

Specification manual

Nitrogen Generators for LCMS

Model

N2-MISTRAL-0



LNI Schmidlin AG

MD Scientific is authorized distributor in Denmark for LNI-Schmidlin
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NOTICE: This manual is intended to provide technical specifications of the LNI Schmidlin AG range of LCMS Nitrogen Generators. If you have any further questions, please contact:

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INTRODUCTION

Product Description

LNI Schmidlin AG nitrogen generators are based on hollow fiber membrane technology, which makes it possible to separate air into nitrogen and a oxygen-enriched air stream. The N2-MISTRAL-0 nitrogen generator enables you to easily produce nitrogen from compressed air.

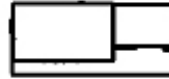
The N2-MISTRAL-0 is designed for LCMS Application to supplying Nitrogen Gas with the purity and pressure required.

The generator will automatically switch on and off depending on the nitrogen demand. The N2-MISTRAL-0 works pneumatically, no power supply is needed. For this mode, a external buffer vessel is recommended

The compressed air can be sourced either from a centralized compressed air source or a dedicated air compressor.

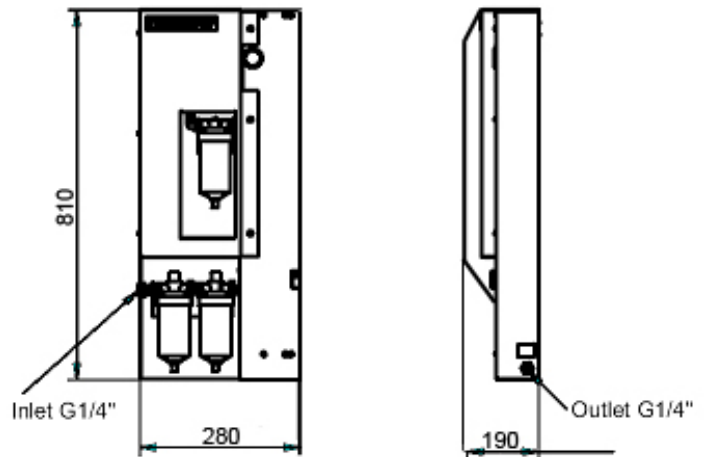
The installation has virtually no moving parts and a high quality compressed air treatment section, resulting in reliable, trouble free operation with virtually no maintenance. The generator is ready to operate as soon as the compressed air from the compressor is connected.

Technical



Nitrogen production capacity
Is 25 liter / min at nominal
conditions*

N2-MISTRAL-0



Nitrogen purity	aprox. 98 %
Nitrogen flowrate	up to 25 Liter/min
Pressure drop	aprox . 0.8 bar (10 psig)
Inlet air pressure	8 bar
Inlet air purity:	ISO 8573.1 Class 1.2.1 Dirt, Water, Oil
Nitrogen outlet pressure	7.2 bar

***nominal conditions:** feed pressure at inlet 8 bar(g) 110 psig, ambient temperature 20°C, ambient pressure 1013 mbar(a).

For calculations of the capacity at feed pressures other than the nominal, see the performance table next page.

Performance table other than standard

Minimum nitrogen production capacity in Nm³/hr*					
Nitrogen purity %	99	98	97	96	95
4 bar (g)	0.39	0.65	0.88	1.11	1.40
5 bar (g)	0.48	0.81	1.10	1.39	1.74
6 bar (g)	0.61	1.05	1.42	1.80	2.19
7 bar (g)	0.72	1.22	1.66	2.10	2.56
8 bar (g)	0.82	1.49	1.90	2.40	2.92
9 bar (g)	0.93	1.61	2.19	2.77	3.39
10 bar (g)	1.02	1.74	2.37	3.00	3.65
11 bar (g)	1.12	1.91	2.62	3.33	4.07
12 bar (g)	1.22	2.09	2.87	3.66	4.48

