Wine Industry Market Application Publication

During the wine making process it is critical that wine be protected from contact with oxygen, as its presence promotes the growth of yeast and aerobic bacteria, which can cause spoilage and alter final product aroma, color, and taste. Nitrogen minimizes the levels of oxygen present, preserving flavors and significantly improving shelf life. It is an essential tool in alleviating the issues caused by oxygen exposure. Unlike argon, nitrogen can be provided as a continuous bleed to blanket storage tanks. A nitrogen generator, which separates nitrogen and oxygen from a compressed air supply, can often be the most cost economical way to supply nitrogen.





Features and Benefits

- A nitrogen generator offers long term price stability.
- Grow without added expenses. Adding more hours of production does not increase the size of your nitrogen generator.
- Replace intermittent argon blanketing with continuous nitrogen purging.
- Nitrogen has a very low boiling point, and is continuously evaporating when supplied as liquid in bulk or dewars.

- Eliminates the contracts required from bulk gas suppliers.
- Complete start up and testing procedure at the factory prior to delivery.
- Very little maintenance or monitoring required once system is up and running.
- Proven technology with over 50,000 successful generator installations worldwide.
- Ease of installation pipe in compressed air and pipe out nitrogen. Does not require a concrete pad, fence, permit fees, and significant square footage



Case Study

Groth Vineyards is a Cabernet Sauvignon and Sauvignon Blanc producer in Napa Valley uses nitrogen to rack wines, sparge tanks, and assist in the bottling process and to ensure product quality. Nitrogen was originally supplied by a local gas company delivered in cylinders and dewars. Fluctuations in usage requirements would frequently cause the winery to run out of nitrogen. This created not only an inconvenience, but also an economic concern as production had to be suspended until more nitrogen could be delivered.

Parker Hannifin was selected to supply a gas generator that would provide a continuous nitrogen stream for each of their processes. Ease of use, minimal maintenance requirements and return on investment (ROI) were important factors in their decision. Parker Hannifin's gas generators are designed for continuous, trouble free operation. Installation was simple - compressed airwas piped in and the generator was connected to existing nitrogen piping.

The annual maintenance requirements were straightforward and inexpensive. Overall, the cost savings were impressive, initially yielding in a 14 month payback and ultimately providing price stability for the future. The winery has had no issues with spoilage or DO pickup, and solved their nitrogen delivery issues. They recommend a Parker Hannifin nitrogen generator for improved efficiencies, ease of use and its reliable performance.

Specifications

Nitrogen Generator Flow Rates (SCFH)

% Nitrogen	DB-5-W	DB-10-W	DB-15-W	DB-20-W	DB-30	DB-40	DB-50	DB-80
99.9	365	730	1095	1460	1530	1812	2390	3818
99.5	512	1024	1536	2048	2178	2585	3402	5445
99	618	1235	1853	2470	2270	2690	3545	5670
98	770	1541	2311	3081	2950	3505	4615	7385

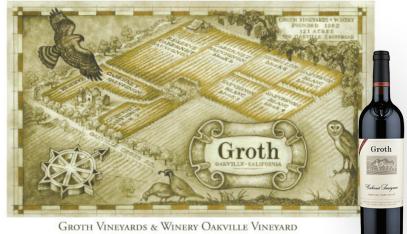
© 2019 Parker Hannifin Corporation



Application

There are numerous points in the production process where wine has the opportunity to come in contact with oxygen and cause product quality issues, including storage, transport and sparging. A nitrogen blanket, reducing the oxygen concentration as low as 0.5%, minimizes contact between oxygen and the wine surface during storage (both pre and post bottling). This will prevent the growth of bacteria yeast and other microbes.

Nitrogen can also be used to purge air from pipes and hoses prior to bottling and to ensure oxygen is not introduced during transport. Finally, sparging with nitrogen will remove any oxygen or CO₂ introduced during handling helping to preserve wine flavor, color, and aroma. If nitrogen is not used during these processes, the wine is exposed to oxygen and the level of dissolved oxygen (DO) increases. Using an inert gas helps to ensure minimal DO pickup.



CABERNET, 54,79 ACRES SAUVI IN BLANC, 32-15 ACRES Summers in an Acture

car 17/78 Acres	BLOCK 12: 17:17 ACRES BLOCK 31: 11:08 ACRES			BLOCK 9: 8-96 ACRES		BLOCK 9: 9-44 ACRES	
T SALVIENON	CARERMET SALVIENDS SALVIENDS BLANE		SALVERPEN BLANE	SAUVEDNEW BLANC	STREET	CARERNET SVEVENON	
39% 1999	Plantol: 2003	Planed 1999	Planted: 1999	Planed 2012	Planted: 2011	Planted: 2000	
61% 2001	Spacing: 5 x 10	Spacing: 5 x 10	Spacing: 5 x 10	Spacing: 5 x 10	Spacing: 6x8	Spacing: 5 x 10	
5 x 10	Trellis Quadrilateral Condisa.	Trellis: Quadrilateral Cordon	Tiellis Quadrilateral Cordon	Trellis: Quadrilateral Cordon	Trellis: Bilaseral Cordon	Tellis: Quadrilateral Cordon	
adribuctal Candon	Close 7	Clone: 1	Conc 1			Clora: 7-18%	
7-45%	Roomocle 039-16	Rootstede 44-53	Roessock 44-53	Rootstede 44-53	4.29%	15-16%	
15-20%	Soil: Clear Lake Clay, overwashed	Soil: Clear Lake Clay, drained	Soil: Clear Lake Clay, drained	Soil: Clear Lake Clay, drained	5-29%	337-66%	
337-35%	Vines/Acce: 871	Vines/Acre 871	Vines/Acce: 871	Vines/Acre 871	6-25%	Roosando 039-16	
039-16, SO4	Yoral Vines: 15,302	Total Vines: 10,435	Total Vines: 9,764	Total Vinas: 7,806	Brotrock: 44-55	Soil: Clear Lake Clay, drained	
Yolo Loam					Soil: Clear Lake Clay, drained	Vines/Acres 871	
871					Vines/Acre 907	Tetal Visco: 8,222	
24,188					Total Vines: 10,238		

Parker Hannifin Corporation Industrial Gas Filtration and Generation Division 4087 Walden Ave. Lancaster, NY 14086 phone 800 343 4048 fax 877 857 3800 www.parker.com/igfg

Printed in U.S. A. MAP Wine Industry-H 01/2019

State of California ONLY WARNING: Proposition 65 The products described herein can expose you to chemicals known to the State of California to cause cancer or reproductive harm For more information: www.P65Warnings.ca.gov

ENGINEERING YOUR SUCCESS.