CLAIND

User's Manual

Nitrogen Generator

NiGen HF - NiGen LCMS

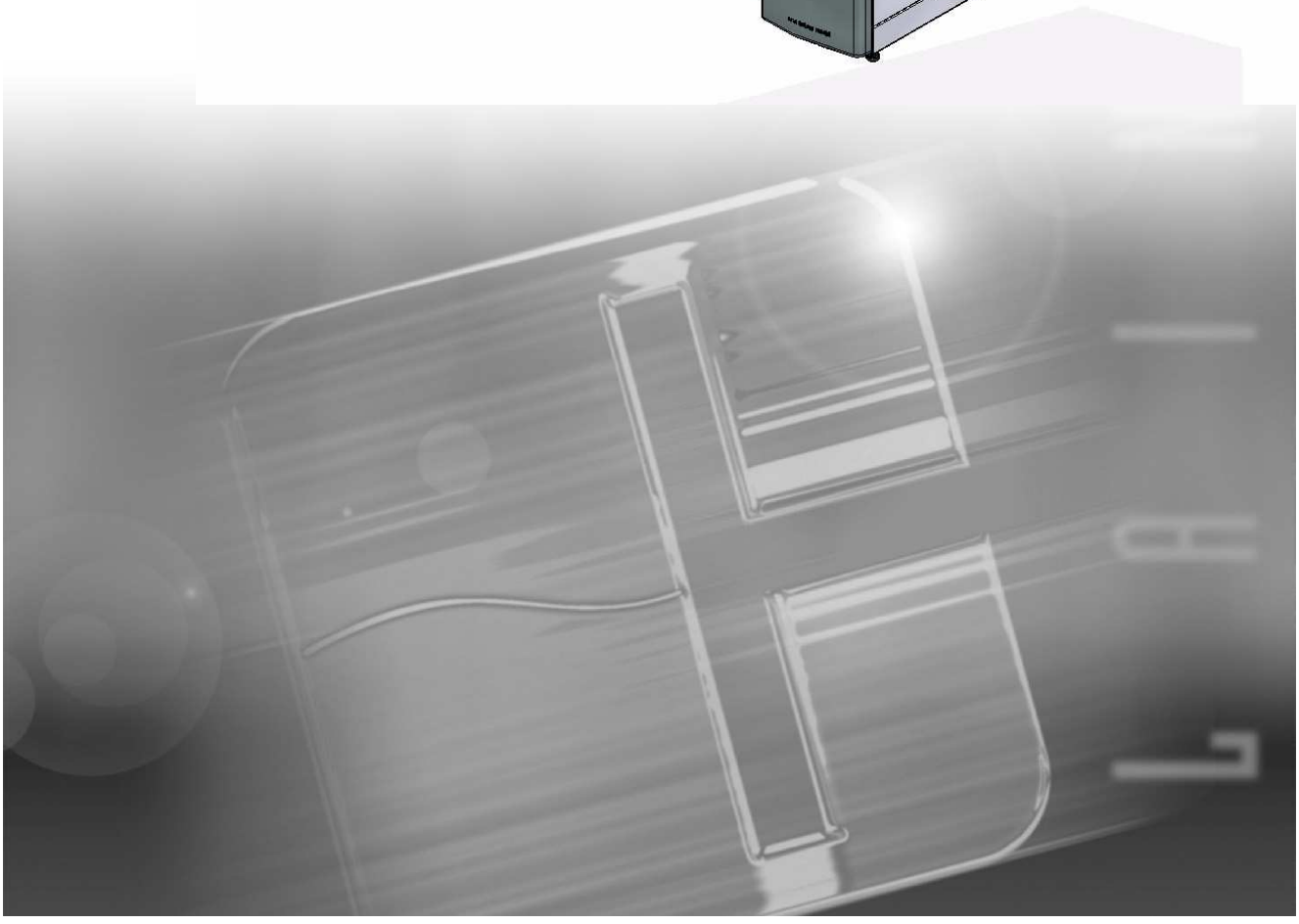


Table of contents

1. Introduction

This document is intended for users of nitrogen generator models NiGen HF and NiGen LCMS, and provides all information regarding installation, use and maintenance.

The generator is intended to be used as a source of nitrogen gas for laboratory applications, including gas chromatography, ICP, LCMS, sample preparation, etc..

The manual covers the following models:

Serial number	Model
422.02.0310	NiGen HF-0
422.02.0440	NiGen HF-1 115 Vac 60Hz
422.02.0450	NiGen HF-1 230 Vac 50Hz
422.02.0460	NiGen HF-1 230 Vac 60Hz
422.02.0710	NiGen LCMS 40-0
422.02.0640	NiGen LCMS 40-1 115 Vac 60Hz
422.02.0650	NiGen LCMS 40-1 230 Vac 50Hz
422.02.0660	NiGen LCMS 40-1 230 Vac 60Hz
422.02.0810	NiGen LCMS 100-0

As regards installation and maintenance, it is assumed that the user is familiar with pneumatic circuit components, and in particular is aware of the safety aspects of compressed air and nitrogen.

The margin of the text contains the following symbols, indicating:

m **compulsory safety standards to be observed**

c **electrical hazard**

e *recommendations and important information*

It is strongly recommended to carefully read all safety warnings (*par. 2.1.*) before carrying out any operation on the generator.

2. Safety

e *The unit must be installed and used in observance of the instructions in this booklet. Furthermore, use of the generator must be limited to that described in* Chapter 1 Introduction*. Failure to observe the foregoing will render the guarantee null and void and release CLAIND from all liability for direct or indirect damage or physical injury.*

e *The user is responsible for asking local authorities if there are local safety regulations that are stricter than what is described in this manual.*

2.1. Warnings

m **Place the generators FAR FROM SOURCES OF HEAT**

m **Place the generators in an environment PROTECTED AGAINST RAIN AND WIND**

c **NEVER OPEN the generator while it is connected to the electrical mains: RISK OF FATAL INJURY BY ELECTROCUTION**

e *Repairs and inspections must be carried out exclusively by* ***QUALIFIED PERSONNEL****: in the event of faults which cannot be resolved according to the procedures listed in the TROUBLESHOOTING chapter, contact exclusively our authorized Technical Assistance.*

e *If the generator is not to be used for a prolonged period of time, it must be depressurised (par. 7.6. and par. 7.7.).*

2.2. Notes on the use of nitrogen

Nitrogen is not a toxic gas, but when the percentage in the air exceeds specific values there is a risk of asphyxia.
Therefore NEVER DIRECTLY INHALE the gas produced and avoid working in the vicinity of a flow of nitrogen.
However, given the low quantities produced, it is sufficient that the flow of nitrogen occurs in a normally ventilated environment to avoid the risk of accumulation *(par 4.2.1.).*

2.3. Safety devices

MAXIMUM PRESSURE: the control system constantly monitors the pressure. In case of anomalous pressure, a safety valve (which operates independently of the control system) prevents it exceeding 10.5 bar (152 psi).

