



A made-to-measure service for your projects.

An understanding of the physical data involved in fluid flows and heat transfer is a major asset in the land transport, aeronautical, space and energy sectors. The tests act as a vital tool for making the relevant technical judgements and guaranteeing that your projects will come to fruition, and thereby reducing the risks.

- Complex and industrial fluid flows
- Thermal reliability of systems
- Two-phase flow (industrial sprayers, injectors,...)
- Heat transfers
- Cryogenics, high temperature, high pressure
- Combustion (boilers, burners, engines, furnaces,...)
- Pressure drop
- Leaktightness
- Air or hydraulic circuits

→ Performing tests and measurements is fundamental

- To develop your industrial processes and products and optimise their performance.
- To achieve the physical values of your systems.
- To confirm that industrial standards are met.
- To validating numerical models by experiment.

→ Our works

- To offer you a total or partial service for the tests you need to carry out (starting with understanding your requirements and finishing with providing the results).
- To offer you concrete proposals for assessments and tests throughout the development process for your assemblies or sub-assemblies.
- To provide support in the development and validation of your products and industrial processes.
- To quantify physical parameters (pressure, velocity, temperature, flow, droplet or particle size, ...).

→ Our services

- Test engineering.
 - > Preparation of test specifications.
 - > Drafting test procedures.
 - > Use of measurement facilities on your premises or in our research centre.
 - > Performance and interpretation of R&D and functional tests.
 - > Description of tests, assemblies, operating methods, equipment susceptibility criteria.
 - > Data processing, image processing.
- Compilation, analysis and exploitation of results.
- Expert's scientific and engineering consultancy.
- Competitive analysis.
- Development of new methods of testing, analysis and test-design correlation.



→ Our means

High-tech & conventional metrology.

- Laser velocimeters / Tomography (LDV, PIV, HPIV).
- Optical granulometers (diffractometry, PDA, imaging).
- Imaging (traditional or rapid, infrared, ...).
- Analysis bays (NO₂, NO_x, CO, CO₂,).
- Anemometers (Pitot tubes, hot wires, cups, ...).
- Thermometry.
- Pressure transmitter.
- Flow meters (thermal, Coriolis, ultrasound, ...).
- Data loggers, numerical oscilloscope.

Testing facilities

- Clean room with a controlled atmosphere ISO8.
- Spray test bench (Q_{gaz}120 l/h --> 1.5 m³/h - Q_{liquid}: 200 l/min - 150 bars).
- High air flow rate test bench (600 g/s - 180 °C - 300 bars).
- Experimental facility for injection of super-heated water (15 bars - 150 °C - 2 kg/min).
- Pressure drop experimental facility (600 kg/h).
- Experimental facility for testing electric arc plasma generator.

→ Some achievements:

- Droplet size characterisation of a heavy fuel injector.
- LDV and PIV speed measurements for glass fibre production process.
- Measurement of the pressure drop in a car exhaust unit.
- ADL speed measurements in a biomass burner.
- Strength test at low and high temperature on ultrasonic transducers.
- Dynamic and thermal characterisation of gas jets initiated by an industrial burner.
- Leaktightness test on a joint used in a cryogenic system.
- Chemical analyses of combustion exhaust gas assisted by plasma.
- ...



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