

Technical Report

SEPURAN® N₂ – Stable Performance From Day one

STABLE PERFORMANCE FROM DAY ONE

SEPURAN® N₂ is a hollow fiber membrane gas separator that is used to produce nitrogen by removing oxygen from compressed air, resulting in N₂ purities between 95–99.5%. The polymer is tailored for nitrogen generation and special post-treated to prevent performance reduction. Unlike other gas separation membranes, with typical drop-curves in performance over time, SEPURAN® N₂ membranes are characterized by an extreme stable performance.

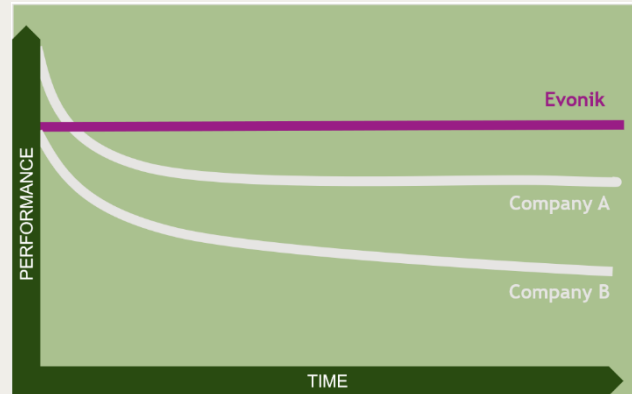
Field testing and monitoring of a 4" SEPURAN® N₂ at 8,500 hours showed extreme stable performance regarding N₂ production and air consumption.

FLOW IN NM³/H AT 7 BARG; 23°C; 8500 HOURS

N ₂ %	Feed t=0	Feed t=8500	N ₂ t=0	N ₂ t=8500
99%	29	29	8	8
98%	33	32	11	11
97%	35	36	14	14
96%	38	40	17	18
95%	42	44	20	21

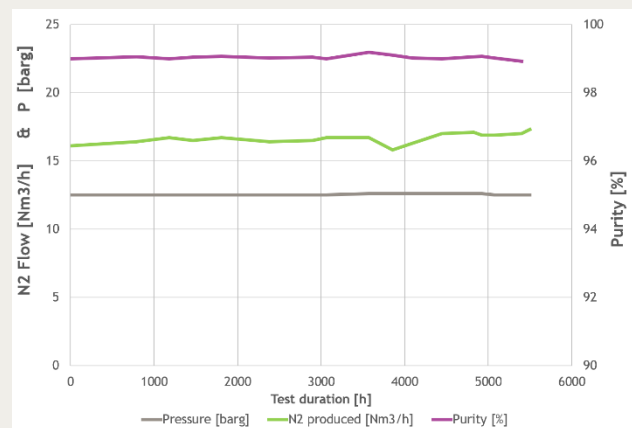
AIR FACTOR AT 7 BARG; 23°C; 8500 HOURS

N ₂ %	t=0	t=8500
99%	3.7	3.7
98%	3.0	2.9
97%	2.6	2.5
96%	2.3	2.2
95%	2.1	2.1



Monitoring showed that within 10,000 hours, Evonik membranes give steady performance and do not age. The consumed air per N₂ produced, the air factor, remains constant. So no drop in performance, high flows in the beginning, or new, medium or end-of-life data needed for your application.

N₂ PRODUCED IN NM³/H AT 12.5 BARG INLET; 99% N₂; 23°C; 5500 HOURS

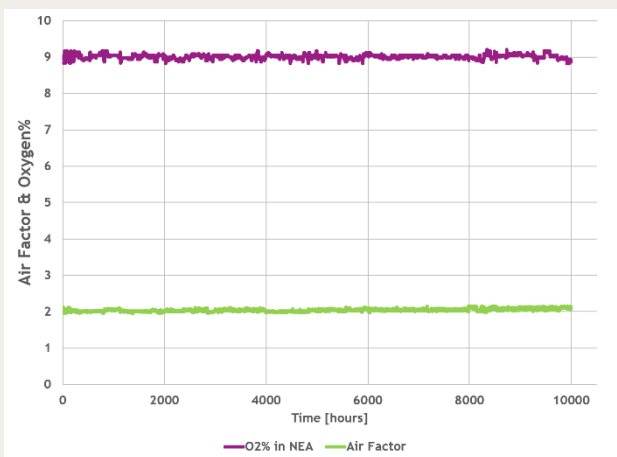


STABLE PERFORMANCE AT HIGH TEMPERATURE

Onsite testing and monitoring of a 4" SEPURAN® N₂ for 10,000 hours at high temperature showed extreme stable performance regarding N₂ production and air consumption.

DATA AT 3 BARG; 60°C; 10,000 HOURS

Long term operational data shows no significant change in flux/productivity or selectivity at 60 °C. The air consumption and N₂ production remains steady.



Time [h]	Air Factor [-]	% O ₂
0	2.1	9.0
2000	2.0	9.0
4000	2.0	8.9
6000	2.1	9.1
8000	2.1	9.0
10000	2.1	8.9



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