2.4. Technical assistance

The CLAIND technical assistance can be contacted as follows:
Phone ++39 0344 56603
Fax ++39 0344 56627
Email: service@claind.it
Website: filling the form on the website www.claind.it at the "Service" section

3. Description of the generator

3.1. Equipment supplied

Unless otherwise agreed, the forniture includes:

- n°1 nitrogen generator;
- n°1 CD user's manual;
- n°1 applicable declarations of conformity of tank and safety valve;
- n°1 cable for the electrical mains;
- n°1 fitting for plastic tube external diameter 4mm;
- n°1 fitting for plastic tube external diameter 6mm;
- n°1 fitting for plastic tube external diameter 10mm;
- 2 mt of plastic tube external diameter 4mm;

only for generator NiGen HF the forniture includes:

- n°1 brass fitting for copper tube external diameter1/4".

3.2. Technical specifications

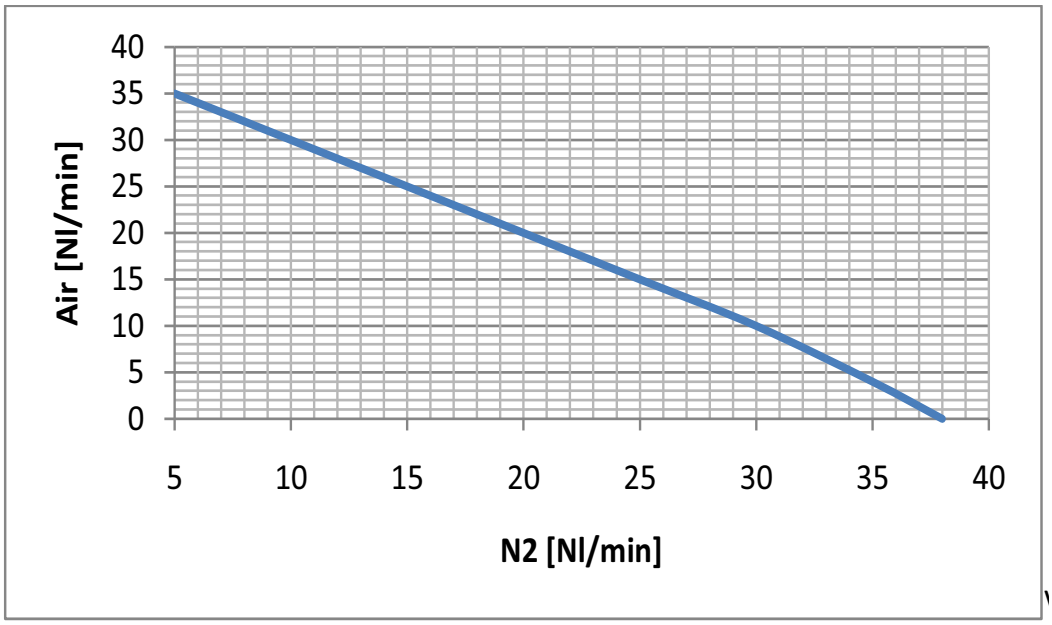
3.2.1. Nitrogen

Max flow rate (*)		
NiGen HF-0	6 Nl/min	6 slpm
NiGen HF-1	6 Nl/min	6 slpm
NiGen LCMS 40-0	40 Nl/min	40 slpm
NiGen LCMS 40-1	40 Nl/min	40 slpm
NiGen LCMS 100	100 Nl/min	100 slpm
Pressure	settable from 0 to 7 bar	settable from 0 to 100 psi
Purity (**)		
NiGen HF	up to 99.9995 %	
NiGen LCMS	up to 99.9 %	

(*) the flow rate is given at 20°C and 1 atm
(**) purity referred to residual oxygen

3.2.2. Compressed air supply table

NiGen LCMS 40-1 and HF-1 produce nitrogen and compressed air.
This table shows on X axes the nitrogen product, and on Y axes the compressed air available only for the model LCMS 40-1.



For the HF-1 the maximum flow of outlet compressed air is 14 Nl/min.

3.2.3. Compressed air supply, specifications

not applicable to NiGen HF-1 and NiGen LCMS 40-1

Pressure		
minimum	8.5 bar	120 psi
maximum	10 bar	145 psi
Flow rate		
NiGen HF-0	36 Nl/min	36 slpm
NiGen LCMS 40-0	100 Nl/min	100 slpm
NiGen LCMS 100	250 Nl/min	250 slpm
Particulates: maximum concentration of particles of diameter less than 0.1 µm (***)	less than 0.1 mg/m³	
Oil concentration	less than 0.01 mg/m³	
Humidity	dewpoint under pressure less than 3°C	

(***) for further details on the air quality, see the specifications for Class 1-4-1, ISO 8573-1

3.2.4. Electrical requirements

NiGen HF-0, NiGen LCMS 40-0, NiGen LCMS 100	115-230 Vac (±10%), 1 ph, 50/60Hz; 50 W
NiGen HF-1, NiGen LCMS 40-1	depending on model: 115 Vac (±10%); 1ph; 60Hz; 1.9 kVA or 230 Vac (±10%); 1 ph; 50Hz; 1.6 kVA or 230 Vac (±10%); 1 ph; 60Hz; 1.9 kVA

3.2.5. Pneumatic connections

Nitrogen outlet	G 1/4" female
Air outlet *not applicable to* NiGen HF-0, NiGen LCMS 40-0 and NiGen LCMS 100	G 1/4" female
Drain *not applicable to* NiGen HF-0, NiGen LCMS 40-0 and NiGen LCMS 100	G 1/8" female
Compressed air supply *not applicable to* NiGen HF-1 and NiGen LCMS 40-1	G 1/4" female

3.2.6. Electrical connections

Power supply socket	IEC320-20

3.2.7. Dimensions

Width	44 cm	17.3″
Depth	110 cm	43.3″
Height	130 cm	51.1″
Weight NiGen HF-0 and NiGen LCMS 40-0	190 kg	420 lbs
Weight NiGen HF-1, NiGen LCMS 40-1	220 kg	485 lbs
Weight NiGen LCMS 100	200 kg	440 lbs

3.3. Generator components

3.3.1. Front view

A. CPU: generator control unit; it is the user interface by way of the touch screen;
B. FRONT PANEL, removable for maintenance operations
C. FULL TURN WHEELS

