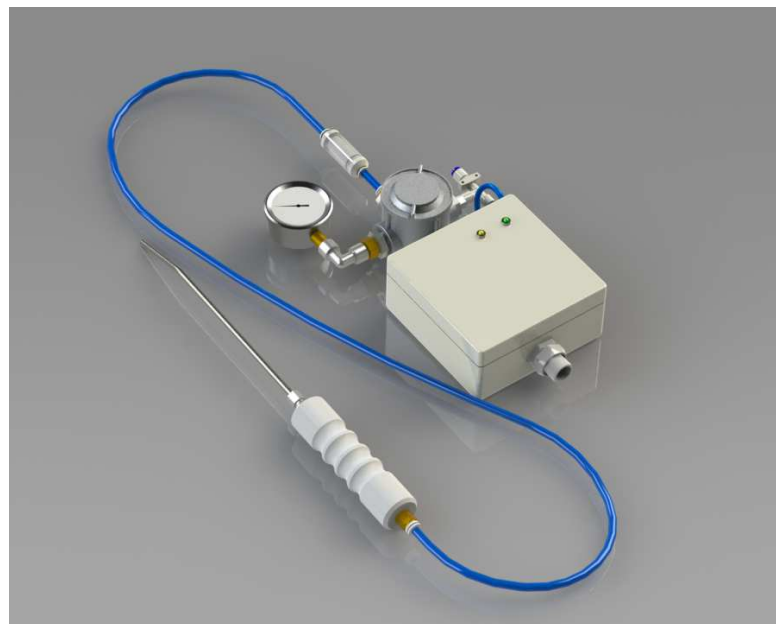


Technical data sheet

Nasagas – Gas leak detector

Nasagas is a gas leak detector designed by Microplan S.r.l. to allow the detection of gas leaks without using an open flame.

The logo for microplan, featuring a stylized red 'M' followed by the word 'microplan' in a bold, black, sans-serif font. Below the name, the tagline 'advanced control technologies' is written in a smaller, lighter font.

Microplan S.r.l.
Via Andrea Doria 2
37066 Sommacampagna (VR) - Italy

Chapter 1: General Instructions

The user manual must be read before using the *Nasagas* and has to be considered part of it and kept for its whole lifetime.

The user manual refers to the system at the moment of its commercialization and can't be considered inadequate because of successive updates.

The manufacturer reserves the right to update the products and the manuals without obligation to update the previous versions.

The manufacturer is not responsible in case of:

- Improper use of the *Nasagas*.
- Use that is contrary to the specific National legislation.
- Faulty power supply.
- Unauthorized changes and interventions.
- Non-original replacement parts.
- Inobservance of the instructions.

Chapter 2: Receipt of goods

In case of damage of the good due to the transport, the receiver has to accept with reserve the goods and send within 24 hours an e-mail to Microplan S.r.l. describing the damage and including the necessary pictures. After this timing, every following dispute will not be accepted.

Chapter 3: installation and requirements

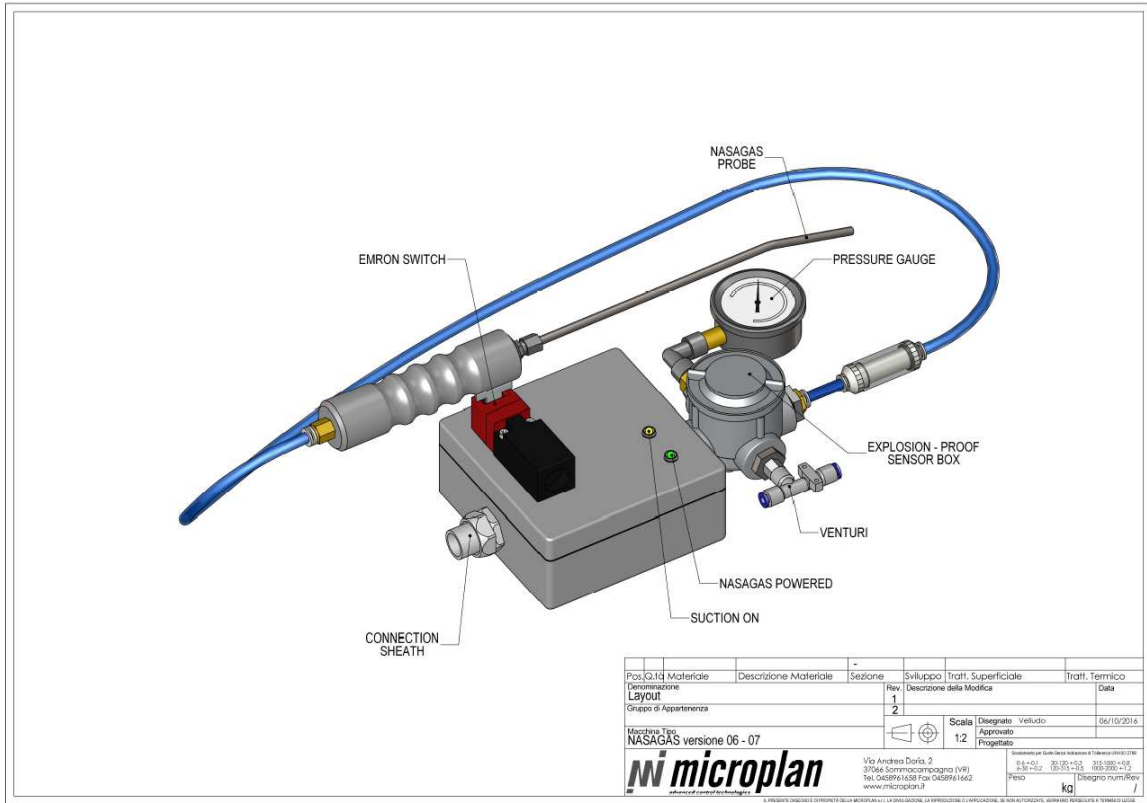
The *Nasagas* device is designed for being connected to a Microplan test bench. Every other use is forbidden if not preventively agreed with Microplan S.r.l.

