

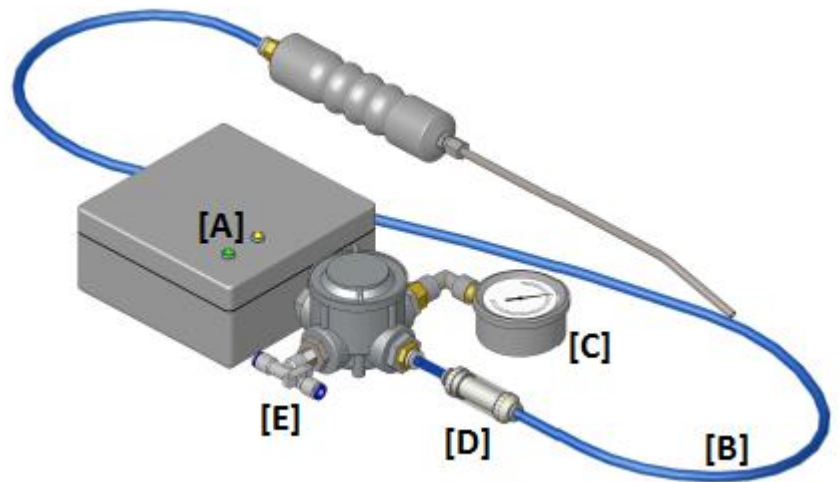


Nasagas (gas leak detector) troubleshooting

Nasagas type 09

(read from page 3 for Nasagas type 2017)

A	Electrical Enclosure
B	Suction Tube
C	Vacuum Gauge
D	Air Filter
E	Venturi
F	Sample Probe



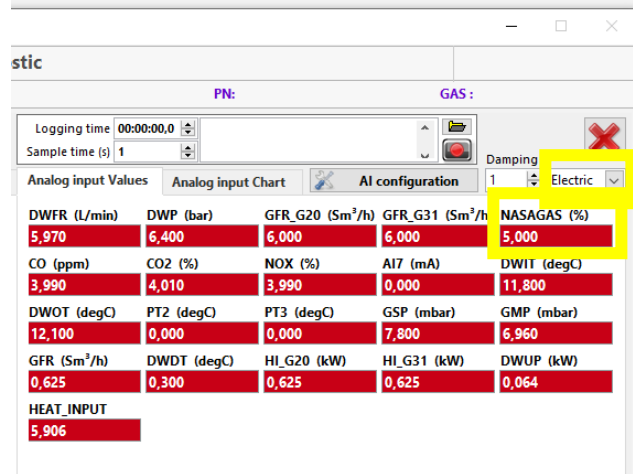
Issue	Possible cause	Corrective Action
No suction at sample probe	Emergency button of the test bench is pressed or test bench is in emergency mode	<ul style="list-style-type: none"> Ensure safe operating conditions and press the Reset button on the test bench
	Electrical problem	<ul style="list-style-type: none"> Check LED status [A] on electrical enclosure (green = Nasagas powered, yellow = aspiration on) Check/replace fuse inside electrical cabinet
Nasagas cannot detect a leak after confirming suction at sample probe	Aspiration problem	<ul style="list-style-type: none"> Check suction tube [B] for kinks or leaks. Ensure compressed air supply to Nasagas Ensure sufficient negative pressure at vacuum gauge [C] (about -15 mbar/-6" of water) Check that air filter [D] and replace it if it is clogged. Ensure positive air pressure at venturi [E] (when applicable) Check EVNASA signal with the diagnostic program



Issue	Possible cause	Corrective Action
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Exhausted Nasagas sensor

- Run the diagnostic program, under Electric value (red background color).




With no aspiration you should get a value between 1.5 and 5mA or between 1 and 3V depending on the model. If not, replace Nasagas sensor (watch [video](#)). Note: It might be necessary leaving Nasagas switched on for 1-3 hours to let the new sensor develop complete functionality

The response time of the instrument is too slow.	Aspiration problem	<ul style="list-style-type: none"> • Check suction tube [B] for kinks or leaks. • Ensure compressed air supply to Nasagas • Ensure sufficient negative pressure at vacuum gauge [C] (about -15 mbar/-6" of water) Check that air filter [D] and replace it if it is clogged. • Ensure positive air pressure at venturi [E] (when applicable) <p>Check EVNASA signal with the diagnostic program</p>
The Nasagas provides a high output signal (>10mA) even if no gas is present or the Nasagas provides an output signal <1mA.	Exhausted Nasagas sensor	<ul style="list-style-type: none"> • Check with the diagnostic program, under Electric value (red background color, see picture above). With no aspiration you should get a value between 1.5 and 5mA or between 1 and 3V depending on the model. If not, replace Nasagas sensor (watch video). N.B.: It might be necessary leaving Nasagas switched on for a few hours in order to let the new sensor develop complete functionality
	Combustible gases are present in the environment	<ul style="list-style-type: none"> • Check the gas concentration in the air of the working space using a handheld analyzer or similar device. Do not forget that some methane may also be present in combustion fumes