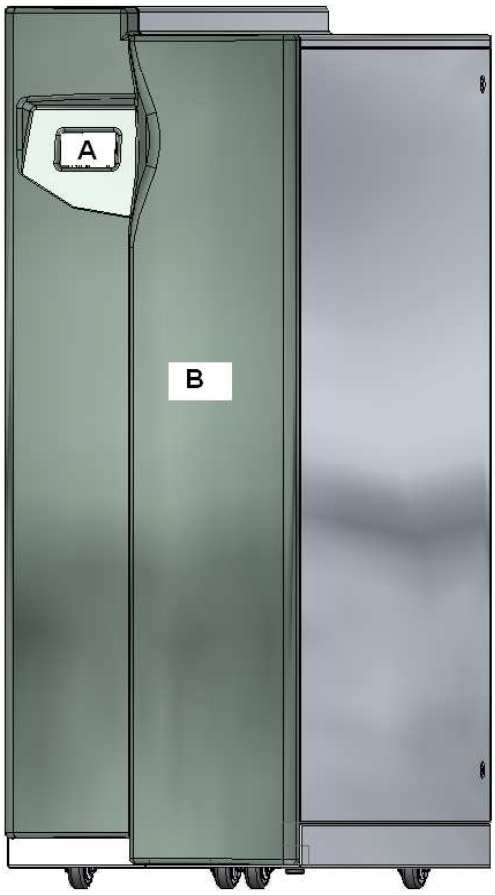


FIGURE 3.3.1: Front view

3.3.2. Rear view

D. NITROGEN OUTLET: pneumatic connection for the generator's nitrogen delivery

E. AIR INLET: pneumatic connection for compressed air line inlet. *Not used for NiGen HF-1 and NiGen LCMS 40-1*

F. DRAIN: pneumatic connection for the condensation drain line. *Not used for NiGen HF-0, NiGen LCMS 40-0 and NiGen LCMS 100*

G. AIR OUTLET: pneumatic connection for an optional line for compressed air produced by the compressor. *Not used for NiGen HF-0, NiGen LCMS 40-0 and NiGen LCMS 100*

H. CONNECTOR for electric power supply cable

I. "POWER" KEY: ON-OFF SWITCH

J. IDENTIFICATION LABEL: states the model, serial number (SN) and electrical specifications

K. VENTILATION GRILLE

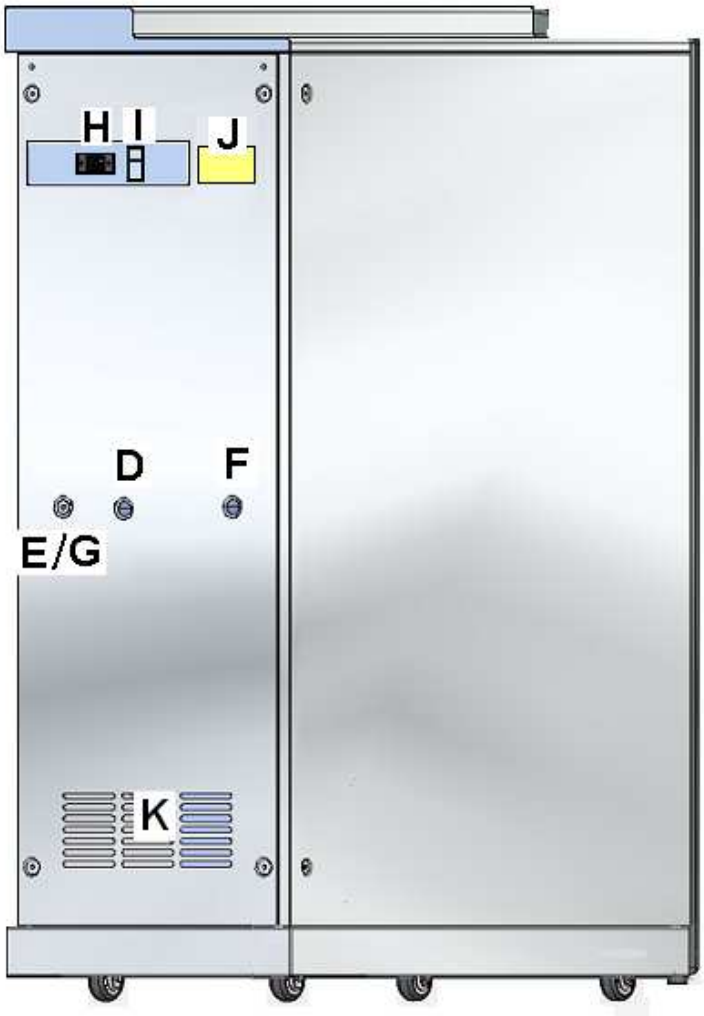


FIGURE 3.3.2. Rear view

4. Installation area requirements

4.1. Environmental requirements

Installation site	enclosed, indoors	
Relative humidity	up to 80%, no condensation	
Use temperature	from 5°C to 35°C	from 40°F to 95°F
Protection rating	IP20	

m **Place the generators FAR FROM SOURCES OF HEAT, PROTECTED AGAINST RAIN AND WIND, and SHOULD NOT BE EXPOSED TO THE SUN.**

e *Failure to observe the precautions preclude the guarantee.*

4.2. Environmental ventilation

The environment where the generator is installed must be good ventilated to prevent the risk of asphyxia and decreased the performance of the generator.

4.2.1. Oxygen content in the ambient

m **If the generator and the point-of-use are located in different rooms, the following minimum ventilation air flow must be provided to maintain acceptable oxygen content in the ambient. Don't seal the rooms.**

4.2.2. Temperature

e *This paragraph is able only for these models: NiGen LCMS 40-1 and NiGen HF-1*

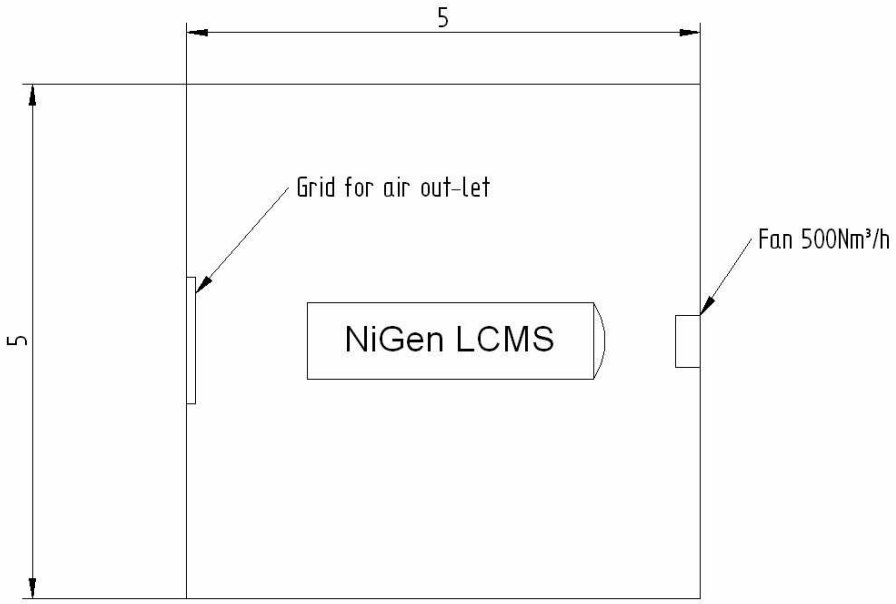
m **Claind raccomanded to not go over the maximum environment temperature of 30°C for guarantee correct operations of the generator. If this value is exceeded, in relation to the use of the generator, could appare the warning of maximum temperature of the compressor (E03) *(par.9.4.).***

Are requires two openings of at least 0,5m^2 to create a flow of air suffucient to ensure air exchange.