Chapter 4: available models

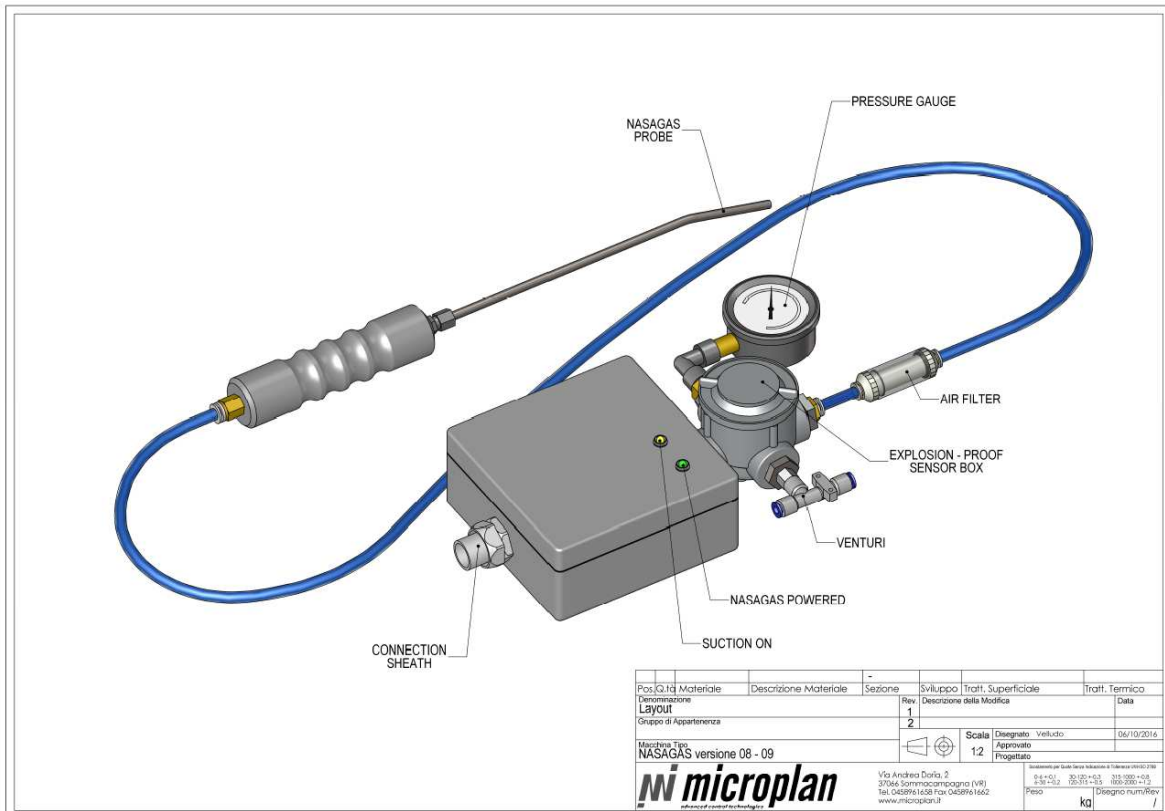
	NASAGAS 6	NASAGAS 7	NASAGAS 8	NASAGAS 9
EV control Led	YES	YES	YES	YES
EV control with micro-gripper	YES	YES		
EV control with PC output			YES	YES
Current output		YES		YES
Voltage output	YES		YES	