Nasagas type 2017

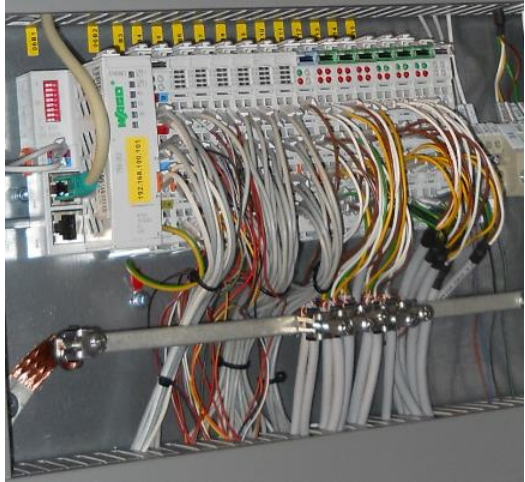
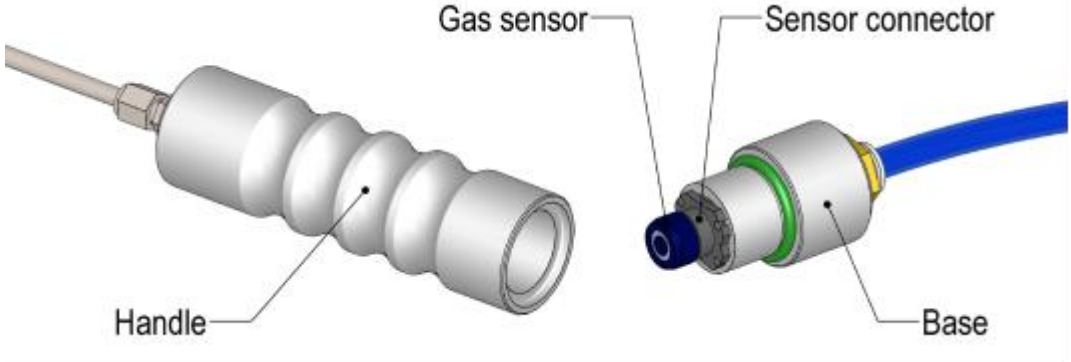


Issue	Possible cause	Check	Corrective Action
<p>No suction at sample probe</p>	<p>Insufficient suction pressure</p>	<p>Check the Nasagas air pressure regulator in the test bench</p>	 <p>Set the inlet air pressure of the Nasagas to 2 bar</p>



Issue	Possible cause	Check	Corrective Action
	<p>The electro valve EVNASA inside the hydraulic unit of the test bench is faulty</p>	<p>Check for proper insertion and connection of the EV</p>  <p>Assure that the indicator led turns on when the Nasagas suction is ON</p>	<p>Replace the electro valve if faulty</p>
	<p>Obstructed flow regulator FRNASA, inside the hydraulic unit of the test bench</p>	<p>Check if there is pressure upstream and downstream of the flow regulator. If there is pressure upstream but not downstream, FRNASA is closed</p>	<p>Gradually open FRNASA. <u>Note:</u> do not open the regulator too much; excessive air flow leads to a drop in sensor sensitivity</p> 

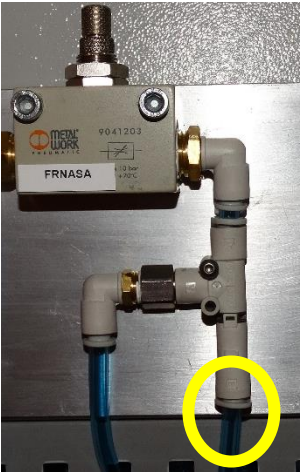




Issue	Possible cause	Check	Corrective Action
	Faulty digital output module from the test bench module	Check the functionality of the electronic modules in the main cabinet of the test bench (read more)	If faulty replace the broken modules. 
Nasagas cannot detect a leak after confirming suction at sample probe	Poor sensor performance	Perform a sensitivity test (read user manual)	Replace the Gas sensor if performance has deteriorated (read user manual)
	Incorrect sensor connection	Unscrew the handle from its base and check the connection between the Gas sensor and its plug	Properly connect the Gas sensor to its Base. 
	Faulty connection cable between the sensor and the interface board	Check the integrity of the cable and of its connection points with the sensor base and the NGAS2017 interface board	Restore the electrical connection or replace the cable. Contact Microplan Support for correct cable.



Issue	Possible cause	Check	Corrective Action
	Combustible gases are present in the environment	Check the gas concentration in the air of the working space. Using a handheld analyzer or similar device	Provide a suitable ventilation to ensure a clean air in the test area.
The response time of the instrument is too slow.	The air filter is dirty	Remove the filter ("Sintered filter" in the following drawing) and check if the Nasagas can detect a gas leakage	If the Nasagas without the sintered filter works well, replace the air filter.
	Loose gland fitting at the base of the sample probe.	Check if the gland fitting is loose.	Tighten the fitting (see blue arrow in the drawing here below).



