

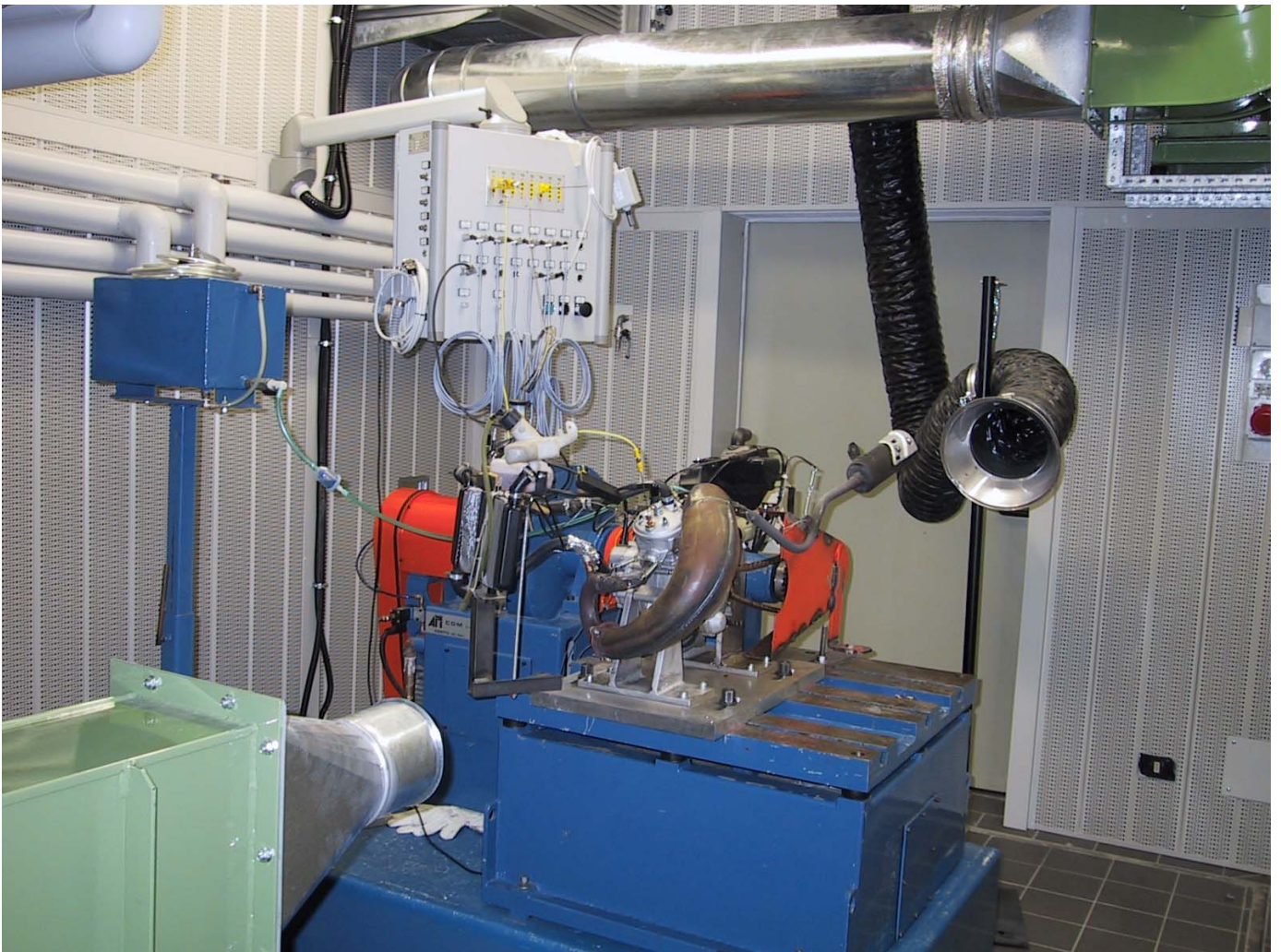
## STATIC BENCH

### Room Characteristics

The soundproof room, measuring 5.5x3.5x3 m, is fitted with an air-conditioning and air change system to maintain a constant room temperature throughout the tests.

The room is accredited by the TÜV for performing type tests in accordance with directive 95/1/EC and subsequent amendments.

Highly specialised technicians are able to provide the customer with any kind of technical support.



## Bench Characteristics

The stand, supplied by ApiCom, comprises:

- One eddy-current brake of 150 HP
- One seismic base with engine fixing platform
- One front-end for connecting 8 K-type thermocouples, 8 PT100 thermocouples, 3 pressure sensors, engine RPM sensor.
- Barometric control unit for environment data.
- “XTWIN” SW for data acquisition and processing.
- One management console for the operator in the control room.

The uncertainty of the measurements made is described below:

Room temperature:  $\pm 1^{\circ}\text{C}$

*Directive requires  $\pm 1^{\circ}\text{C}$*

Room pressure:  $\pm 50\text{ Pa}$

*Directive requires  $\pm 70\text{ Pa}$*

Room relative humidity:  $\pm 1\%$

Brake turns:  $\pm 0.5\%$

*Directive requires  $\pm 1\%$*

Brake torque:  $\pm 0.25\%$

*Directive requires  $\pm 1\%$*

High temperatures (probe K f.s. =1300 °C):  $\pm 0.5\%$

Low temperatures (PT100 f.s. =200 °C):  $\pm 0.5\%$

Depression of sucked air:  $\pm 15\text{ Pa}$

*Directive requires  $\pm 25\text{ Pa}$*

Fuel consumption:  $\pm 1\%$

*Directive requires  $\pm 1\%$*

## Accessories

A series of accessories are available for carrying out research and development:

- Centrifugal fan for simulation of dynamic pressure in air box essential when testing high-performance engines for sport vehicles (max speed = 300 Km/h).
- Heat exchanger necessary for high-performance engines.
- Piezoelectric pressure sensors for measuring pressure values in explosion chamber out and in, and relative SW that correlates such quantities to the phase angle of the engine.
- ELITE CMF010 consumption measuring device built into a system that makes it suitable for both small carburettor engines and large injection engines.
- Pneumatic pulsator for conditioning of silencers conforming to that outlined in Directive 97/24/EC Chap. 9.
- Venturi probe for measuring ramming intake air speed.