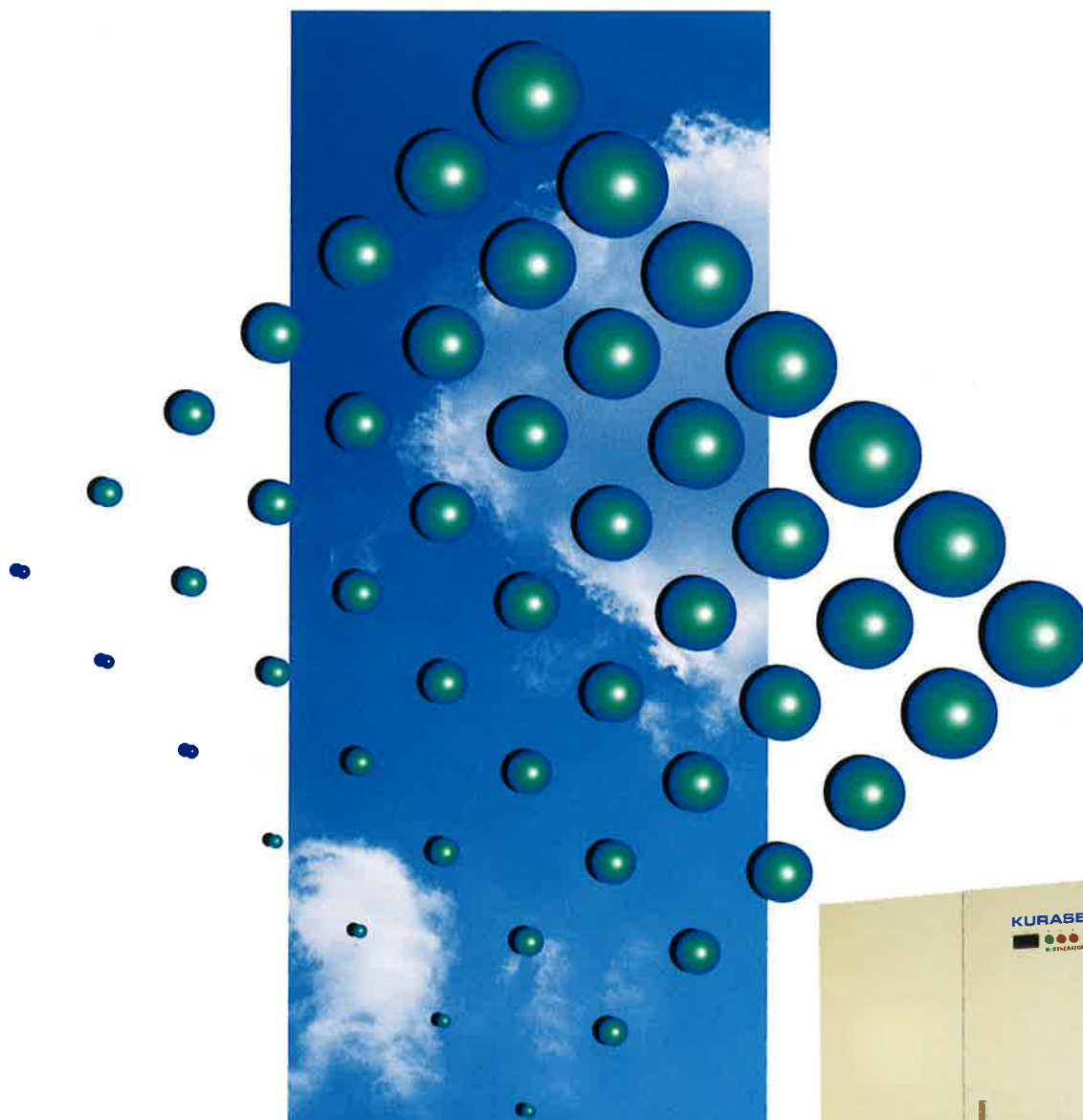




KURARAY CHEMICAL  
**KURASEP®**



*Ecology & Amenity*



**PSA System  
Nitrogen Gas Generator**

# KURASEP®

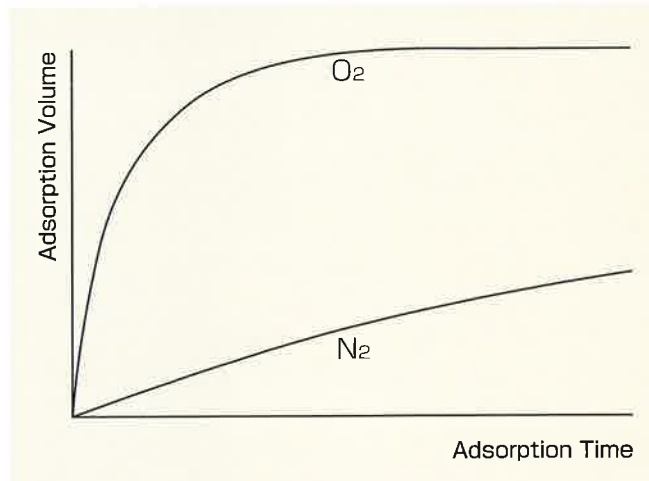
## Full-line Nitrogen Gas Generators Best Suit your Needs