Issue	Possible cause	Check	Corrective Action
	Excessive pressure drop in aspiration circuit.	Disconnect the outlet tube from the Venturi and check if performance improves.  Check for obstructions in the outlet pipe.	If necessary, reduce the pressure drop on the outlet tube (shorter or larger diameter tube).
	Insufficient air pressure	Check the Nasagas air pressure reading downstream regulator in the test bench.	 Set the inlet air pressure of the Nasagas to 2 bar.
	The flow regulator FRNASA, inside the hydraulic unit of the test bench, has been closed or it is obstructed.	Switch ON the suction and check if there is pressure downstream the flow regulator. If not, FRNASA is closed.	Open FRNASA. Note: do not open the regulator too much; excessive air flow lead to a drop in sensor sensitivity. 



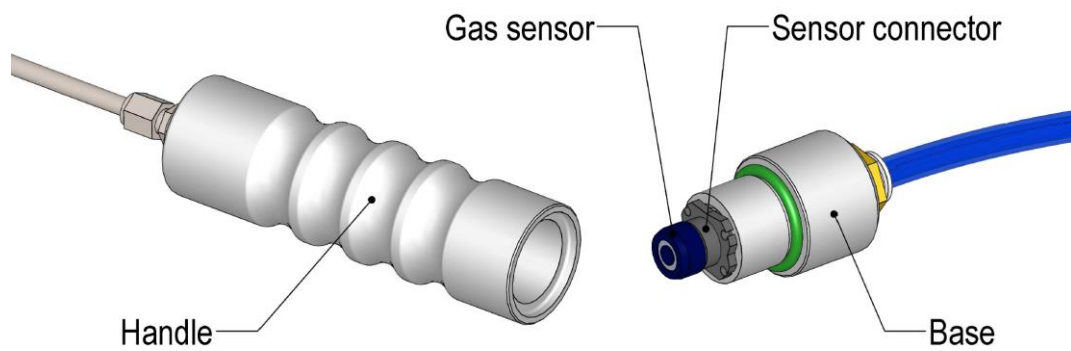
Issue	Possible cause	Check	Corrective Action
	Flexible hose that links the Nasagas probe to the test bench is deteriorated or obstructed	Inspect the flexible hose along its length and make sure is neither obstructed, not deteriorated. Make sure it is well inserted at both ends.	Replace the flexible hose in case it is deteriorated
The Nasagas provides a high output signal (>10mA) even if no gas is present or the Nasagas provides an output signal <1mA.	Sensor performance has deteriorated.	Perform a sensitivity test (read user Nasagas manual).	If its performance has deteriorated replace the sensor.
	Combustible gases are present in the environment	Check the gas concentration in the air of the working space. Using a handheld analyzer or similar device.	Provide a suitable ventilation to ensure a clean air in the test area.
Nasagas reading oscillates.	Nasagas sensor is not correctly positioned inside the handle.	Unscrew the handle and make sure gas sensor is properly fitted.	If its performance has deteriorated replace the sensor.
	<p>The diagram shows a cross-section of the probe handle. A sintered filter is located at the front of the handle. Behind it is the gas sensor, which is mounted on a gas sensor base. The handle is shown with a blue cable extending from the back.</p>		



Maintenance and spare parts

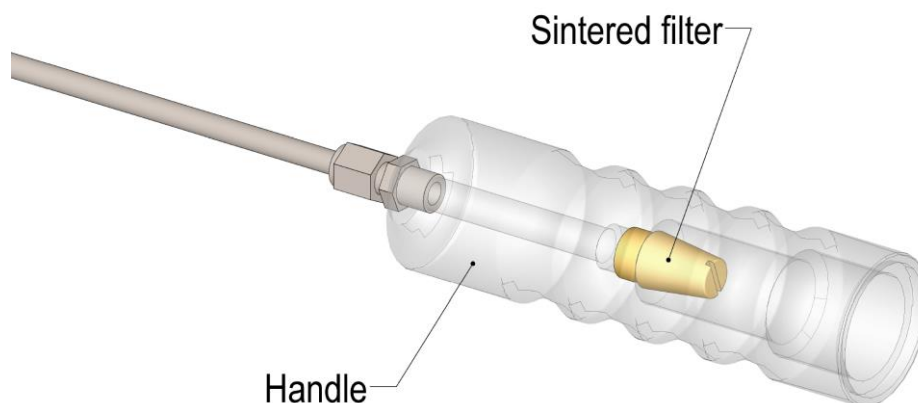
The Nasagas includes two components subject to maintenance or replacement.

- Gas sensor: please replace it every 4 months or when the sensitivity of the Nasagas is no longer satisfactory. For the replacement:
 - unscrew the handle from its base (see picture)
 - remove carefully the existing sensor from its connector
 - install the new sensor on the base
 - screw the knob back on



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

- Sintered filter: please provide a periodic replacement of the filter located inside the handle at intervals not exceeding one year. For the replacement:
 - unscrew the handle from its base
 - unscrew the existing filter from the handle with a flat screwdriver
 - screw the new filter on the handle
 - screw the knob back on



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