Chapter 5: description of the main components

In the images below, the main components of the Nasagas are identified.
Models "06" and "07"



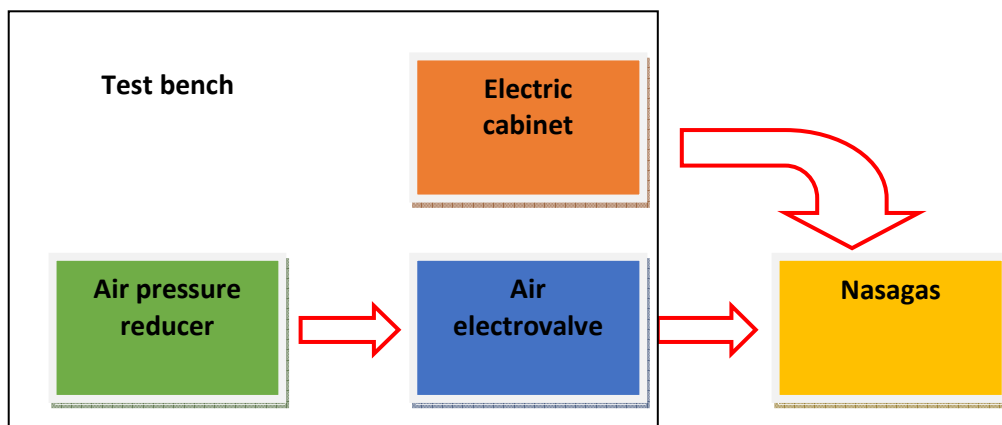
Models "08" and "09"



Chapter 6: connect a new *Nasagas* to an existing test bench

The necessary operations to connect a new *Nasagas* to an existing Microplan test bench are:

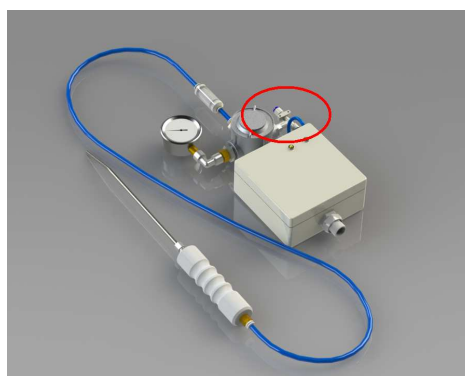
- Install the air pressure reducer supplied with the *Nasagas* device in the hydraulic section of the test bench, connecting its inlet pressure port to the compressed air at the outlet of the first filter-reduction stage of the compressed air circuit of the test bench.
- Install the air electrovalve supplied with the *Nasagas* device in the hydraulic section of the test bench, connecting its inlet pressure port to the outlet pressure port of the air pressure reducer of the *Nasagas*.
- Adjust the air pressure reducer supplied with the *Nasagas* at a pressure of 2bar.
- Connect the outlet pressure port of the air electrovalve supplied with the *Nasagas*, to the air supply pipe of the *Nasagas*.
- Connect the electric cables of the *Nasagas* and of the air electrovalve to the electric cabinet of the Microplan's test bench, following the electric diagrams supplied by Microplan with the *Nasagas*. If needed, please contact Microplan's technical assistance.
- Install the updated software supplied with the *Nasagas* on the Microplan's test bench in order to be able to manage the *Nasagas* functionalities.



Chapter 7: Installation place

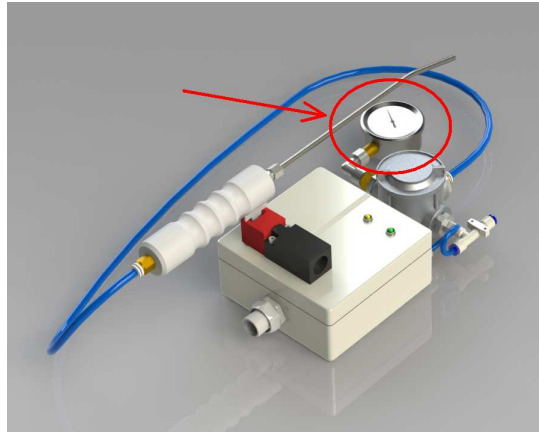
Nasagas must be installed in a non-classified zone according to standard 2014/34/EU (ATEX).