For many applications utilizing nitrogen, KURASEP Nitrogen Gas Generators based on adsorption technology offer a most effective alternative to other modes of supply. Kuraray Chemical Co., Ltd. is the integrated manufacturer of CMS (Carbon Molecular Sieve) and PSA (Pressure Swing Adsorption) system nitrogen gas generators in Japan. The intensive research and development efforts have made possible the high purity nitrogen gas (99.99%,  $N_2+Ar$ ) separation directly from the air. You can select the most specific model for your requirements from among our full-line series.

### The Principle of PSA

CMS is a mainstream adsorbent for PSA system nitrogen gas generators. It is a differential diffusion rate system based on the fact that the oxygen molecule is smaller than the nitrogen molecule. A special Carbon Molecular Sieve adsorbs oxygen gas, carbon dioxide gas, moisture and so on in compressed air in a short period of time and compressed nitrogen gas is obtained at the outlet. When the pressure is decreased to the atmospheric or vacuum level, CMS, which has adsorbed oxygen gas and others, easily desorbs them and is regenerated.

When the above two operations are done alternately between two adsorption columns, nitrogen gas can be separated continuously from the air.



### The Advantages of KURASEP® PSA System

- On-site generation of low cost nitrogen. It provides nitrogen with the advantages of local control and without the high cost of cylinders and bulk gas deliveries.
- High performance CMS yields significant energy savings by lower air consumption.
- Nitrogen purity and capacity can be selected for your specific needs ; Dew points at atmospheric pressure is  $-60^{\circ}C$  and below.
- Simple mechanism and compact design ; Fully automated unattended operation.
- Efficient turndown system (option) to match your nitrogen demand.

Carbon Molecular Sieve



### Applications for KURASEP®

- **Chemical Processing**  
Purging of tanks and vessels, pressure testing of piping systems, inerting of storage tanks and vessels.
- **Metallurgical Heat Treatment**  
Inert atmospheres for heat treating ; ferrous and non-ferrous annealing.
- **Food Processing and Storage**  
Filling gas for food packaging, controlled atmospheres for the storage and transport of fruit.
- **Paints and Coatings**  
Purging to prevent polymerization of drying oils, packaging.
- **Rubber**  
Packaging and preserving, manufacture of tires.
- **Pharmaceuticals**  
Blanketing product vessels, transferring chemicals, packaging.
- **Material Handling and storage**  
Prevention of dust explosions in silos and bins, transporting of pellets and powders.



Cabinet Type



Cabinet Type

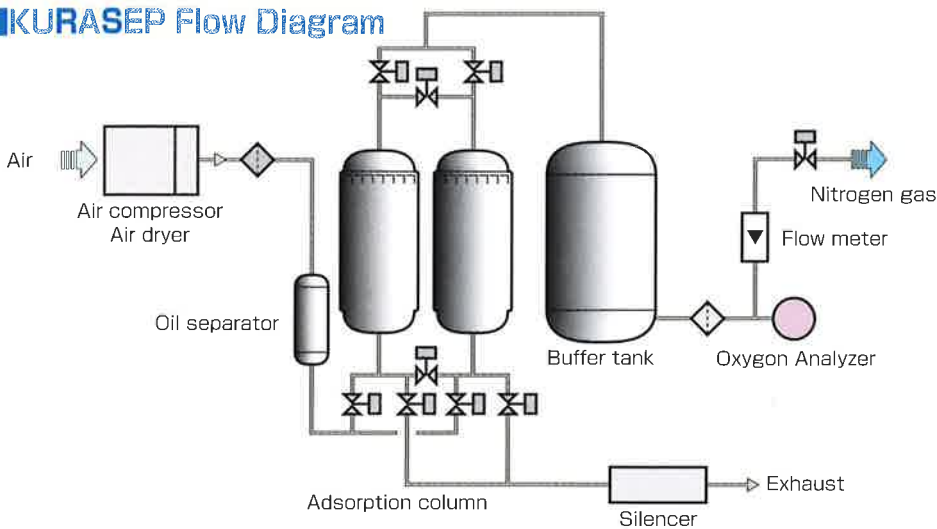


Cabinet Type



Mount Type

### ■ KURASEP Flow Diagram



### When inquiring about KURASEP®

Please let us know the following so that we might help you select the most suitable system for your need :

1. Purpose of use of nitrogen gas
2. Nitrogen gas requirements
  - [1] Purity,
  - [2] Pressure,
  - [3] Consumption (max., min. and average per hour),
  - [4] Period of consumption (daily and yearly)
3. Utility conditions
  - [1] Power source (voltage, cycle),
  - [2] Cooling water (pressure, max. temperature)
4. Other requirements



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