



# ISO 17025

## Calibration accreditation

**R** Evolution  
in Gas Generators  
and Calibrators

# Why ISO 17025?

ISO 17025 accreditation is important for laboratories that want to prove their competence of testing and calibration worldwide. It enables laboratories to demonstrate that they generate valid and reliable results all around the world. A calibration certificate is required to prevent the deterioration of measurement devices and to keep them accurate and precise, to comply with regulations, as well as for safety reasons and for environment purposes. Main international industries, organizations and regulatory authorities will only accept test or calibration reports from a laboratory that is ISO 17025 accredited.



## What?

LNI Swissgas has an ISO 17025-2017 accredited measurement laboratory to perform valid calibration reports on gas flow rates of instruments.

## Where?

In Geneva, Switzerland, where the production of gas calibration systems is located.

## From?

The accreditation has been delivered from the Swiss Accreditation Service (SAS) and is universally recognized under label ILAC (<https://ilac.org/about-ilac/>).



Under request, LNI Swissgas has the capability to measure gas flow rates through a unique analytical method on ALL devices (Mass Flow Controllers and gas calibration systems) and across their whole lifetime.

This unique aspect helps organizations to easily link their devices with National Standards as the certificates are recognized by the ILAC Mutual Recognition Arrangement (ILAC MRA) agreement.



As the world leader in the calibration and mixture of gas, it is important for us to insure the highest quality of calibration tests. Our wish has been to satisfy high metrological requirements and we have set up our own **ISO 17025** accredited laboratory of metrology. This accreditation is proof of LNI Swissgas' commitment to providing customers with the highest level of certification possible. We offer flow-calibration services such as the measurement of flows, the calculation of dilution ratio as well as the determination of their uncertainty, utilizing our unique gas calibration technology which has been developed in-house.



# Our laboratory

In order to guarantee a measurement of excellence for all our customers, we have decided to equip our laboratory with MOLBLOC™ and MOLBOX™ flow measurement systems.

These Instruments, used by many reference laboratories such as METAS (Bern) and the LNE in (Paris), make possible to measure flows going of 1 ml/min with 30 L/min with a high degree of accuracy:

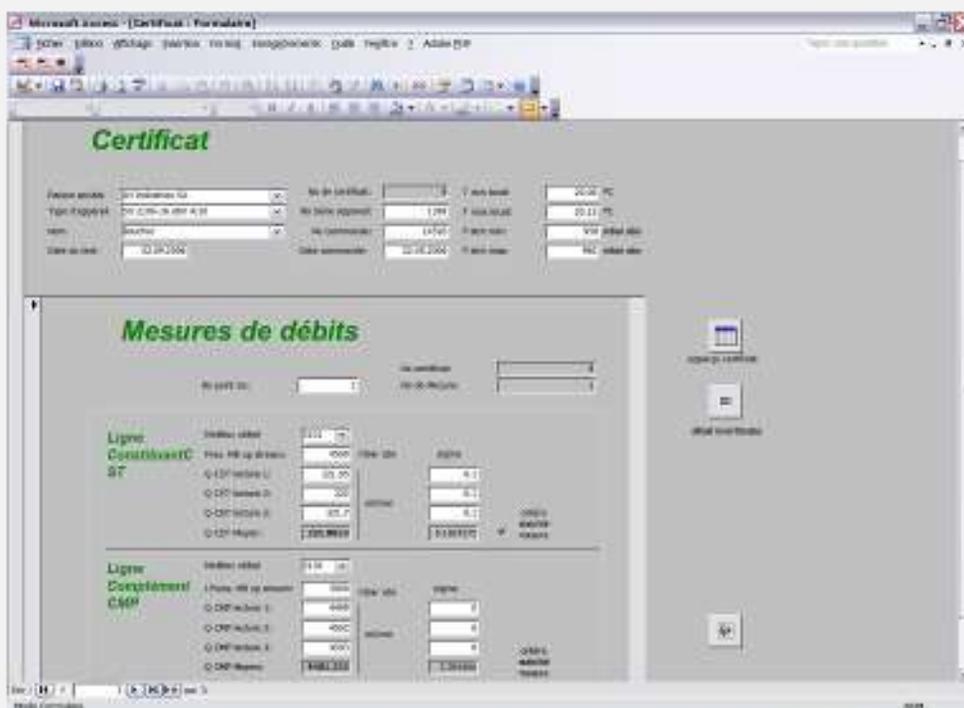
Range [ml/min]	Relative uncertainty* for 1 Flow
1 to 3	0.37%
3 to 5	0.32%
5 to 50	0.31%
50 to 10'000	0.21%
10'000 to 30'000	0.31%

\*These uncertainty do not take into account of the object under test, because this component varies from a measuring instrument to another. (Uncertainty given with a k=2 factor):

As far as possible, 2 flows (Carrier and diluted are measured simultaneously) allowing calculating a dilution ratio and its uncertainty:

	Flow [ml/min]	rel Flow Uncertainty*	Dilution ratio	Uncertainty*	
				absolute	relative
Carrier	5000	0.21%			
Diluted	5000	0.21%	50.0%	0.074246%	<b>0.15%</b>
Carrier	5000	0.21%			
Diluted	500	0.21%	9.1%	0.024544%	<b>0.27%</b>
Carrier	5000	0.21%			
Diluted	50	0.21%	1.0%	0.002911%	<b>0.29%</b>
Carrier	5000	0.21%			
Diluted	5	0.31%	0.1%	0.000374%	<b>0.37%</b>
Carrier	5000	0.21%			
Diluted	1	0.37%	0.02%	0.000085%	<b>0.43%</b>

All Flow measurements are stored in a data base, allowing any time a total traceability of measurements. Various uncertainties are automatically calculated according to the measured instrument. Moreover, in order to avoid the errors of handling, the measured device is controlled by a computer which carries out predetermined scenarios



For each series of measurement, a certificate of calibration includes : the customer ID, the measured device, operator, the employed method, Fluidics, uncertainty of measurement, conditions of measurement and results of measurements is automatically generated, thus making it possible for customers to ensure total traceability of their Flow and concentrations measurements

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