

Specification manual

Nitrogen Generators for LCMS

Model

N2-MISTRAL-0-40L



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 Membrane Nitrogen Generators, for LCMS and other applications. 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-0-40L nitrogen generator enables you to easily produce nitrogen from compressed air.

The N2-MISTRAL-0-40L is designed for many different application to supplying Nitrogen Gas with the purity and pressure required (like LCMS and others)

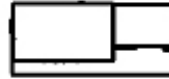
The N2-MISTRAL-0-40L is made for connection to the Nitrogen user directly.

The generator will automatically switch on and off depending on the nitrogen demand. The N2-MISTRAL-0-40L works pneumatically, no electric power supply is needed.

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

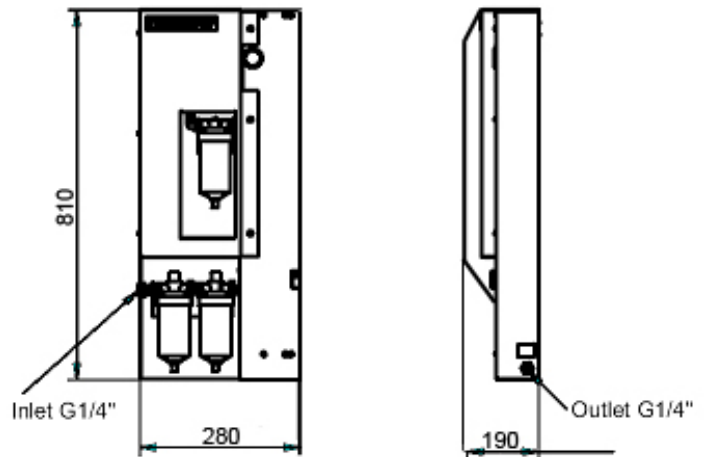
The installation has virtually no moving parts and a high quality compressed air treatment section, resulting in reliable, trouble free operation with virtually no maintenance. The generator is ready to operate as soon as the compressed air from the compressor is connected.

Technical



Nitrogen production capacity
is 40 liter / min at nominal conditions*

N2-MISTRAL-0-40L



Nitrogen purity **better as 98 %**
Nitrogen flowrate **up to 40 Liter/min**
Pressure drop **approx . 1.3 bar (16 psig)**
Inlet air pressure **8,5 bar**
Inlet air purity: **ISO 8573.1 Class 1.2.1 Dirt, Water, Oil**

Nitrogen outlet pressure (standard) 7.5 bar

***nominal conditions:** feed pressure at inlet 8,5 bar(g) 120 psig, ambient temperature 20°C, ambient pressure 1013 mbar(a)

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

Performance table other than standard

Minimum nitrogen production capacity in Nm³/hr*						
Nitrogen purity %	99.50	99.00	98.00	97.00	96.00	95.00
4 bar (g)	0.58	0.87	1.30	1.72	2.12	2.58
5 bar (g)	0.73	1.08	1.63	2.14	2.66	3.22
6 bar (g)	0.92	1.36	2.05	2.58	3.36	4.05
7 bar (g)	1.07	1.59	2.39	3.01	3.92	4.73
8 bar (g)	1.22	1.82	2.74	3.43	4.48	5.41
9 bar (g)	1.35	2.02	3.10	4.08	5.08	6.15
10 bar (g)	1.53	2.27	3.42	4.29	5.60	6.76
11 bar (g)	1.60	2.42	3.69	4.78	6.10	7.40
12 bar (g)	1.67	2.56	3.97	5.28	6.60	8.00

N2-MISTRAL-0-40 Standard Factory set

Max. nitrogen capacity = min. capacity + 10%

*at nominal conditions

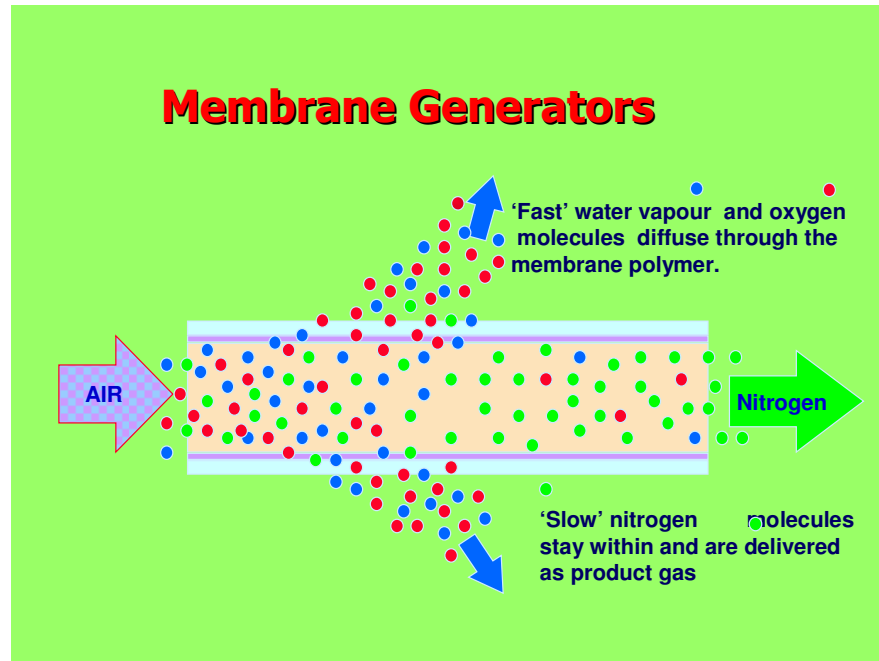
Air consumption

Air consumption in Nm³/hr at minimum capacity						
Nitrogen purity %	99.50	99.00	98.00	97.00	96.00	95.00
4 bar (g)	4.45	4.78	5.35	5.82	6.17	6.71
5 bar (g)	5.57	5.98	6.68	7.28	7.69	8.38
6 bar (g)	6.88	7.35	8.23	8.77	9.77	10.54
7 bar (g)	8.00	8.62	9.62	10.23	11.38	12.31
8 bar (g)	9.15	9.77	10.92	11.69	13.00	14.08
9 bar (g)	10.23	11.15	12.38	13.85	14.69	16.00
10 bar (g)	11.62	12.46	13.69	14.62	16.23	17.62
11 bar (g)	13.31	14.23	15.54	16.31	18.31	19.23
12 bar (g)	13.85	15.08	16.69	18.00	19.77	20.92

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 AG or trained personal from our official representatives. Other then that, we can't take any responsibility for the outcome of the Generator.

SPECIFICATIONS



NITROGEN OUTLET PRESSURE
COMPRESSED AIR SPECIFICATIONS

see performance table above

Feed pressure range: 6 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]: 35 kg

connections: G¹/₄"

AIR PRE-TREATMENT SECTION

1µ and 0.01µ 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 1000 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.