It is also recommended to avoid danger of asphyxia.

If the generator is located in a closed room, to prevent the risk of excessive temperature increase of air, we recomend the following minimum ventilations:

Model	Minimum ventilation of the room
NiGen LCMS 40-1	500 Nm^3/h 18500 SCFH
NiGen HF-1	500 Nm^3/h 18500 SCFH



The maximum difference between the environmental temperature and the room temperature with the generator must be 5°C.
if in the room there aren't windows ensure that there is an pening for the outlet of the air of larger cross-section of the fan.

5. Installation

5.1. Generator positioning

5.1.1. Handling

- *The generator must always remain in a vertical position as it is not designed to be laid on its side.*

Once unpacked, the generator can be moved on its wheels.

5.1.2. Packaging removal

- **Two people are required for this operation**
  The generator is delivered packed in a crate. Use the rear wall of the crate as an unloading ramp
- *If possible, store the packaging to ensure adequate protection when moved in the future.*

5.1.3. Positioning

When choosing the installation area for the generator, take into account minimum clearances required for use and maintenance: ideally a free space should be left of at least 50 cm from the front and rear panels. The clearance at the rear of the generator, as well as for maintenance, is required to ensure efficient cooling of the compressor.

- *The generator is also equipped with four adjustable stationary feet*

5.2. Pneumatic connections

5.2.1. Nitrogen outlet

m **The distribution line must be made of pipe rated for a pressure of at least 10.5 bar (152 psi).**
The pipe diameter must be sized on the basis of the acceptable pressure drop values of the utility. Pipelines with an internal diameter of at least 8mm are recommended (e.g. polyamide pipe 10x8 mm).

e *To ensure nominal purity of the delivered nitrogen is maintained (minimize contamination from oil residue, dust, scaling and humidity), it is recommended to use clean and/or treated pipelines for final gas distribution.*

CONNECTION

- Locate the nitrogen coupling, marked "NITROGEN OUTLET" at the rear of the generator.
- Connect the line.

5.2.2. Air outlet

Not applicable to NiGen HF-0, NiGen LCMS 40-0 and NiGen LCMS 100

m **The distribution line must be made of pipe rated for a pressure of at least 10.5 bar (152 psi).**

CONNECTION

- Locate the compressed air coupling, marked "AIR OUTLET" at the rear of the generator.
- Connect the line.

e *The outlet air pressure is adjustable from 0 to 8 bar*

e *The available outlet air flow depends on the nitrogen consumption. Please refer to the following tables*

LCMS 40-1

Nitrogen outlet flow [Nl/min]	Max available air outlet flow [Nl/min]
0 - stand-by	75
10	30
20	20
30	10
40	0

HF1

Nitrogen outlet flow [Nl/min]	Max available air outlet flow [Nl/min]
0 - stand-by	75
Production	14

5.2.3. Air inlet

not applicable to NiGen HF-1 and NiGen LCMS 40-1

CONNECTION

- Locate the compressed air coupling, marked "AIR INLET" at the rear of the generator.
- Connect the line.

The compressed air supply to the generator may not exceed 10.5 bar (152 psi).

5.3. Drain

Not applicable to NiGen HF-0, NiGen LCMS 40-0 and NiGen LCMS 100

CONNECTION

- Locate the "DRAIN" outlet at the rear of the generator.
- Connect the condensation drain pipe (e.g., dia. 4 mm polyamide hose).
- Route the other end of the pipe into the condensate collection container.

m **The condensation is expelled by bursts of compressed air. If using a flexible hose, make sure it is properly secured.**

5.4. Electric power supply

C **For reasons of safety, the following instructions must be strictly observed.**
The electrical installation must comply with current standards, in particular regarding the protection line/ground wire.

C **Recommendations for correct installation:**

- do not use extension leads, adaptors or multiple sockets;
- always connect the protection/ground wire;
- the mains socket and switch must be located in an easily accessible position.
- if the provided power cable does not match the local plug configuration, the proper power cable with the appropriate configuration must be obtained prior to attempting to apply power to the unit.

CONNECTION

- Locate power cable connector at the rear of the generator.
- Before connecting the cable, ensure that the POWER switch is set to OFF.
- Connect the power cable supplied with the generator.

5.5. Warnings

- *If a failure in gas supply (due to a power failure, activation of an electrical safety device, or generator fault), even temporary, is not admissible, a pneumatic panel should be envisaged, to enable provisional activation of a reserve gas source (totally or partially automatic).*

5.6. Packaging disposal

It is recommended to store the original packaging to ensure adequate protection for the purifier when moved in the future.

6. Disassembly and transport

6.1. Disassembly

- Stop the generator *(par 7.6.);*
- wait for depressurization (about a minute);
- switch off the generator *(par. 7.7.);*
- disconnect the electric power cable;
- *only for NiGen HF-1 and NiGen LCMS 40-1*, depressurize the air tank, removing the air outlet plug *(par. 3.3.2.)* and acting on the air outlet pressure regulator as described at *par. 7.9.2.* Plug again the air outlet;
- carefully detach the pneumatic connections.

6.2. Transport

Remember that during transport the generator must always remain in a vertical position.

If conserved, use the original packaging; otherwise use a pallet of adequate dimensions to hold the generator, affixing instructions in visible locations, such as: THIS WAY UP, KEEP IN VERTICAL POSITION.

