



Food & Beverage



Common Applications

Vineyards & Wine Production

Wineries take great care to prevent product oxidation during all phases of production and packaging to enhance wine quality. Contact with oxygen can alter the color, aroma, taste and acidity of wine as well as promote the growth of unwelcome aerobic bacteria and yeast. Nitrogen gas is frequently used throughout the industry for **Topping, Blanketing, Storage, Bulk Transfer, Sparging, Flushing, and Bottling.**



(CA) Storage

Controlled Atmosphere storage maintains a composition that is generally below 8% O² and above 1% CO². Exposure of fresh crops to low O² and/or elevated CO² atmospheres within the range tolerated by each product reduces their respiration and ethylene production rates extending shelf life. The most predominant commercial use of (CA) is with apple and pear storage as well as transportation of various fruits and vegetables such as: asparagus, avocados, bananas, broccoli, cherries, kiwifruits, mangos, melons, peaches, and strawberries.

(MAP) Food Packaging & Processing

Modified Atmosphere Packaging displaces oxygen in the air that causes a process of decay called oxidation. Fats and oils in food can oxidize to make the food turn rancid. The addition of Nitrogen extends shelf life in packaged foods by preventing spoilage due to oxidation, microbe growth such as bacteria, yeast and mold, moisture migration and insect infestation. Nitrogen flushing is a preservation method used to protect minimally processed packaged foods, such as **Coffee beans, Nuts, Rice cakes, Snack crackers and Chips** and many more.



Breweries and Beer Delivery Systems

Select breweries use nitrogen to exclude oxygen during mashing, milling and lautering processes to enhance overall product quality. When nitrogen is used in the carbonation process it enhances the difference between creamier nitrogen beers and their lively, prickly CO² counterparts. If dissolved oxygen levels can be kept low enough, pasteurization is possible without any flavor damage.



Why do you need a GN2 System



75% to 90% Cost Savings

Generating your own nitrogen can substantially reduce the cost of nitrogen consumption, and is the primary reason for the purchase of most GN2 systems.

The price of purchasing nitrogen in a gaseous or liquid form can vary from \$2.88 to \$0.35 per 100 ft³ based on consumption volume, type of product, location, or vendor. This cost range is strictly for the nitrogen delivered and does not factor additional costs such as:

- **Delivery Costs**
- **Monthly Cylinder / Tank Rental Fees**
- **Bulk Evaporative Loss**
- **Handling and Purchasing Labor Costs**
- **Additional Site Liability Insurance**

A GN2 system will produce gaseous nitrogen at costs that ranges from \$0.22 to \$0.06 per 100 ft³. The price range is a result of local power costs, compressor efficiencies, and required nitrogen purity.

An average GN2 system has an (ROI) return on investment of 7 to 18 months.

Reliability

GN2 systems operate automatically and supply nitrogen on demand 24 hours a day. A missed nitrogen delivery due to bad weather or clerical oversight can dramatically impact production costs.

Safety

GN2 systems operate with no more liability than a standard compressed air system. With a GN2 system you yield the liability of handling 2,200 PSI cylinders or storing -320°F (-196°C) liquid nitrogen.



Nitrogen Purity

GN2 systems can produce nitrogen purities from 95.0% to 99.999%. If your application can operate at lower purities the cost of production is reduced and can add to your overall reduction in nitrogen costs.



Model: GN2-250B11-XP2

Capacities, Specifications & Requirements

Compressed Air Feed	110 PSIG								Air/N2 Storage Min. Capacity/ Gal.	Generator Only			
N2 Discharge	92 PSIG		90 PSIG		88 PSIG		87 PSIG			Dimensions			Shipping Weight
Model Number	(A) 99.99% Purity		(B) 99.90% Purity		(C) 99.50% Purity		(D) 99.00% Purity						
	Feed (SCFM)	Output (SCFH)	Feed (SCFM)	Output (SCFH)	Feed (SCFM)	Output (SCFH)	Feed (SCFM)	Output (SCFH)		H	W	D	
GN2-25□11-□□□	3	30	3	46	3	57	3	72	10	40	31	13	220
GN2-35□11-□□□	5	45	5	70	5	86	5	107	15	40	31	15	226
GN2-50□11-□□□	7	68	8	104	7	129	7	161	15	49	41	15	353
GN2-75□11-□□□	10	98	11	151	10	186	11	233	20	65	48	24	510
GN2-100□11-□□□	13	128	15	197	13	244	14	304	20	65	48	24	540
GN2-125□11-□□□	16	158	18	244	16	301	17	376	20	65	48	24	565
GN2-175□11-□□□	21	203	23	313	21	387	22	484	30	69	52	28	675
GN2-250□11-□□□	35	338	39	522	35	645	37	806	60	69	52	28	730
GN2-350□11-□□□	49	473	55	731	48	903	51	1128	60	75	52	33	1200
GN2-500□11-□□□	63	608	70	940	62	1161	66	1451	80	80	68	33	1286
GN2-650□11-□□□	84	810	94	1253	83	1547	88	1934	120	85	68	33	1500
GN2-800□11-□□□	105	1013	117	1566	104	1934	110	2418	120	90	77	33	2425
GN2-1000□11-□□□	127	1215	140	1879	125	2321	132	2902	200	90	86	45	2590
GN2-1250□11-□□□	162	1553	179	2401	159	2966	168	3708	240	90	86	45	2975
GN2-1400□11-□□□	183	1755	203	2714	180	3353	190	4191	240	90	90	45	3375
GN2-1600□11-□□□	211	2025	234	3132	208	3869	219	4836	240	90	99	45	3975
GN2-1800□11-□□□	232	2228	257	3445	228	4256	241	5320	300	90	104	45	4635
GN2-2000□11-□□□	260	2498	288	3863	256	4771	270	5965	400	104	110	45	4950
GN2-2250□11-□□□	295	2835	327	4385	291	5416	307	6771	400	104	112	62	5620

Notes:

- Capacity reflects a maximum 90°F inlet temperature and 90°F ambient
- Feed compressed air pressure dewpoint must not exceed 39°F.
- Dimensions are in inches.
- Complete drawing packages available upon request
- Shipping weight is in pounds
- Feed voltage is 115/120-1-60
- Maximum Inlet Pressure 150 PSIG
- Dimensions and specifications are subject to change without notice

Experience

Great Lakes Air has over 30 years of experience manufacturing various types of standard and custom PSA (Pressure Swing Adsorption) systems for many industries such as:

Petrochemical	Aerospace
Automotive	Electronics
Mining	Food & Beverage
Defense	Steel Production
Pharmaceutical	Medical Industry

Made With Pride in the U.S.A.

Great Lakes Air is proud to manufacture all of its compressed air and gas equipment in Michigan. We offer our customers a steady stream of reasonably priced high quality industrial products with a proven history of performance. Readily available replacement components and maintenance items are locally available through the Great Lakes Air sales and service distribution network. Consider the quality and durability of American made products when making your equipment decision.

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