup functions.
2. Primary and secondary machine connection function. In other words, one primary machine can control several secondary machines.
3. Monitoring function can be achieved through control room and through local area network.
4. Historical record, external activation and the most human control.
5. Nitrogen can be output only when the generated nitrogen has reached the requirement, which is to ensure consistent and reliable nitrogen purity.



Comparison of our nitrogen generator with that available in the market

1. It can save the expense to purchase nitrogen. If you can self-generate nitrogen, you can control your cost and product quality precisely.
2. The situation of sudden insufficient nitrogen supply can be avoided.
3. The danger of transport and storage of pressurized steel cylinder nitrogen can be avoided.
4. It prevents the daily liquid nitrogen evaporation loss and the loss in the pipeline.
5. The nitrogen cost and expense can be greatly reduced.

Principle of PSA process

Differential pressure change of the compressed air is used, and physical reaction will be generated on the molecular sieve in the pressure container.

Nitrogen molecule and oxygen molecule will have different diffusion coefficient. During the pressure rising stage, oxygen molecule will be adsorbed temporarily in the pores of the molecular sieve, which will urge oxygen nitrogen separation, and a release will happen later during the pressure dropping process. This action is called PSA (Pressure Swing Adsorption).

Flow diagram of PSA nitrogen production arts