7. Use

7.1. Operator interface

TOUCH SCREEN

The CPU screen enables the user to interact with the generator, i.e. give specific commands or display and set parameters.
The table shows the function of the various keys on the screen:

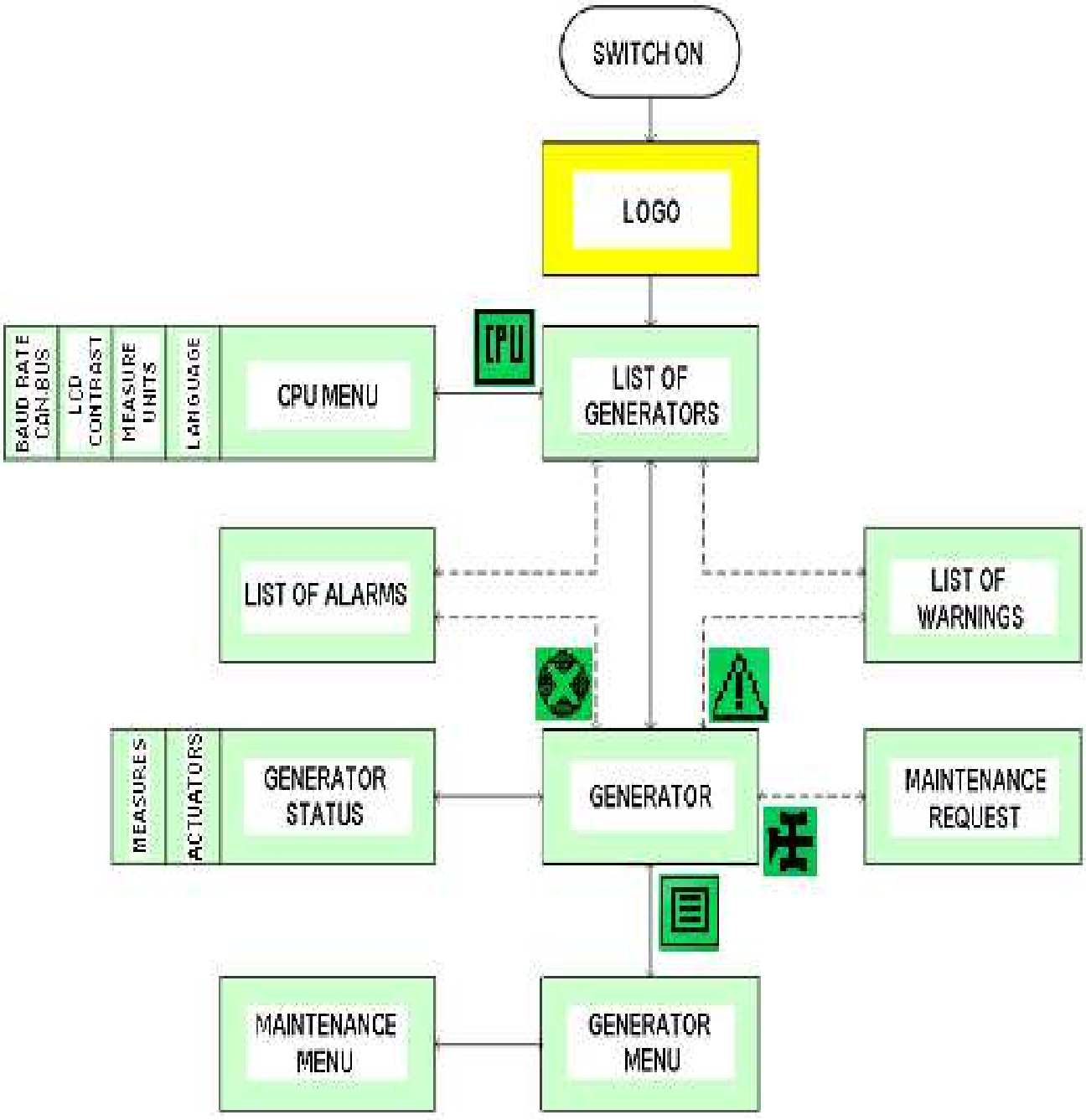
Key		Function
	CPU	access to CPU menu
	PREVIOUS	go to previous page
	NEXT	go to following page
	ALARM	access to list of alarms
	WARNING	access to list of warnings
	RESET	reset of alarms and warnings
	MAINTENANCE	go to maintenance request description
	MENU	access to different menus
	ESC	exit from menu

Key		Function
	START	start the production of gas
	STOP	stop the production of gas
	INCREASE	increase the value
	DECREASE	decrease the value
	ADD	add one digit
	DELETE	delete last digit
	OK	confirms modified value

e *do not press on the touch screen with sharp objects*

7.2. Menus

The following chart shows the accessible menus for the operator:



7.3. Initial start-up

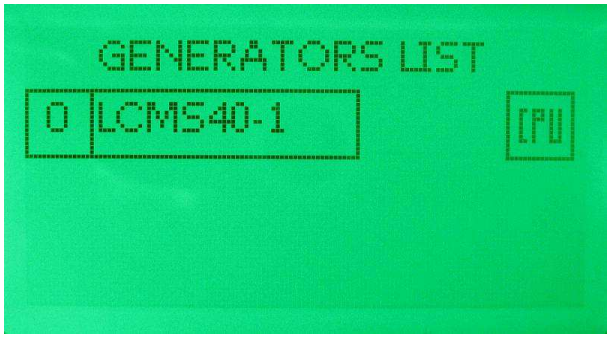
1. Check that all connections are made as specified in *par.4.;*
2. close the nitrogen line downline of the generator;
3. switch on the generator, by setting the POWER switch to ON *(par. 7.4.);*
4. start nitrogen production by pressing the START key *(par. 7.5.);*
5. wait approximately 15 minutes, until the generator reaches the Stand-By status. In this state, the generator suspends normal production, showing the following page:

6. from this point the nitrogen is available for the line, by opening the valve closed in point 2.

e *WARNING: On initial start-up, the internal nitrogen storage tank will initially contain air. For this reason, the line should be vented with the gas (for approx. 60 minutes) before employing the nitrogen for the application utility.*

7.4. Generator start-up

To switch on the generator, put the start button on the rear of the generator in position **I**: the CPU screen lights up.
After the LOGO page is shortly displayed, the GENERATORS LIST page appears

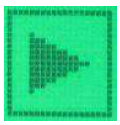


Press on the displayed generator.

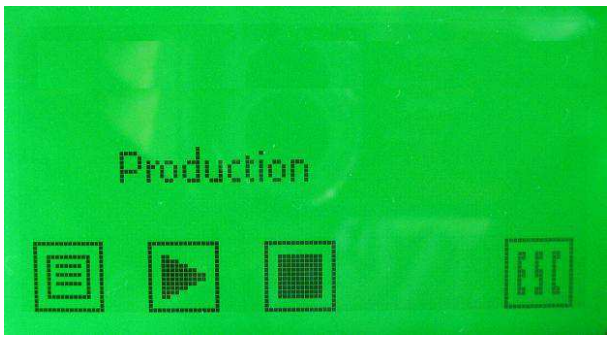
The READY TO START page appears

7.5. Nitrogen production

To start production, press the operation key START

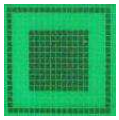


The following page appears

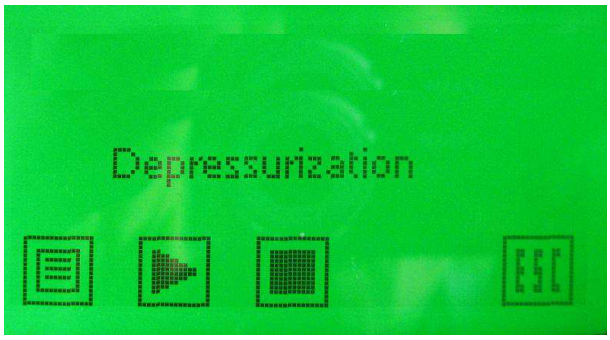


7.6. Stop the generator

At any time during production the generator can be stopped by pressing the key STOP.