N2-MISTRAL-0 Standard Factory set

Max. nitrogen capacity = min. capacity + 30%

*at nominal conditions

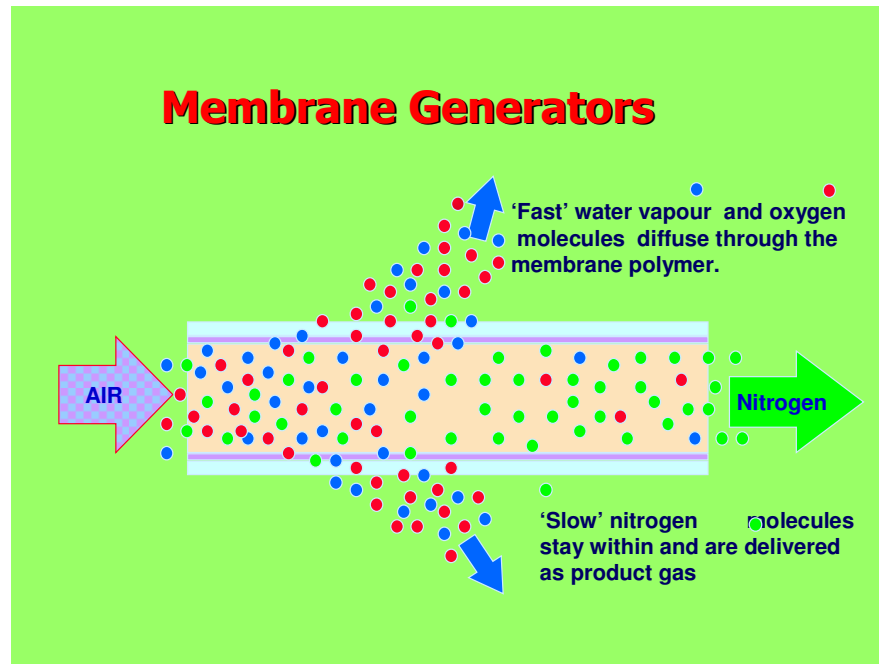
Air requirement

Air consumption in Nm³/hr at min. capacity					
Nitrogen purity %	99	98	97	96	95
4 bar (g)	2.47	2.80	3.09	3.34	3.63
5 bar (g)	3.08	3.50	3.86	4.17	4.53
6 bar (g)	3.81	4.39	4.83	5.21	5.70
7 bar (g)	4.44	5.12	5.64	6.08	6.65
8 bar (g)	5.08	5.96	6.44	6.95	7.60
9 bar (g)	5.86	6.74	7.46	8.04	8.82
10 bar (g)	6.45	7.32	8.06	8.69	9.50
11 bar (g)	7.41	8.42	9.16	9.98	10.60
12 bar (g)	8.05	9.18	10.00	11.00	11.70

Changes of the relevant parameters will effect the purity of the Nitrogen.

Any changes have to be done from instructed service personal from LNI Schmidlin AG or trained personal from our official representatives. Other than that, we can't take any responsibility for the outcome of the Generator.

SPECIFICATIONS



NITROGEN OUTLET PRESSURE

see performance table above

COMPRESSED AIR SPECIFICATIONS

Feed pressure range: 5 bar to 13 bar

Higher inlet pressure results higher Nitrogen flow and pressure (see performance table)

Inlet air purity:

ISO 8573.1 Class 1.2.1 Dirt, Water, Oil

air temperature range: 10 - 40 °C

Pressure dewpoint: < 5 °C

N2 HUMIDITY

Dewpoint suppression: -50 °C

AMBIENT CONDITIONS

10-40 °C

DIMENSIONS AND CONNECTIONS

dimensions HxWxD [mm]: 810 x 290 x 190

net weight [kg]: 22 kg

connections: G $\frac{1}{4}$ "

AIR PRE-TREATMENT SECTION

1 μ and 0.01 μ coalescing filter + carbon filter

NOISE LEVEL

Less than 45 dBA

FEATURES

- **Improved safety**

Nitrogen produced at low pressure and ambient temperature removes the need for high pressure cylinders or liquid dewars.

- **Increased production efficiency**

A constant, uninterrupted gas supply of guaranteed purity eliminates interruptions of the process by change cylinders and reduces the amount of down time.

- **Improved economy**

98% or better of nitrogen gas produced as standard.

- **Simple installation**

The gas generators can be installed very easily. No electricity required

MAINTENANCE

- **Service Kit**

Approx. Every 4000 h of operation (approx 2 times per year) the filters need to be changed. This operation can be performed quite simply by the end user, and is described in detail in the user manual.