

## A unique laboratory in gas flow rate measurement for manufacturers and users

In addition to the possession and development of the national references for gas flow measurement (Critical Venturi flow nozzle) within the framework of a laboratory associated with the LNE (LNE-LADG), the CESAME EXADEBIT laboratory offers to its customers more than 25 years expertise and an experience in the field of gas flowrate and particularly under High Pressure.



High pressure tanks 200 bar



Meter repairing workshop

### Services Offered

- Calibration of all types of flowmeters
- Testing and certification of equipment used for gas transmission and distribution (valves, regulators, safety valves)
- Statutory metrology testing for gas flowmeters
- Research and development in gas metering systems (sonic nozzles, gas flowmeters)

### Registrations and accreditations

- BIPM-CIPM (Laboratory in gas flow rate associated to LNE)
- Accredited by COFRAC (calibration and testing) in compliance with ISO 17025
- Periodical verification of gas flow meters (DRIRE, in compliance with 17020) and repairer statutory approved (legal metrology : LNE-CIM with ISO 9001 standard)



Safety valve test Bench

### Possibilities

- Flow rate :  $4 \cdot 10^{-4}$  to 30 kg/s  
1 à 80 000 m<sup>3</sup>/h (normal conditions)
- pressure : 1 to 60 bar (depending on flow rate)
- uncertainties : 0.15 to 0.25 %  
depending on flow rate

### Partners

Gas companies; manufacturers and users of gas meters; aeronautic, mechanical and chemical industries; Euramet, BIPM; LNE; PTB; VSL





For the **benefits of suppliers shippers customers** of natural Gas  
An extensive **cooperation** between three European National Metrology Institutes (NMI; PTB and LNE), holding high pressure facilities, leads to the definition of a **universal unit for gas cubic meter** called :

**The International Harmonised cubic meter of Natural Gas**

Best and unique reference value	Lowest uncertainty	Highest level of confidence between the actors of gas trade	Long term stability	Fair and reliable Trading
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### Miscellaneous

CESAME-EXADEBIT is also one of the participants in the EUROPEAN HARMONISED CUBIC METER OF NATURAL GAS realised by 3 independent metrology laboratories : PTB-Pigsar in Germany, VSL in Netherlands and LNE-LADG in France.