From the Venturi outlet connection of the *Nasagas* (see below picture), an air-fuel mixture may come out, so the outlet of the *Nasagas* suction system must be connected through approved piping for fuel gas to a suitable classified zone, where gas sucked up by *Nasagas* can be led with no danger.



Chapter 8: Set up operations

1. Activate the Nasagas suction.
 - a. If you have model “06” or “07”, disconnect the *Nasagas* probe from the Omron switch.
 - b. If you have model “08” or “09”, activate the corresponding digital command in the software of the Microplan’s test bench.
2. Set the air pressure reducer to get a -10/-15mbar negative pressure on the pressure gauge of the *Nasagas*.



Chapter 9: How to use

The procedure for using the *Nasagas* device could be resumed in the following points:

1. Activate the *Nasagas* suction.
 - a. If you have model “06” or “07”, disconnect the *Nasagas* probe from the Omron switch.
 - b. If you have model “08” or “09”, activate the corresponding digital command in the software of the Microplan’s test bench.
2. Wait for a few seconds for the *Nasagas* warming up keeping the probe in a clean air area.
3. Move the *Nasagas* probe to the points to be verified and look to the results displayed by the software.
4. At the end of the test, deactivate the suction.
 - a. If you have model “06” or “07”, connect the *Nasagas* probe to the Omron switch.
 - b. If you have model “08” or “09”, deactivate the corresponding digital command in the software of the Microplan’s test bench.

Anyway, please follow the indications given by the software of the Microplan’s test bench.

Chapter 10: Maintenance and spare parts

The *Nasagas* includes two components subject to maintenance or replacement.

- *Nasagas* sensor: please replace it every 4 months or when the sensitivity of the *Nasagas* is no longer satisfactory.

For the replacement:

- unscrew the lid of the sensor explosion-proof box by turning it counterclockwise;
- remove the existing sensor from its base;
- install the new sensor on the base.

It is recommended to keep at stock at least two spare sensors for each *Nasagas*.

- Air filter: please provide a periodic cleaning of the filter located on the aspiration pipe and replace it at intervals not exceeding 6 months.

It is recommended to keep at stock at least one spare filter for each *Nasagas*.

Use only original parts. In case any spare part is needed, please contact Microplan’s technical service.

Chapter 11: Troubleshooting

<i>Problem</i>	<i>Possible reason</i>	<i>Check</i>	<i>Activity</i>
The green led of the Nasagas is OFF (green led = “Power ON”)	The test bench does not provide the power supply to the Nasagas.	Check with a tester if the power supply is available on the Nasagas supply line in the electric cabinet of the test bench.	Check the fuses and the other safety devices installed on the Nasagas supply line and replace them if blown.
			Contact Microplan’s technical service.
The Nasagas fails the “purging” check in the test sequence.	The Nasagas suction does not work.	Check the pressure on the air pressure reducer of the Nasagas.	Adjust it to a suitable pressure, to get a -10/-15mbar negative pressure on the Nasagas pressure gauge.
		Check the functionality of the Nasagas air electrovalve.	Replace the electrovalve is damaged.
	The Nasagas sensor does not provide suitable measurements.	Check the functionality of the Nasagas sensor.	Replace the Nasagas sensor.
			Contact Microplan’s technical service.
The Nasagas is no longer able to detect a gas leakage.	The Nasagas sensor does not provide suitable measurements.	Check the functionality of the Nasagas sensor.	Replace the Nasagas sensor.
	The air filter is dirty.	Check the condition of the air filter.	Clean or replace the air filter.
			Contact Microplan’s technical service.

The Nasagas provides a high output signal even if no gas is present.	The Nasagas sensor does not provide suitable measurements.	Check the functionality of the Nasagas sensor.	Replace the Nasagas sensor.
	The air filter is dirty.	Check the condition of the air filter.	Clean or replace the air filter.
	The air of the test environment is polluted.	Check the status of the environment of the test area.	Provide a suitable ventilation to ensure a clean air in the test area.
			Contact Microplan's technical service.

Chapter 12: Other information

For further information about the use and the maintenance of the Nasagas, please visit the FAQ section of the Microplan's website.

Microplan S.r.l. declines every responsibility coming from the wrong use of the *Serpico Plus* or the wrong hydraulic or electric connections to the customer's supplies.

In case of manumission or unauthorized modifications of the *Serpico Plus*, the warranty immediately expires.

Microplan S.r.l. is not responsible of possible indirect damages or lack of production due to its products.