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# What is a NIST Traceable Certified Value?

*The certification of the GasMix system is built upon a rigorous unbroken chain of traceability.*

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## THE CALIBRATION HIERARCHY

# An Unbroken Chain of Comparisons

Traceability is defined as an unbroken chain of comparisons leading back to a primary standard. Our process follows these critical steps:

- 1 Mass Flow Controllers (MFCs): The GasMix accuracy starts with the calibration of its internal MFCs. These are adjusted using certified volumetric flowmeters.
- 2 These flowmeters are returned to the factory twice a year for recertification. The tools used for their verification and adjustment are themselves certified against higher-level reference standards.
- 3 The Primary Standard: At the root of this chain is a primary standard maintained by a National Metrology Institute (NMI), such as NIST or NIST equivalent.

STEP 1 — MFCS

# Mass Flow Controllers (MFCs)

The GasMix accuracy starts with the calibration of its internal MFCs.

These are adjusted using **certified volumetric flowmeters** — the first critical link in the traceability chain.

THE PRIMARY STANDARD

# Rooted in a National Institute

At the root of this chain is a primary standard maintained by a National Metrology Institute (NMI), such as NIST or NIST equivalent.

NIST — USA

LNE — France

VSL — Netherlands

PTB — Germany

NPL — UK

METROLOGICAL TRACEABILITY

# Not Just Accurate — Provably Valid

The goal of this process is metrological validity.

*By documenting every link in the chain from the GasMix in the lab to the primary standards at a national institute, we guarantee that the measurements are not just accurate, but legally and scientifically valid.*



## INTERNATIONAL EQUIVALENCE

# Accepted Worldwide

Because national institutes like NIST, LNE, VSL and others participate in international mutual recognition agreements, a certificate traceable to one is considered equivalent to the others. This allows GasMix results to be accepted in regulatory environments worldwide.

**NIST**

USA

**LNE**

France

**VSL**

Netherlands

TRANSPARENCY & DOCUMENTATION

# Every Link Documented

Metrological traceability is only as good as its documentation.



All calibration records and certificates are archived

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Available for consultation at any time

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Ensures a thorough audit at any moment

# Accuracy you can prove.

*From the lab bench to the national primary standard — every measurement, every link, fully documented and internationally recognised.*

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