The generator depressurizes the molecular sieves columns, showing the following page:



When the depressurization is completed (it lasts approximately one minute), the display shows the following page:

7.7. Generator shutdown

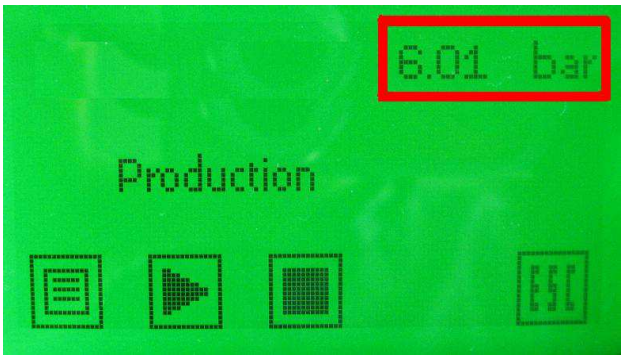
After stopping the generator *(par. 7.6.)*, wait for the system to complete depressurization (approximately 1 minute), then put the main swotch on the rear of the generator in position **0**.

e *Avoid turning off the generator directly, without first stopping the production as described in par. 7.5.*

7.8. Parameter display

7.8.1. Outlet pressure display

The pressure in the outlet line is visible on the main page



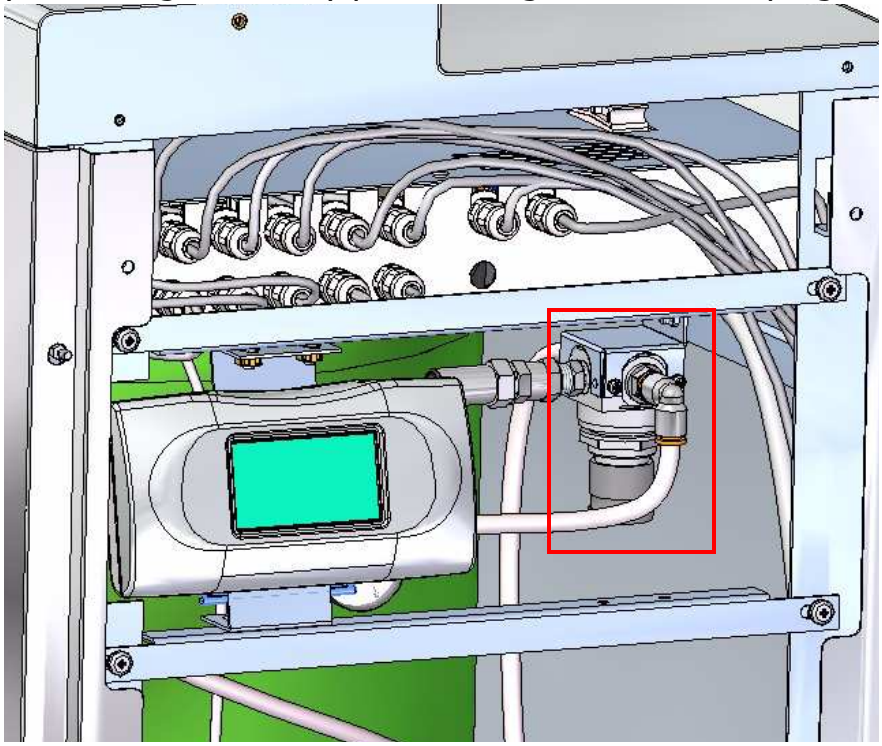
7.9. Parameter settings

e *Modifying the parameters affects plant operation. Make sure you are fully aware of the effects of any changes before modifying the parameters*

7.9.1. Adjusting the nitrogen delivery pressure

e *the pressure can be adjusted from 0 to 7 bar (from 0 to 100 psi)*

- remove the front panel
- identify the nitrogen delivery pressure regulator at the top right



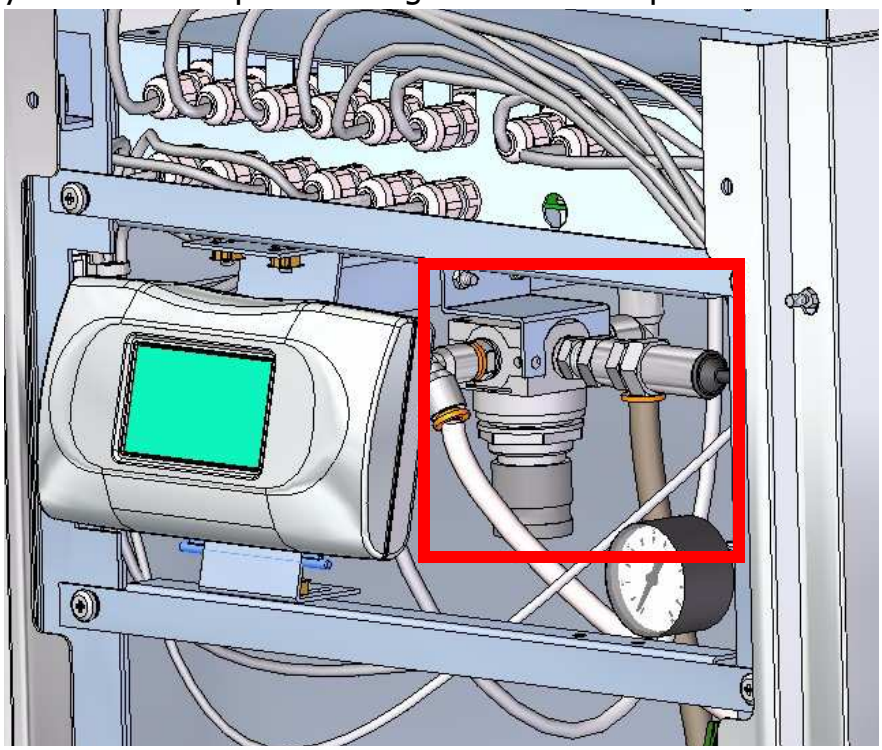
- pull down the pressure regulator knob to release it
  set the pressure by turning the knob clockwise to increase, counterclockwise to decrease it. To visualize the outlet pressure, *par. 7.8*..

7.9.2. Adjusting the air outlet pressure

Only for NiGen HF-1 and NiGen LCMS 40-1

e *the pressure can be adjusted from 0 to 8 bar (from 0 to 116 psi)*

- remove the front panel
- identify the air outlet pressure regulator at the top left



- pull down the pressure regulator knob to release it
  set the pressure by turning the knob clockwise to increase, counterclockwise to decrease it.

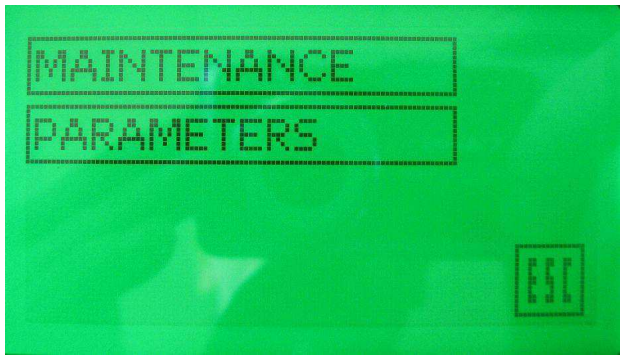
8. Maintenance

The maintenance operations required on the generator are listed at *par. 8.3.*

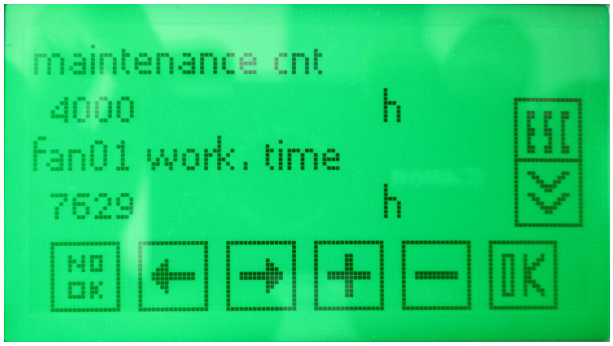
8.1. Maintenance counters display

Press the MENU key

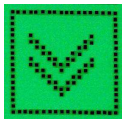
then press MAINTENANCE:



the following page is displayed:



scroll down the pages using the NEXT key:



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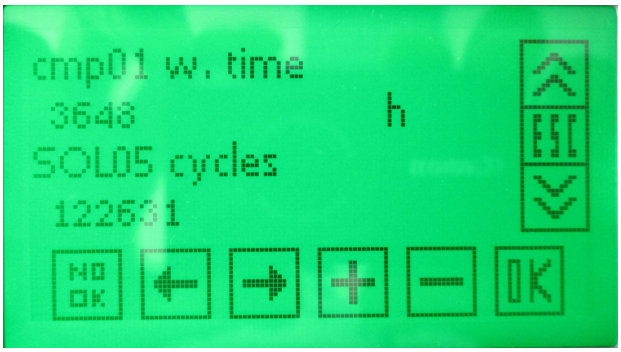


To exit this menu, press the ESC key:

- *When CNT of CMP01 reaches the setting hours of MAINTENANCE CNT, a WARNING will be displayed to recommend the related maintenance intervention.*

8.2. Maintenance kit

The following kit for the maintenance of the generator are available. They have to be substituted after the following time intervals. Kits are different dipending on the model:

8.2.1. NiGen HF-1 and NiGen LCMS 40-1

Type and quantity service kit selection					
Part number	Description	Maintenance interval			
		0-4000 h	0-8000 h	0-12000 h	0-16000 h
422.93.0025	Maintenance kit 2000-4000 h	1	1	1	1
422.93.0026	Maintenance kit 6000-8000 h		1	1	1
422.93.0027	Maintenance kit 10000-12000 h			1	1
422.93.0028	Maintenance kit 14000-16000 h				1

8.2.2. NiGen HF-0, NiGen LCMS 40-0

Type and quantity service kit selection			
Part number	Description	Maintenance interval	
		0-8000 h	0-16000 h
422.93.0007	Maintenance kit 8000 h	1	1
422.93.0024	Maintenance kit 16000 h		1

8.2.3. NiGen LCMS 100

Type and quantity service kit selection			
Part number	Description	Maintenance interval	
		0-8000 h	0-16000 h
422.93.0011	Maintenance kit 8000 h	1	1
422.93.0023	Maintenance kit 16000 h		1

8.3. Maintenance schedule

- *If a correct maintenance schedule is not followed, the performance of the generator may no longer be ensured and it may lead to permanent damage to the generator. The following table specifies the frequency of the recommended maintenance* operations, express in "working hours" of the compressor.
- *Lack of maintenance will void the warranty.*
- **maintenance operations must be performed by authorized personnel**

8.3.1. NiGen HF-1 and NiGen LCMS 40-1

Components use versus maintenance plan					
Component part number	Description	2000 h	4000 h	6000	8000
R0539021	Intake air filter cartridge	1	1	1	1
R0539022	Intake air filter cap	1	1	1	1
R062999001	Silicone disk NRV 16X6mm		1		1
R0539023	Motor capacitor				1
R063399	Filter cartridge Syntesi 5 micron	1	1	1	1
R063400	Filter cartridge Syntesi 20 micron	1	1	1	1
R0539024	Dumping feet kit (3 pieces)		1		1
R061084	CMS silencer 3/8				1
R700.M4.7060	Compressed air cooler				1
R0539025	Maintenance compressor kit				
R0539027	Maintenance compressor kit				
Maintenance kit to be used -->		422.93.0025		422.93.0026	

Components use versus maintenance plan					
Component part number	Description	10000 h	12000 h	14000	16000
R0539021	Intake air filter cartridge	1	1	1	1
R0539022	Intake air filter cap	1	1	1	1
R062999001	Silicone disk NRV 16X6mm		1		1
R0539023	Motor capacitor				1
R063399	Filter cartridge Syntesi 5 micron	1	1	1	1
R063400	Filter cartridge Syntesi 20 micron	1	1	1	1
R0539024	Dumping feet kit (3 pieces)		1		1
R061084	CMS silencer 3/8”				1
R700.M4.7060	Compressed air cooler				1
R0539025	Maintenance compressor kit			1	
R0539027	Maintenance compressor kit			1	
Maintenance kit to be used -->		422.93.0027		422.93.0028	

8.3.2. NiGen HF-0, NiGen LCMS 40-0

Components use versus maintenance plan			
Component part number	Description	8000 h	16000
R061084	CMS silencer 3/8”	1	1
Maintenance kit to be used -->		422.93.0007	422.93.0024

8.3.3. NiGen LCMS 100

Components use versus maintenance plan			
Component part number	Description	8000 h	16000
R061080	CMS silencer 3/4”	1	1
Maintenance kit to be used -->		422.93.0011	423.93.0023

9. Troubleshooting

9.1. Alarms

The generator informs about a malfunction or the necessity of intervention in two different ways: warning or error .

WARNING
It indicates a condition that may require the intervention of the operator, but gas production is not shut down.
In WARNING status:

- an acoustic signal is emitted;
- the following page is displayed

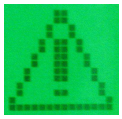
ERROR
It indicates a condition that prevents continuation of gas generation. The generator shuts down production and depressurizes the generation module.
In ERROR status:

- an acoustic signal is emitted;
- the following page is displayed

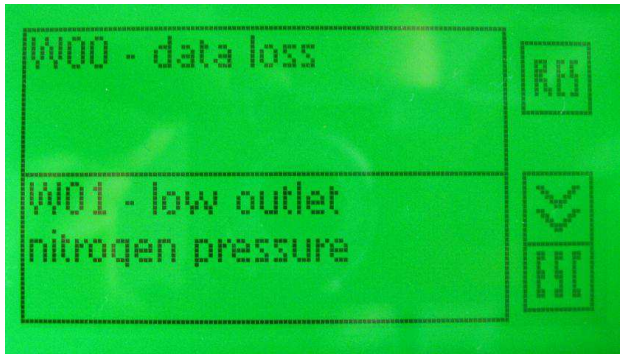
9.2. Reset and identification of an alarm

To shut off the acoustic signal, press the alarm page (WARNING yellow page or ERROR red page)

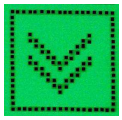
WARNING
To visualize a warning message, press on the WARNING symbol



the following page will appear

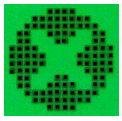


Active warnings are those highlighted; to find the activated warning, scroll down the pages using the NEXT key

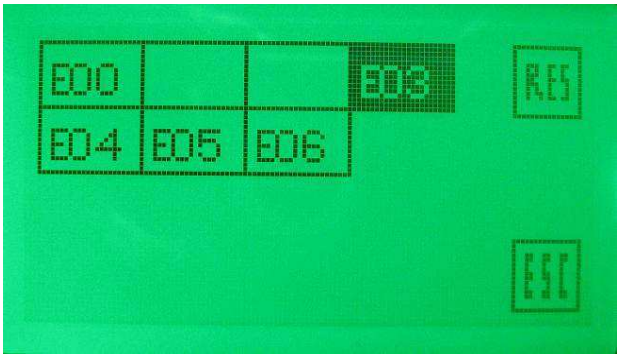


once the warning is identified, follow the instructions in the following paragraph.

ERROR
To visualize an error message, press on the ERROR symbol



the following page will appear



Active errors are those highlighted; once the error is identified, follow the instructions in the following paragraph.

To reset the alarm, press the RESET key

9.3. List of warnings

warning identification	cause	resolution
W-00 : data loss	the memory has lost the set up values of the parameters and has restored the default values	contact service in order to set the correct values of the parameters
W-01 : low nitrogenoutlet pressure	outlet nitrogen pressure below threshold	reduce outlet nitrogen flow
W-02 : maintenance required	maintenance counter has decreased to zero	check maintanance schedule; perform the requested maintenance operation; reset related maintenance counter
W-03 : low air outlet pressure	outlet air pressure below threshold *(only for NiGen LCMS 40-1 or NiGen HF-1)*	reduce outlet air flow

9.4. List of errors

error identification	cause	resolution
E-00 type error	generator not identified	assign a number to the generator (*see Stack user's manual*)
E-01 low inlet pressure	inlet air pressure below minimum operative value *(only for: NiGen LCMS 40-0; NiGen LCMS 100; NiGen HF-0)*	increase inlet air pressure
E-02 high inlet pressure	inlet air pressure above maximum acceptable value *(only for: NiGen LCMS 40-0; NiGen LCMS 100; NiGen HF-0)*	decrease inlet air pressure
E-03 compressor temperature high	compressor box temperature above threshold *(only for: NiGen LCMS 40-1; NiGen HF-1)*	contact service
E-04 air tank pressure high	air tank pressure above maximum threshold *(only for: NiGen LCMS 40-1; NiGen HF-1)*	contact service
E-05 air tank pressure low	air tank pressure below minimum threshold *(only for: NiGen LCMS 40-1; NiGen HF-1)*	contact service
E-06 on chip error	control board can not read data	contact service

10. Guarantee

The conditions of guarantee are as follows:
For duration of the guarantee period , see Claind's General Sales Conditions.
The guarantee includes the cost of materials and labour.
The guarantee is EX WORKS CLAIND and therefore does not include any callout costs for technicians to visit the client's premises.
The guarantee covers exclusively COSTS DERIVING FROM MANUFACTURING DEFECTS and does not include:

1. Use of non original consumable or spare sparts;
2. Damage caused by negligence or improper use of the equipment;
3. Damage caused by inadequate electric power supply;
4. Damage caused by natural catastrophes (e.g. fire);
5. Damage caused by transport;

The guarantee is rendered null and void in the event of intervention by unauthorised personnel on the equipment.

11. Declaration of conformity

MO10MCC Emiss. 26/10/2012

CE

DICHIARAZIONE DI CONFORMITA'
(DECLARATION OF CONFORMITY)

I

Con la presente dichiariamo, sotto la nostra esclusiva responsabilità, che l'apparecchiatura tipo:
(By this letter we declare, under our responsibility, that the following apparatus:)

CODICE (Part number)	VERSIONE (Version)	DESCRIZIONE (Descritpion)
422.02.0640	3	NiGen LCMS 40-1 115 VAC 60Hz
422.02.0650	3	NiGen LCMS 40-1 230VAC 50Hz
422.02.0660	3	NiGen LCMS 40-1 230VAC 60Hz
422.02.0710	3	NiGen LCMS 40-0
422.02.0810	3	NiGen LCMS 100-0
422.02.0440	3	NiGen HF-1 115 VAC 60Hz
422.02.0450	3	NiGen HF-1 230 VAC 50Hz
422.02.0460	3	NiGen HF-1 230 VAC 60Hz
422.02.0310	3	NiGen HF-0

alla quale questa dichiarazione si riferisce, è conforme con quanto stabilito dalle seguenti disposizioni, in particolare:
(to which this declaration regards, is fully in conformity with the following rules:)

2014/30 UE	Direttiva compatibilità elettromagnetica (Electromagnetic compatibility directive)
2014/35 UE	Direttiva bassa tensione (Low voltage directive)
2014/68 UE	Attrezzatura in pressione (Pressure equipment)

Tremezzina, 25/01/2017

Firma del legale rappresentante
(Signature of legal representative)

Giovanni Cogotzi

CLAIND
generatori di gas

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12. Notes

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